



Manoharbhai Shikshan Prasarak Mandal Armori's

**MAHATMA GANDHI ARTS, SCIENCE &
LATE NASARUDDINBHAI PANJWANI COMMERCE
COLLEGE ARMORI**

Dist. Gadchiroli (Maharashtra) 441 208

Affiliated to Gondwana University, Gadchiroli.

Re-accredited by NAAC 'A' with 3.02 CGPA

SELF STUDY REPORT (SSR)

2016~17 to 2020~21

CRITERION – VII
INSTITUTIONAL VALUES &
BEST PRACTICES

METRIC NO: ~ 7.3.1.

METRIC NAME: ~ *Portray the performance of the Institution in one area distinctive to its priority and thrust within 200 words*



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CRITERION – VII
INSTITUTIONAL VALUES & BEST PRACTICES

METRIC NO	7.3.1
METRIC NAME	<i>Portray the performance of the Institution in one area distinctive to its priority and thrust.</i>

PBR
Peoples Biodiversity Register
2020-21



MANOHARBHAI SHIKSHAN PRASARAK MANDAL ARMORI'S
**MAHATMA GANDHI ARTS, SCIENCE &
LATE NASARUDDINBHAI PANJWANI COMMERCE
COLLEGE, ARMORI, Dist. Gadchiroli (M.S.) 441208**

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Study on Biodiversity

**Academic Session
2020-21**



Study Report of **PALASGAON** (Adopted Village)

Prepared by
Environment Study Centre



Study and observation of Plants and Animals diversity



**Study and observation of
Rocks and Minerals**

Social Survey



**Study of Folk Songs
in adopted village**

Survey of Nutritional Diet



❖ *From the Desk of Principal*

Biodiversity is all the different kinds of life you'll find in one area—the variety of animals, plants, fungi, and even microorganisms like bacteria that make up our natural world. Each of these species and organisms work together in ecosystems, like an intricate web, to maintain balance and support life. Biodiversity supports everything in nature that we need to survive: food, clean water, medicine and shelter.

Bio-diversity in fact denotes to the whole set of life forms that exist on the earth. Rapid environmental differences typically cause mass extinction. An extinction level event is a widespread and rapid decrease in the biodiversity on the earth. Such an event is identified by a sharp change in the diversity and abundance of multicellular organism. It occurs when the rate of extinction increases with respect to rate of speciation. Ecosystem diversity is thus clearly not definable as there are not distinct boundaries between the ecosystems and they merge into each other. More than 99.9 percent of all species that ever lived on Earth, amounting to over five billion species, are estimated to be extinct. Estimates on the number of Earth's current species range from 10 million to 14 million, of which about 1.2 million have been documented and over 86 percent have not yet been described.

Extinction is a law of nature and as a result some species have evolved while others have died ever since life originated on earth. But this extinction has come to an alarming rate due anthropogenic activity that affects the eco-system. As human population continues to grow and per capita consumptions has grown higher, Earth's biological diversity is being demoralized at an unrestrained rate.

Our college is the leading educational hub in Gadchiroli District and more emphasize towards student support services and staff is devoted. This PBR project plays little bits about nature study and social awareness among the rural people.



❖ *From the Desk of Coordinator*

Biodiversity refers to the variety of life on Earth at all its level from genes to ecosystems and can encompass the evolutionary, ecological, and cultural processes that sustain life. Forests play a major role in conserving biodiversity. Climatic condition, place and the species inhabited by it are regulated by the forests. Biodiversity includes not only species we consider rare, threatened, or endangered but also every living thing—from humans to organisms we know little about, such as microbes, fungi, and invertebrates.

Over the last century, humans have come to dominate the planet, causing rapid ecosystem change and massive loss of biodiversity across it. This has led some people to refer to the time we now live in as the “anthropogenic. The Earth has always experienced changes and extinctions; today they are occurring at an unprecedented rate. Major direct threats to biodiversity include habitat loss and fragmentation, unsustainable resource use, invasive species, pollution, and global climate change. The underlying causes of biodiversity loss, such as a growing human population and overconsumption of natural resources are often complex and stem from many interrelated factors.

In present scenario world is fenced in technology and internet. We are using maximum natural resources for our progressive life style but in invalid way. **Corona pandemic** has resulted in severe global social and economic disruption including the largest global recession. It has led to wide spread supply shortage by panic buying, agricultural disruption, food shortage, and positively decreased emission of pollutant. Numerous educational institution and public areas have been partially or fully closed, and many events has been cancelled or postponed.

In such a pandemic situation also, M.G. College of Armori, the Unique College in the Gondwana University formulated people's biodiversity registers by communication with local people. As a coordinator of People Biodiversity Register, I am fortunate and thankful to the principal Dr. Lalsingh.H. Khalsa for implementing such a study-based project in our college for the national development.

CERTIFICATE

This is to certify that as per Maharashtra University act 1994, 14(7) of Gondwana University and Biodiversity Act 2008, the project of People's Biodiversity register (PBR) has been completed by the students of Second year including all faculties Arts, Commerce and Science studying in our college under the guidance of concern teachers of respective department and submitted to college in academic session 2020-21.



Dr. Lalsingh H. Khalsa



Principal
Mahatma Gandhi Arts,
Science & Late
N. P. Commerce College,
Armori, Dist - Gadchiroli

CERTIFICATE

This is to certify that People Biodiversity Register of Mahatma Gandhi Arts, Science and Late N.P. Commerce College Armori of various departments with their respective guides have successfully completed the project of people biodiversity register under the supervision of environment study center committee of the college in the academic session 2020-21.



Coordinator

People Biodiversity Register

M.G. College Armori

**Head
Environment Study
Centre**



**Principal
Mahatma Gandhi Arts,
Science & Late
N. P. Commerce College,
Armori, Dist - Gadchiroli**



ACKNOWLEDGEMENT











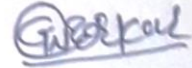

We the students of Mahatma Gandhi Arts, Science and Late N.P. Commerce College Armori of various department under Gondwana University, Gadchiroli studying in 2nd years B.A., B. Com and B.Sc. (2020-21), feel very fortunate to ourselves, being a student of enforced environmental education program started by Gondwana University.

Also we are very grateful to get the chance to prepare People Biodiversity register and to study different factors of environment.

Under this project we have been divided in to fourteen departments and study various factor regarding Botany, Zoology, Chemistry, Geology, and Geography in Palasgaon village. We could complete this project with the great support of Principal Dr. L. H. Khalsa, Prof. S.M. Sontakke; co-ordinator of People Biodiversity Register and concerned guides of the various departments.

UNDERTAKING

We all the Guides of concerned departments have undertaken to all the necessary data collection, figures, and resources given in this People Biodiversity Register (PBR) are the best of our Knowledge and Information available with us and solemnly responsible.

- | | |
|---------------------------------------|--|
| 1. Department of Botany |  |
| 2. Department of Chemistry |  |
| 3. Department of Zoology |  |
| 4. Department of Geology |  |
| 5. Department of Physics |  |
| 6. Department of Computer Sc. |  |
| 7. Department of Geography |  |
| 8. Department of English |  |
| 9. Department of Marathi |  |
| 10. Department of Sociology & History |  |
| 11. Department of Political Science |  |
| 12. Department of Music | |
| 13. Department of Home-economics |  |
| 14. Department of Commerce | |

PEOPLE'S BIODIVERSITY REGISTER

2020-21

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PART- A:
PEOPLE'S BIODIVERSITY
REGISTER

**DEPARTMENT OF
BOTANY**



Department of Botany
People Biodiversity Register Report entitled
“Plant diversity in and around of Village Palasgaon of Armori tehsil, Gadchiroli district Maharashtra”

PBR submitted by B. Sc. II (Department of Botany) students' group 2020-21

Under the supervision of Prof. Seema Nagdeve and Dr. Vasanta Kahalkar

Biodiversity registers are being prepared with the help of the local people and hence referred as People's Biodiversity Register (PBR). Preparation of Biodiversity Register is an attempt to realize the biodiversity at Local level and States. Identification of biological resources and documentation is one of the basics for the Register preparation which can guide to new discoveries and development of new profitable products.

Along with the “P” for people in the PBR, “B” for biodiversity is also very important. The district Gadchiroli is gifted with natural beauty and falls extreme eastern part of state. This district is confined to 70 % forest of state. The remarkable floral diversity of the area can be attributed to the wide range in climatic conditions and vegetation that are characteristic of the district.

Geographically, the area of Palasgaon falls under the dry deciduous forest mainly teak forest that holds flora typical of this a region. The Gadvi River borders the Palasgaon village and is a vital source of water for agriculture. Protecting this ecosystem is not only important for the local biodiversity and for the people of Palasgaon who can continue to draw upon its countless ecosystem services, but also because these forests have connectivity to other forest such as Kurkheda and Wadasa that are relatively undisturbed with high biodiversity. This ensures that conservation at the landscape level occurs, and allows for possible movement of species across the landscape, preventing fragmentation of wide-ranging populations of species. Since the Palasgaon village has already put a complete ban on hunting and illegal clear-cutting, it is imperative for the village of Palasgaon to initiate and workout strict laws and ban in order to protect its natural resources for generations to come.

Objective: -

1. To identify the plant diversity of Palasgaon village.
2. To enlisting and documentation of vegetation.

Methodology: -

The present study is being undertaken with local people a view to explore the plant resources of Palasgaon village of Taluka Armori of Gadchiroli Districts. The study was carried out in the month of 4th March 2021. Entire region explored by random survey and prepare list of plant. All the plant specimens were identified by using flora.

In the enumeration, the sequence of families has been followed after Bentham and Hookers classification System. The nomenclature has been adapted based on latest taxonomic

literature and in recommendation made by International Code for Botanical Nomenclature (IUCN). Local name has been given wherever available. A short diagnostic description and flowering and fruiting months for medicinal plants is mentioned.

Observation:

List of plant species

Sr. No.	Family	Botanical Name	Local name	Habit
1	Annonaceae	<i>Annona squamosa</i> L.	Sitafal	Cultivated, shrub
2		<i>Polyalthia longifolia</i> (Sonner.) Thw.	Ashoka	Cultivated, tree
3	Menispermaceae	<i>Cissampelos pareira</i> L.	-	Wild, climber
4		<i>Cocculus hirsutus</i> (L.) Diels.	-	Wild, climber
5	Papavaraceae	<i>Argemone mexicana</i> L.	-	Wild, herb
6	Brassicaceae	<i>Brassica juncea</i> (L.) Czern.	Mohari	Cultivated, herb
7	Cleomaceae	<i>Cleome viscosa</i> L.	-	Wild, herb
8	Capparaceae	<i>Capparis zeylanica</i> L.	-	
9	Violaceae	<i>Hybanthus enneaspermus</i> (L.) F. V. Muell	-	Wild, herb
10	Flacourtiaceae	<i>Casearia graveolens</i> Dalz.	-	Tree
11		<i>Flacourtia indica</i> (Burm.f.) Merr.	Kakai	Tree
12	Polygalaceae	<i>Polygala elongata</i> Klein ex Wild.	-	Wild, herb
13	Elatinaceae	<i>Bergia ammannioides</i> Roxb. ex Roth.	-	Wild, herb
14	Malvaceae	<i>Abelmoschus ficulneus</i> (L.) Wight & Arn.	Ran bhendi	Wild, shrub
15		<i>Abutilon indicum</i> (L) Sweet	-	Wild, shrub
16		<i>Gossypium herbaceum</i> L.	Kapus	Wild, shrub
17		<i>Hibiscus lobatus</i> (Murr.) O. Kuntze.	-	Wild, herb
18		<i>Hibiscus panduraeformis</i> Burm.f. S	-	Wild, shrub
19		<i>Hibiscus rosa-sinensis</i> L.	Jaswant	Wild, shrub
20		<i>Hibiscus sabdariffa</i> L.	Ambadi	Cultivated shrub
21		<i>Malachra capitata</i> (L.) L.	-	Wild, herb
22		<i>Sida acuta</i> Burm.f.	Chikana	Wild, herb
23		<i>Sida cordata</i> (Burm.f)	Chikana	Wild, herb
24		<i>Sida cordifolia</i> L.	Chikana	Wild, herb
25		<i>Urena lobata</i> L.	-	Wild Shrub
26	Bombacaeae	<i>Bombax ceiba</i> L.	Kate sawr	Wild Tree
27	Sterculiaceae	<i>Helicteres isora</i> L.	Murl-sheng	Wild Shrub
28		<i>Melochia corchorifolia</i> L.	-	Wild, herb
29		<i>Steculia urens</i> Roxb.	Karu	Tree
30		<i>Waltheria indica</i> L.	-	Wild, herb

31	Tiliaceae	<i>Grewia damine</i> Gaertn.	-	Wild, Shrub
32		<i>Grewia tiliifolia</i> Vahl	Dhaman	Tree
33		<i>Triumfetta rhomboidea</i> Jacq.	-	Wild, herb
34		<i>Triumfetta rotundifolia</i> Lam.	-	Wild, herb
35	Malpighiaceae	<i>Aspidopterys cordata</i> (Heyne ex Wall) A. Juss.	-	Climber
36	Oxalidaceae	<i>Biophytum sensitivum</i> (L.) DC, Prodr.	-	Wild, herb
37	Rutaceae	<i>Aegle marmelos</i> (L.) Correa	Bel	Tree
38		<i>Citrus aurantifolia</i> (Chrism) Sw.	Nimbu	Tree
39		<i>Limonia acidissima</i> L.	Kawat	Tree
40		<i>Murraya koenigii</i> (L) Spreng	Godnimb	Tree
41	Simaroubiaceae	<i>Ailanthus excels</i> Roxb.	Mahruk	Tree
42	Meliaceae	<i>Azadirachta indica</i> A. Juss.	Kadunimb	Tree
43		<i>Melia azedarach</i> L.	-	Tree
44		<i>Soymida februfuga</i> (Roxb.) A. Juss.	Rohan	Tree
45	Flindersiaceae	<i>Chloroxylon swietenia</i> DC. Prodr.	Bhera	Tree
46	Olacaceae	<i>Olex scandens</i> Roxb.	Hardphari	Scandent shrub
47	Celastraceae	<i>Cassine glauca</i> (Rottb.) O. Kuntze	Arni	Tree
48		<i>Celastrus paniculatus</i> Willd.	Malkamuni	Climber
49		<i>Maytenus senegalensis</i> Lam.	Bharati	Shrub
50	Rhamanaceae	<i>Ventilago denticulata</i> Willd.	Rakat Papadi	Climber
51		<i>Ziziphus mauritiana</i> Lam.	Bor	Tree
52		<i>Ziziphus oenoplia</i> (L.) Mill.	Yeroni	Shrub
53		<i>Ziziphus rugosa</i> Lam.	Ghoti	Tree
54	Vitaceae	<i>Ampelocissus latifolia</i> (Roxb.) Planch.	-	Climber
55		<i>Ampelocissus ternata</i> (Roth ex Rpm. & Scult.) DC	-	Climber
56		<i>Cayratia trifolia</i> (L) Domin.	-	Climber
57		<i>Cissus vitiginea</i> L.	-	Climber
58	Sapindaceae	<i>Cardiospermum helicacabum</i> L.	-	Climber
59		<i>Dodonea viscosa</i> (L.) Jacq.	-	Shrub
60		<i>Schleichera oleosa</i> (Lour) Oken	Kusum	Tree
61	Anacardiaceae	<i>Buchanania cochinchinensis</i> (Lour.) Almeida,	Charoli	Tree
62		<i>Lannea cormandolica</i> (Houtt.) Merr.	Movai	Tree
63		<i>Mangifera indica</i> L.	Amba	Tree
64		<i>Semecarpus anacardium</i> L.	Biba	Tree
65	Fabaceae	<i>Abrus precatorius</i> L.	Gunj	Climber
66		<i>Aeschynomene aspera</i> L.	-	Wild, herb
67		<i>Alysicarpus bupleurifolius</i> (L.) DC. Prodr.	-	Wild, herb

68		<i>Alysicarpus monilifer</i> (L.) DC. Prodr.	-	Wild, herb
69		<i>Alysicarpus vaginalis</i> (L) DC. Prodr.	-	Wild, herb
70		<i>Butea monosperma</i> (Lam.) Taub.	Palas	Tree
71		<i>Cajanus cajan</i> (L.) Millsp.	Tur	Cultivated shrub
72		<i>Cajanus scarabaeoides</i> (L.) du Petit-Thouars	Ran tur	Climber
73		<i>Crotalaria montana</i> Roth.	-	Wild, herb
74		<i>Crotalaria orixensis</i> Rottl ex Willd	-	Wild, herb
75		<i>Cyamopsis tetragonoloba</i> (L) Taub.	Gawar	Cultivated, herb
76		<i>Dalbergia sissoo</i> Graham	Sissoo	Tree
77		<i>Desmodium dichotomum</i> (Willd) DC. Prodr	-	Wild, herb
78		<i>Desmodium gangeticum</i> (L.) DC. Prod	-	Wild, herb
79		<i>Desmodium triflorum</i> (L.) DC. Prodr.	-	Wild, herb
80		<i>Indigofera cassioides</i> Rottl. ex DC. Prodr.	-	Wild, shrub
81		<i>Indigofera linifolia</i> (L.f.) Retz.	-	Wild, herb
82		<i>Indigofera linnaei</i> Ali	-	Wild, herb
83		<i>Lablab purpureus</i> (L.) Sweet	Popat	Cultivated, herb
84		<i>Lathyrus sativus</i> L.	Lakhodi	Cultivated, herb
85		<i>Melilotus alba</i> Desv.	-	Wild, herb
86		<i>Mucuna purpurians</i> (L) DC. Prodr.	Khaj-Khujali	Climber
87		<i>Phaseolus mungo</i> L.	Mung	Cultivated herb
88		<i>Pisum sativum</i> L.	Matar	Cultivated herb
89		<i>Pterocarpus marsupium</i> Roxb.	Bija	Tree
90		<i>Rhynchosia minima</i> (L.) DC. Prodr.	-	Climber
91		<i>Smithia conferta</i> Smith.	-	Wild, herb
92		<i>Stylosanthes fruticosa</i> (Retz.) Alston.	-	Wild, herb
93		<i>Tephrosia puepurea</i> (L) Pers.	Diwali	Wild, herb
94		<i>Tephrosia villosa</i> (L) Pers.	Diwali	Wild, herb
95		<i>Teramnus labialis</i> (L.f) Spreng.	-	Climber
96		<i>Trigonella foenum-graecum</i> L.	Methi	Cultivated herb
97		<i>Vigna unguiculata</i> (L.) Walp.	Chawali	Cultivated herb
98		<i>Zornia gibbosa</i> Span.	-	Wild, herb
99	Caesalpinaceae	<i>Bauhinia racemosa</i> Lam.	Apta	Tree
100		<i>Cassia absus</i> L.	-	Wild, herb
101		<i>Cassia fistula</i> L.	Bahava	Tree
102		<i>Cassia mimosoides</i> L.	-	Wild, herb
103		<i>Cassia occidentalis</i> L.	-	Wild Shrub
104		<i>Cassia siamea</i> Lamk.	-	Tree
105		<i>Cassia tora</i> L.	Tarota	Wild, herb

106		<i>Delonix regia</i> (Boj.) Raf.	Gulmohar	Tree
107		<i>Peltophorum pterocarpum</i> (DC) Bark ex Heyne	Gulmohar	Tree
108		<i>Tamarindus indica</i> L.	Chinch	Tree
109	Mimosaceae	<i>Acacia catechu</i> (L.f.) Willd	Khair	Tree
110		<i>Acacia leucophloea</i> (Roxb.) Willd	Hiwar	Tree
111		<i>Acacia nilotica</i> (L.) Del.	Babul	Tree
112		<i>Acacia torta</i> (Roxb.) Craib.	Chilati	Shrub
113		<i>Albizia lebbek</i> (L.) Willd	Chichwa	Tree
114		<i>Albizia procera</i> (Roxb.) Benth.	Kinhi	Tree
115		<i>Leucaena leucocephala</i> (Lamk) de Wit.	Subabul	Tree
116		<i>Pithecellobium dulce</i> (Roxb.) Benth.	Chibilai	Tree
117	Combretaceae	<i>Anogeissus latifolia</i> (Roxb. ex DC.) Guil & Perr.	Dhawada	Tree
118		<i>Calycopteris floribunda</i> Lam.	Zilbuli	Shrub
119		<i>Combretum albidum</i> G. Don.	-	Shrub
120		<i>Terminalia bellirica</i> (Gaertn) Roxb.	Behada	Tree
121		<i>Terminalia cuneate</i>	Hirda	Tree
122		<i>Terminalia elliptica</i>	Ain	Tree
123	Myrtaceae	<i>Eucalyptus</i> sp.	Nilgiri	Tree
124		<i>Psidium guajava</i> L.	Jam, Peru	Tree
125		<i>Syzygium cumini</i> (L) Skeels	Jambhul	Tree
126	Lecythidaceae	<i>Careya arborea</i> Roxb.Naud.	Kumbhi	Tree
127	Melastomataceae	<i>Osbeckia muralis</i> Naud.	-	Wild, herb
128	Lythraceae	<i>Ammannia baccifera</i> L.	-	Wild, herb
129		<i>Lagerstroemia parviflora</i> Roxb.	Lendhi	Tree
130		<i>Rotala indica</i> (Willd) Koehne	-	Wild, herb
131		<i>Woodfordia fruticosa</i> (L.) Kurtz.	-	Wild shrub
132	Onagraceae	<i>Ludwigia perennis</i> L.	-	Wild, herb
133	Caricaceae	<i>Carica papaya</i> L.	Pappay	Shrub
134	Cucurbitaceae	<i>Cucumis sativus</i> L.	Kakadi	Cultivated Climber
135		<i>Cucurbita maxima</i> Duch. ex Lamk.	Bhopada	Cultivated Climber
136		<i>Diplocyclos palmatus</i> (L.) Jeffrey	Shivlingi	Wild, Climber
137		<i>Lagenaria siceraria</i> (Molina) Standl	Lauki	Cultivated Climber
138		<i>Luffa acutangula</i> (L.) Roxb.	Dodka	Cultivated Climber
139		<i>Luffa cylindrica</i> (L.) Roem.	Galgala	Cultivated Climber
140		<i>Momordica charantia</i> L.	Karle	Cultivated Climber
141		<i>Trichosanthes cucumerina</i> L.,	-	Wild Climber
142	Molluginaceae	<i>Glinus lotoides</i> L.	-	Wild, herb

143		<i>Glinus oppositifolius</i> (L.) A. DC.	-	Wild, herb
144		<i>Molugo pentaphylla</i> L.	-	Wild, herb
145	Apiaceae	<i>Coriandrum sativum</i> L.	Sambar	Cultivated herb
146	Aliangiaceae	<i>Alangium salvifolium</i> (L.f.) Wangerin.	-	Tree
147	Rubiaceae	<i>Gardenia latifolia</i> Ait.	Ghogar	Tree
148		<i>Gardenia resinifera</i> Roth.	Dhikamali	Tree
149		<i>Hedyotis corymbosa</i> (L.) Lam.	-	Wild, herb
150		<i>Ixora pavetta</i> Andr.	Lokhandi	Tree
151		<i>Spermacoce articularis</i> L.	-	Wild, herb
152		<i>Spermacoce pusilla</i> Wall.	-	Wild, herb
153	Asteraceae	<i>Ageratum conyzoides</i> L.	-	Wild, herb
154		<i>Blumea lacera</i> (Burm.f.) DC.	-	Wild, herb
155		<i>Blumea oxyodonata</i> DC.	-	Wild, herb
156		<i>Caesulia axillaris</i> Roxb.	-	Wild, herb
157		<i>Cyathocline purpurea</i> (D.Don) O Kuntze	-	Wild, herb
158		<i>Eclipta prostrata</i> (L.) L. Mant	Maka	Wild, herb
159		<i>Elephantopus scaber</i> L.	-	Wild, herb
160		<i>Emilia sonchifolia</i> (L.) DC.	-	Wild, herb
161		<i>Gnaphalium polycaulon</i> Pers.	-	Wild, herb
162		<i>Grangea maderaspatana</i> (L.) Poir.	-	Wild, herb
163		<i>Parthenium hysterophorus</i> L.	Congress gawat	Wild, herb
164		<i>Pentanema indicum</i> L.	-	Wild, herb
165		<i>Sphaeranthus indicus</i> L.	-	Wild, herb
166		<i>Spilanthus paniculata</i> L.	Akalkara	Wild, herb
167		<i>Tridax procumbens</i> L.	Kambarmodi	Wild, herb
168		<i>Vernonia cinerea</i> (L.) Less.	-	Wild, herb
169		<i>Xanthium indicum</i> L.	-	Wild, herb
170	Companulaceae	<i>Wahlenbergia erecta</i> (Roem, & Schult) Moel & Tuyn.	-	Wild, herb
171	Lobeliaceae	<i>Lobelia alsinoides</i> Lam.	-	Wild, herb
172	Sapotaceae	<i>Madhuca longifolia</i> (J. Koenig) Macbr.	Moha	Tree
173	Ebenaceae	<i>Diospyros melanoxylon</i> Roxb.	Tembhrun	Tree
174	Oleaceae	<i>Nyctanthes arbor-tristis</i> L.	Parijatak	Tree
175		<i>Jasminum grandiflorum</i> L., Sp	Mogra	Cultivated shrub
176	Apocynaceae	<i>Catharantus roseus</i> (L) G. Don.	Jagannath	Cultivated herb
177		<i>Holarrhena pubescens</i> (Buch.- Ham.) Wall ex G. Don.	Kuda	Tree
178		<i>Ichnocarpus frutescens</i> (L.) R. Br.	-	Climber
179		<i>Nerium indicum</i> Mill.	Kaner	Ornamental Tree

180		<i>Plumeria rubra</i> L.	Chapa	Ornamental Tree
181		<i>Tabernaemontana divaricata</i> (L.) R. Br.	Swatik	Ornamental Tree
182		<i>Thevetia peruviana</i> (Pers.) Schum.	PivalaKaner	Ornamental Tree
183		<i>Wrightia tinctoria</i> R. Br.	-	Tree
184	Asclepiadaceae	<i>Calotropis gigantea</i> (L) R. Br.	Rui	Shrub
185		<i>Pergularia daemia</i> (Forsk) Chiov.	Utaranvel	Climber
186		<i>Wattakaka volubilis</i> (L.f.) Stapf.	-	Climber
187	Periplacaceae	<i>Criptolepis buchnani</i> Roem. & Schult.	-	Climber
188		<i>Hemidesmus indicus</i> (L.) R.Br.	Khobarvel	Climber
189	Gentianaceae	<i>Canscora decussata</i> Schult & Schult.	-	Wild, herb
190		<i>Canscora diffusa</i> (Vahl) R. Br.	-	Wild, herb
191		<i>Canscora heteroclita</i> (L.) Gilg.	-	Wild, herb
192		<i>Centaurium meyeri</i> (Bunge) Druce	-	Wild, herb
193		<i>Enicostema axillare</i> (Lam.) Roynal	-	Wild, herb
194		<i>Exacum pedunculatum</i> L.	-	Wild, herb
195		<i>Hoppea dichotoma</i> Willd.	-	Wild, herb
196	Boraginaceae	<i>Cordia dichotoma</i> Forst f. Prodr.	Bhokar	Tree
197		<i>Heliotropium indicum</i> L.	-	Wild, herb
198		<i>Heliotropium supinum</i> L.	-	Wild, herb
199		<i>Trichodesma indicum</i> (L) R. Br.	-	Wild, herb
200	Convolvulaceae	<i>Evolvulus alsinoides</i> (L) L.	-	Wild, herb
201		<i>Ipomoea aquatic</i> Fosrk.	-	Wild, herb
202		<i>Ipomoea fistulosa</i> Mart ex Choisy	Beshram	Wild, shrub
203		<i>Ipomoea obscura</i> (L) Ker-Gawl.	-	Climber
204		<i>Merremia gangetica</i> (L) Cuf.	-	Wild, herb
205		<i>Rivea hypocrateriformis</i> (Desr.) Choisy	Phas	Climber
206		<i>Volvulopsis nummularia</i> (L) Roberty	-	Wild, herb
207		<i>Xenostegia tridentate</i> (L) Austin & Staples	-	Wild, herb
208	Solanaceae	<i>Capsicum annuum</i> L	Mirachi	Cultivated herb
209		<i>Datura metal</i> L.	Dhotra	Wild, herb
210		<i>Lycopersicon esculentum</i> Mill	Tamatar	Cultivated herb
211		<i>Physalis minima</i> L.	-	Wild, herb
212		<i>Solanum nigrum</i> L.	-	Wild, herb
213		<i>Solanum melongena</i> L.	Wanga	Cultivated herb
214	Scrophulariaceae	<i>Limnophila aromatica</i> (Lam.) Merr.	-	Wild, herb
215		<i>Lindernia antipoda</i> (L) Alston	-	Wild, herb
216		<i>Lindernia ciliata</i> (Colsm.) Pennell	-	Wild, herb

217		<i>Lindernia crustacea</i> (L.) F. Muell.	-	Wild, herb
218		<i>Scoparia dulcis</i> L.	-	Wild, herb
219		<i>Stemodia viscosa</i> Roxb.	-	Wild, herb
220		<i>Striga angustifolia</i> (D. Don) Sald.	-	Wild, herb
221		<i>Verbascum chinense</i> (L) Santapau.	-	Wild, herb
222	Martyniaceae	<i>Martynia annua</i> L.	-	Wild, shrub
223	Acanthaceae	<i>Adhatoda zeylanica</i> Medic.	Adulsa	Shrub
224		<i>Andrographis paniculata</i> (Burm.f.) wall ex Nees	Bhuneem	Wild, herb
225		<i>Barleria cristata</i> L.	-	Wild, herb
226		<i>Blepharis maderaspatensis</i> (L) Roth.	-	Wild, herb
227		<i>Blepharis repens</i> (Vah) Roth.	-	Wild, herb
228		<i>Eranthemum purpurascens</i> Nees in Wall	-	Wild, herb
229		<i>Hemigraphis latebrosa</i> (Heye ex Roth) Nees in DC	-	Wild, herb
230		<i>Hygrophila schulli</i> (Buch..Ham.) M.R. & S.M. Almeida	Katekoranti	Wild, herb
231		<i>Indoneesiella echioides</i> (L.) Sreem	-	Wild, herb
232		<i>Justicia glauca</i> Rottl.	-	Wild, herb
233		<i>Justicia japonica</i> Thunb.	-	Wild, herb
234		<i>Lepidagathis cristata</i> Willd.	-	Wild, herb
235		<i>Peristrophe paniculata</i> (Forssk) Brummitt.	-	Wild, herb
236		<i>Rungia pectinata</i> (L.) Nees in DC.	-	Wild, herb
237		<i>Rungia repens</i> (L.) Nees in Wall.	-	Wild, herb
238	Verbenaceae	<i>Clerodendrum serratum</i> (L.) Moon	-	Shrub
239		<i>Duranta erecta</i> L.	Mehndi	Cultivated Shrub
240		<i>Gmelina arborea</i> Roxb.	Shivan	Tree
241		<i>Lantana camara</i> L.	-	Shrub
242		<i>Phyla nodiflora</i> (L.) Greene	-	Wild, herb
243		<i>Tectona grandis</i> L.f.	Sagwan	Tree
244		<i>Vitex negundo</i> L.	Nirgudi	Tree
245	Lamiaceae	<i>Hyptis suaveolens</i> (L) Poit.	-	Shrub
246		<i>Leucas cephalotes</i> (Roth) Spr.	-	Wild, herb
247		<i>Ocimum sanctum</i> L.	Tulsi	Wild, herb
248		<i>Ocimum basilicum</i> L.	-	Wild, herb
249		<i>Orthosiphon rubicundus</i> (D.Don) Bth.	-	Wild, herb
250	Nyctaginaceae	<i>Boerhavia diffusa</i> L.	Khaparkhuti	Wild, herb
251		<i>Bougainvillea spectabilis</i> Willd., Sp.	Bogan wel	Cultivated Shrub
252	Amaranthaceae	<i>Achyranthes aspera</i> L.	aGHADAKutri	Wild, herb
253		<i>Aerva sanguinoleta</i> (L.) Bl.	-	Wild, herb

254		<i>Alternanthera sessile</i> (L.) R. Br. ex DC.	-	Wild, herb
255		<i>Alternanthera tenella</i> Colla	-	Wild, herb
256		<i>Celosia argentea</i> L.	-	Wild, herb
257		<i>Gomphrena serrata</i> L.	-	Wild, herb
258		<i>Trichuriella monsoniae</i> (L.f.) Bennet	-	Wild, herb
259	Chenopodiaceae	<i>Chenopodium album</i> L.	Mat	Wild, herb
260	Polygonaceae	<i>Persicaria barbata</i> (L.) Hara	-	Wild, herb
261		<i>Persicaria glabra</i> (Willd) Gomez	-	Wild, herb
262		<i>Polygonum plebejum</i> R. Br.	-	Wild, herb
263		<i>Rumex dentatus</i> L.	-	Wild, herb
264	Loranthaceae	<i>Dendrophthae falcata</i> (L.f.) Etting	-	Parasite
265	Euphorbiaceae	<i>Acalypha ciliata</i> Forsk.	-	Wild, herb
266		<i>Bridelia retusa</i> (L.) Spreng	Kasai	Tree
267		<i>Cleistanthus collinus</i> (Roxb.) Bth ex Hook.	Garari	Tree
268		<i>Emblica officinalis</i> Gaertn	Awala	Tree
269		<i>Euphorbia hirta</i> L.	-	Wild, herb
270		<i>Jatropha curcas</i> L.	Chandrajyot	Wild Shrub
271		<i>Jatropha gossypifolia</i> L.	Chandrajyot	Wild Shrub
272		<i>Phyllanthus maderaspatensis</i> L.	-	Wild, herb
273		<i>Phyllanthus urinaria</i> L.	Bhui-Awala	Wild, herb
274		<i>Phyllanthus virgatus</i> Forst.f.	-	Wild, herb
275		<i>Ricinus communis</i> L.	Erandi	Cultivated shrub
276		<i>Sebastiana chamaelea</i> (L.) Muell- Arg.	-	Wild, herb
277	Moraceae	<i>Ficus benghalensis</i> L.	Wad	Tree
278		<i>Ficus hispida</i> L.f.	Katumber	Tree
279		<i>Ficus racemosa</i> L.	Umber	Tree
280		<i>Ficus religiosa</i> L.	Pimpal	Tree
281	Orchidaceae	<i>Vanda tessellata</i> (Roxb.) Hook.	-	Epiphyte
282	Musaceae	<i>Musa paradisiaca</i> L.	Kela	Cultivated shrub
283	Amoryllidaceae	<i>Crinum viviparum</i> (Lam.) R. Ansari & V. J. Nair	-	Wild, herb
284	Hypoxidaceae	<i>Curculigo orchioides</i> Gaertn.	Kali-Musali	Wild, herb
285	Taccaceae	<i>Tacca leontopetoides</i> (L) O. Ktze.	-	Wild, shrub
286	Agavaceae	<i>Agave americana</i> L. Sp.	-	Wild, herb
287		<i>Sansevieria zeylanica</i> (L) Willd.	-	herb
288	Dioscoreaceae	<i>Dioscorea bulbifera</i> L.	Matnaru	Climber
289	Liliaceae	<i>Allium sativum</i> L.	Lasun	Cultivated herb
290		<i>Asparagus racemosus</i> Willd.	Satavari	Wild shrub
291		<i>Gloriosa superb</i> L.	Kar-Kari	Wild shrub

292		<i>Iphigenia indica</i> (L.) A.b. Gray	-	Wild, herb
293		<i>Scilla hyacinthine</i> (Roth.) Mc Bride.	-	Wild, herb
294	Smilacaceae	<i>Smilax zelyanica</i> L.	Sherdere	Climber
295	Commelinaceae	<i>Commelina benghalensis</i> L.	Kena	Wild, herb
296		<i>Cyanotis cristata</i> (L.) D. Don.	-	Wild, herb
297		<i>Murdannia spirata</i> (L.) Brueck.	-	Wild, herb
298		<i>Tonningia axillaris</i> (L.) O.Ktze.	-	Wild, herb
299	Arecaceae	<i>Phoenix acaulis</i> Roxb.	Shindi	Wild, herb
300	Araceae	<i>Amorphophallus paeoniifolius</i> (Dennst.) Nicols.	Suran	Wild, herb
301		<i>Colocasia esculenta</i> (L.) Schott	Dhopa	Herb
302		<i>Theriophonum minutum</i> (Willd.). Buail.	-	Wild, herb
303	Eriocaulaceae	<i>Eriocaulon quinquangulare</i> L.	-	Wild, herb
304	Cyperaceae	<i>Bulbostylis barbata</i> (Rottb.) C.B.Cl.	-	Wild, herb
305		<i>Cyperus compressus</i> L.	-	Wild, herb
306		<i>Cyperus difformis</i> L.	-	Wild, herb
307		<i>Cyperus iria</i> L.	-	Wild, herb
308		<i>Cyperus tenuispica</i> Steud.	-	Wild, herb
309		<i>Cyperus rotundus</i> L.	-	Wild, herb
310		<i>Eleocharis acutangula</i>	-	Wild, herb
311		<i>Eleocharis retroflexa</i> (Poir) Urb.	-	Wild, herb
312		<i>Fimbristylis argentea</i> (Rottb.) Vahl.	-	Wild, herb
313		<i>Fimbristylis dichotoma</i> (L.) Vahl.	-	Wild, herb
314		<i>Fimbristylis miliacea</i> (L) Vahl.	-	Wild, herb
315		<i>Fuirena ciliaris</i> (L.) Roxb.	-	Wild, herb
316		<i>Kyllinga tenuifolia</i> Steud.	-	Wild, herb
317		<i>Mariscus clarkei</i> (T. Cooke) T. Koyama	-	Wild, herb
318		<i>Pycneus sanguinolentus</i> (Vahl.) Nees ex C. B. Cl.	-	Wild, herb
319		<i>Rhynchospora wightiana</i> (Nees) Steud.	-	Wild, herb
320		<i>Schoenoplectus articulatus</i> (L.) Palla	-	Wild, herb
321		<i>Schoenoplectus lateriflorus</i> (Gmel.) Lye	-	Wild, herb
322		<i>Scleria biflora</i> Roxb.	-	Wild, herb
323	Poaceae	<i>Alloteropsis cimicina</i> (L.) Stapf.	-	Wild, Grass
324		<i>Apluda mutica</i> L.	-	Wild, Grass
325		<i>Aristida redacta</i> Stapf.	-	Wild, Grass
326		<i>Arthraxon hispidus</i> (Thunb.) Makino	-	Wild, Grass
327		<i>Bambusa arundinacea</i> (Retz.) Willd. Sp.	Katang	Wild, Grass
328		<i>Chloris barbata</i> Swartz.	-	Wild, Grass

329		<i>Chrysopogon fulvus</i> (Spr.). Chiov.	-	Wild, Grass
330		<i>Coix lacryma-jobi</i> L.	-	Wild, Grass
331		<i>Cynodon dactylon</i> (L.) Pers.	Durva	Wild, Grass
332		<i>Dactyloctenium aegyptium</i> (L.) Willd.	-	Wild, Grass
333		<i>Dendrocalamus strictus</i> (Roxb.) Nees.	-	Wild, Grass
334		<i>Dichanthium annulatum</i> (Forssk.) Stapf.	-	Wild, Grass
335		<i>Digitaria abludens</i> (R. & S.) Veldk.	-	Wild, Grass
336		<i>Digitaria ciliaris</i> (Retz.) Koel.	-	Wild, Grass
337		<i>Dimeria connivens</i> Hack.	-	Wild, Grass
338		<i>Echinochloa colona</i> (L.) Link.	-	Wild, Grass
339		<i>Eleusine indica</i> (L.) Gaertn.	-	Wild, Grass
340		<i>Eragrostiella bifaria</i> (Vahl.) Bor.	-	Wild, Grass
341		<i>Eragrostis japonica</i> (Thunb.) Trin.	-	Wild, Grass
342		<i>Eragrostis riparia</i> (Willd.) Nees.	-	Wild, Grass
343		<i>Eragrostis tenella</i> (L.) P. Beauv.	-	Wild, Grass
344		<i>Eragrostis unioides</i> (Retz.) Nees ex Steud.	-	Wild, Grass
345		<i>Heteropogon contortus</i> (L.) P. Beauv.	-	Wild, Grass
346		<i>Imperata cylindrica</i> (L.) Raeuschel	-	Wild, Grass
347		<i>Ischaemum indicum</i> (Houtt.) Merr.	-	Wild, Grass
348		<i>Iseilema laxum</i> Hack. in DC.	-	Wild, Grass
349		<i>Microchloa indica</i> (L.f.) P. Beauv.	-	Wild, Grass
350		<i>Oryza rufipogon</i> Griff.	Devdhan	Wild, Grass
351		<i>Oryza sativa</i> L.	Dhan	Cultivated
352		<i>Paspalum scrobiculatum</i> L.	-	Wild, Grass
353		<i>Saccharum spontaneum</i> L.	Padhar	Wild, Grass
354		<i>Sacciolepis indica</i> (L.) A. Chase	-	Wild, Grass
355		<i>Setaria pumila</i> (Poir) R. & S. Syst.	-	Wild, Grass
356		<i>Zea mays</i> L.	Makaa	Cultivated
357		<i>Vetiveria zizanioides</i> (L.) Nash.	Khus	Wild, Grass

Economic aspects of the plant diversity of village Palasgaon

- **Pulses:** *Cajans cajan* (Tur), *Cicer arientum* (Chana, herbara), *Vigna mungo* (Udid), *Vigna radiata* are the pulses species cultivated in the village.
- **Cereals:** *Oryza sativa* (Dhan), *Triticum aetivum* (Gahu), *Zea mays* (Maka) is also cultivated in the village.
- **Vegetable:** *Abelmoschus esculentus* (Bhendi), *Cucumis sativa* (Kundru), *Cucurbita maxima* (Kohala), *Cyamopsis tetragonaloba* (Gawarsheng), *Hibiscus cannabinus* (Ambadi), *Lycopersicon*

esculentum (Tomato), *Momardica charantia* (Karale), *Solanum melongena* (Wange), *Luffa cylindrica*, *Luffa acutangula* (Dodka), are commonly grown in the village.

- **Fruit:** *Aegle marmelos* (Bel), *Annona squamosa* (Shitafal), *Buchanania cochinchinensis* (Char), *Carica papaya* (Papaya), *Diospyros melanoxylon* (Dembhruni), *Emblia officinalis* (Awala), *Limonia acidissima* (Khawat), *Mangifera indica* (Amba), *Musa paradisiaca* (Kela), *Pithecellobium dulce* (Wilaiti chinch, Chihbilai), *Psidium guajava* (Peru, Gam), *Semecarpus anacardium* (Biba), *Syzygium cumini* (Jamun), *Tamarindus indica* (Chinch), *Ziziphus mauritiana* (Bor), are encountered.
- **Medicinal plant :** *Abrus precatorius*, *Achyranthes aspera*, *Adhatoda zeylanica*, *Aegle marmelos*, *Andrographis paniculata*, *Anogeissus latifolia*, *Asparagus racemosus*, *Azadirachta indica*, *Cassia tora*, *Celastrus paniculatus*, *Curculigo orchioides*, *Elephantopus scaber*, *Emblia officinalis*, *Gardenia resinifera*, *Helicteres isora*, *Holarrhena pubescens*, *Limonia acidissima*, *Mucuna pruriens*, *Phyllanthus amarus*, *Semecarpus anacardium*, *Terminalia arjuna*, *Terminalia bellirca*, *Tridax procumbens*, *Ventilago denticulate* are some example of medicinal plans.
- **Timber tree :** *Tectona grandis* (Sagawan), *Soymdia februfuga* (Rohan), *Chloroxylon swietenia* (Behara), *Cleistanthus collinus* (Garari), *Lannea coromandelica* (Mowai), *Pterocarpus marsupium* (Bija), *Acacia nilotica* (Babul), *Albizia lebbeck* (Chichwa), *Careya arborea* (Kumbhi), *Lagerstroemia parviflora* (Lendhi), *Mitragyna parvifolia*, *Madhuca longifolia* (Moha), *Bridelia retusa* (Kasai) etc.
- **Oil yielding plant:** *Arachis hypogea* (Bhuiseng), *Brassica* sps. (Mohari, Sarso), *Seasamum indicum* (Til), *Ricinus communis* (Erandi), *Linum usitasimum* (Jawas, Alsi),
- **Gum yielding plant :** *Acaccia leucocephala* (Hiwar), *Acaccia nilotica* (Babul), *Lannea coromandelica* (Mowai), *Sterculia urens* (Karu) etc.
- **Edible Plant :-** The major food of the local people is Rice and Wheat. In addition to this farmer and labour collect various plants from the forest, barren land and field boundaries for edible purpose. Such as *Holarrhena pubescens* (Kuda), *Alternanthera sessilis* (Patoor bhaji), *Chenopodium album* (Math), *Cassia tora* (Tarota) etc. They use these plants for themselves and sell in market.

Medicinal plants used in the Palasgaon region of Armori taluka Dist. Gadchiroli

Sr. No.	Botanical name	Family	Local Name	Part Use	Uses/Ailments treated	Preparations (administration)
1	<i>Achyranthes aspera</i> L.	Amaranthaceae	Kutri/Aghada	Root	Cough	Decoction (I)
2	<i>Asparagus racemosus</i> Willd	Liliaceae	Shatavari/Marbat	Tuber Root	Lactation	Powder (I)
3	<i>Azadirachta indica</i> A. Juss.	Meliaceae	Kadunimb	Young branch	Brushing teeth	Direct (I)
				Leaves / Fruit	Skin diseases	Juice (E)
4	<i>Bauhinia racemosa</i> Lam	Caesalpinaceae	Apta	Root	Joint pain	Paste (E)
5	<i>Boerhavia diffusa</i> L.	Nyctaginaceae	Khapakhuti/Punarnava	Root	Jaundice	Direct (I)
				Leaves	Blood purifier	Juice (I)
6	<i>Celastrus paniculatus</i> Willd.	Celastraceae	Malkangni	Seed	Joint pain	Oil (E)
7	<i>Embllica officinalis</i> Gaertn	Euphorbiaceae	Awala	Fruit	cough	Eaten raw (I)
8	<i>Gloriosa superba</i> L.	Liliaceae	Karkari/Kallawi	Tuber	Easy delivery	
9	<i>Adhatoda zeylanica</i> Medic	Acanthaceae	Adulsa	Leaves	Cough	Powder (I)
10	<i>Ocimum tenuiflorum</i> L.	Lamiaceae	Ran tulas	Leaves	Fever , cold	Juice (I)
11	<i>Phyllanthus amarus</i> Schum & Thonn.	Euphorbiaceae	Bhui awla	Root	Jaundice	Decoction (I)
12	<i>Semecarpus anacardium</i> L.	Anacardiaceae	Biba	Oil of seed	Rheumatism	Oil (E)
13	<i>Syzygium cumini</i> (L) Skeels	Myrtaceae	Jambhul	Fruit	Diabetes	Eaten raw (I)
14	<i>Terminalia bellirica</i> (Gaertn.) Roxb.	Combretaceae	Behada	Fruit	cough	Powder (I)
15	<i>Terminalia chebula</i> Retz	Combretaceae		Fruit	cough, fever	Powder (I)

Way of administration: (E) external use; (I) internal use.

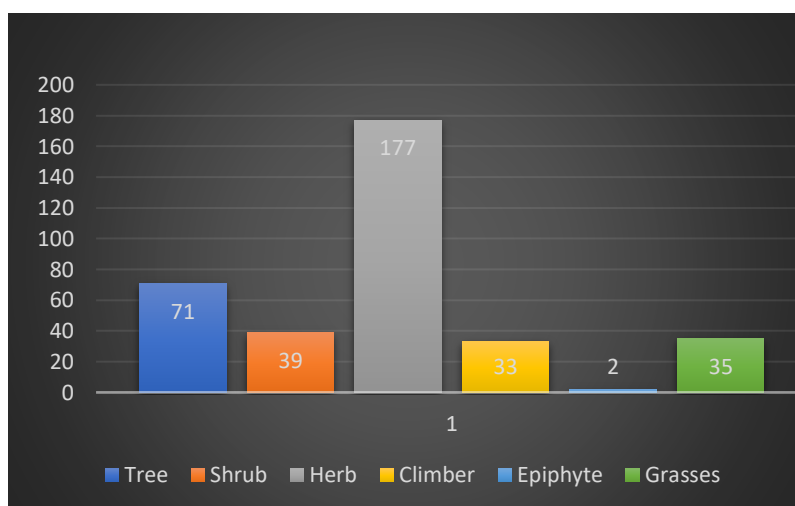
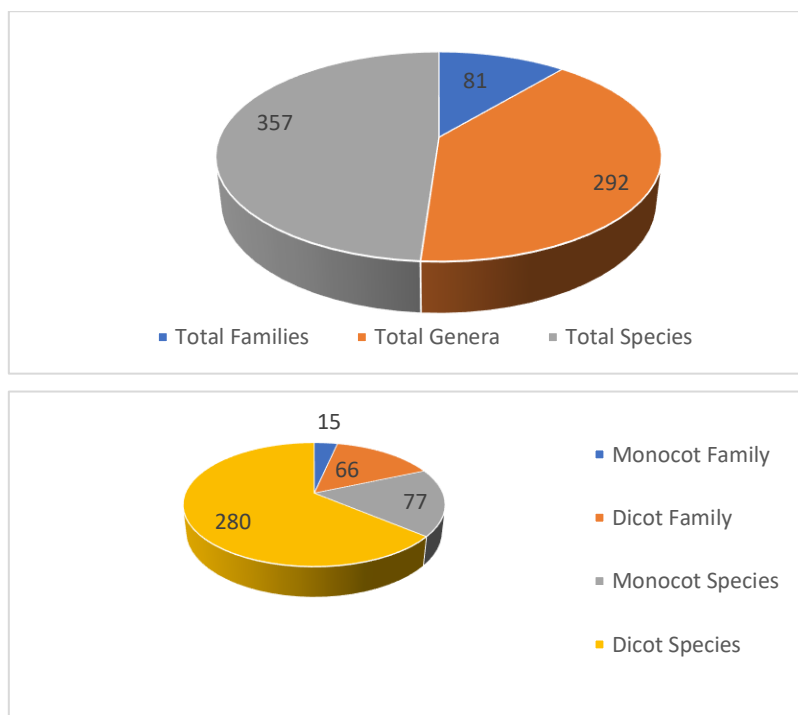
Result and Discussion: -

Floristic diversity in the Palasgaon has been accumulated based on the vegetation survey and talk with local people in academic session 2020-2021. A total of 357 species belonging to 81 families and 292 genera has been identified. Poaceae is the dominant family with 30 genera and 35 species followed by Fabaceae 25 genera; 34 species, Cyperaceae 11 genera; 19 species, Asteraceae 16 genera; 17 species and Acanthaceae 12 genera; 15 species. Herbs are the dominant growth forms with 177 species followed by trees 71 species, shrub 39 species and climber's 33 species, Epiphytes 02 and Grasses 35 species.

Conclusion: -

Understanding the floral diversity of an area is a requirement for proper conservation efforts. Species want to be conserved along with the habitat for which proper understanding the diversity of the species and their association is very important.

Floristic spectrum of Angiospermum in Palasgaon area is shown in following pie-diagram.



Life forms

Field Photographs





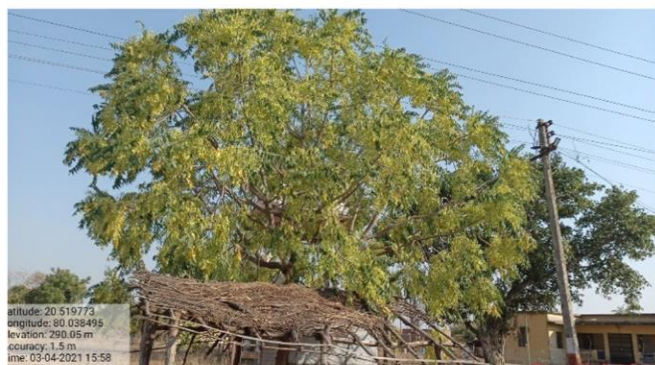




Argemone Mexicana



Helicteres isora



Ailanthus excels



Soyimida februfuga



Chloroxylon swietenia



Dodonea viscora



Lannea cormandelica



Abrus precatorius



Butea monosperma



Anogeissus latifolia



Calycopteris floribunda



Woodfordia fruticosa



Gardenia resianifera



Ixora pavetta



Elephantopus scaber



Sphaeranthus indicus



Holarrhena pubescens



Evolvulus alsinoides



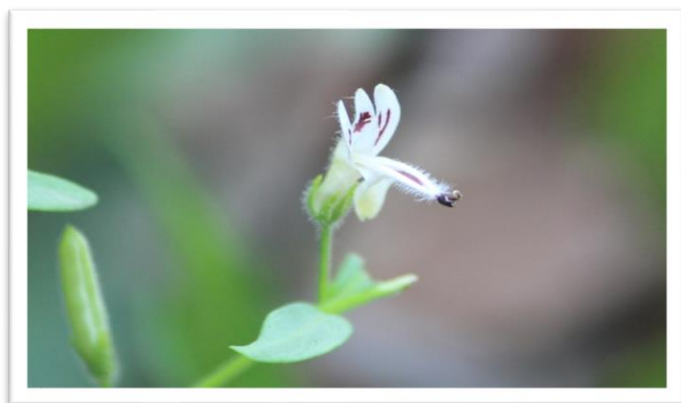
Lycopersicon esculentum



Solanum melongena



Adhatoda zeylanica



Andrographis paniculata



Vanda tessellate

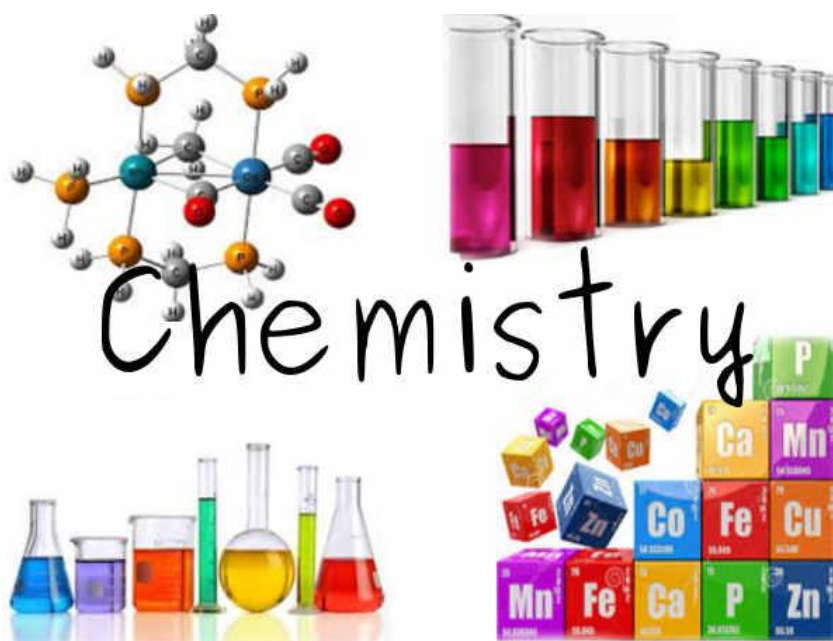


Dichanthium annulatum

Third Semester Bachelor of Science (B.Sc. II) (CBCS Pattern)
Subject: Botany
Mahatma Gandhi Arts, Sci. Late N. P. Commerce, College, Armori
PBR List (2020-21)

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7	KU. PRAJAKTA SURESH SAHARE	P.S. Sahare
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DEPARTMENT OF CHEMISTRY



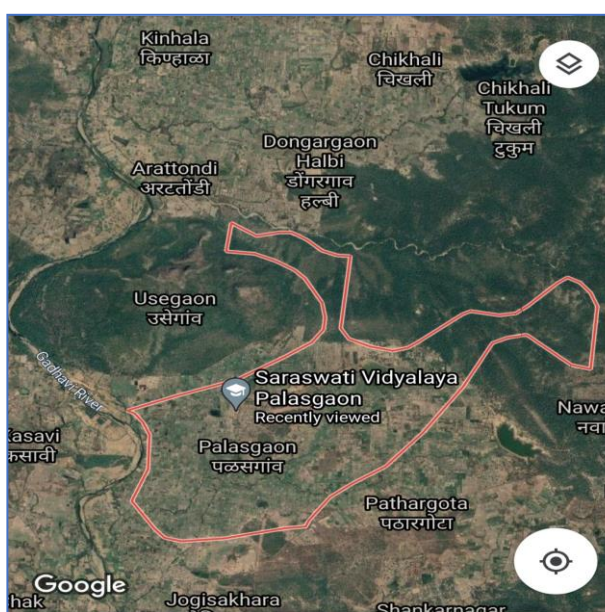
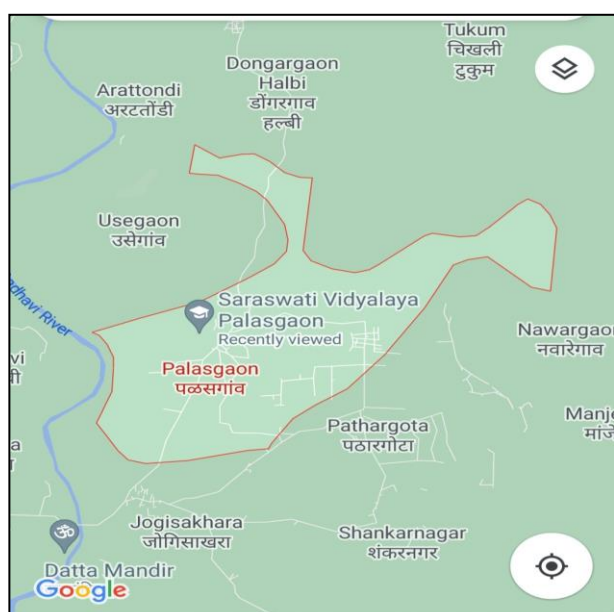
Department of Chemistry
People Biodiversity Register (PBR) Report entitled

“Survey and Physico-Chemical analysis of water and soil of Palasgaon village of Armori tehsil, Gadchiroli district Maharashtra”

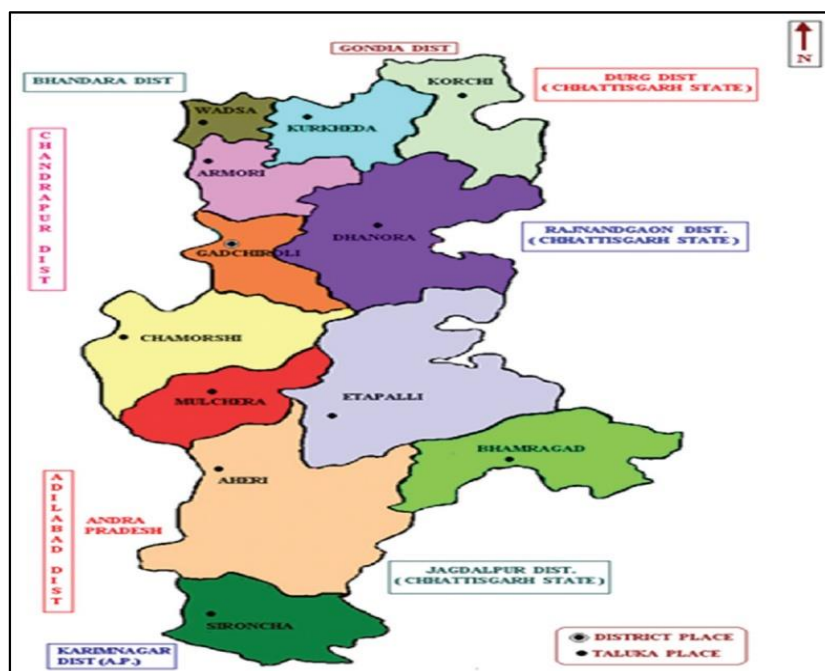
PBR submitted by: **B. Sc. II** (Department of Chemistry) students group **2020-21**

Under the supervision of **Prof. Satendra M. Sontakke, Dr. Satish S. kola, Dr. Naresh Bansod**

1.	Name of study area	Palasgaon
2.	Date of collection of samples	04/03/2021
3.	Date of completion of analysis	20/08/2021
4.	Name of village	Palasgaon
5.	Name of Gram panchayat	Palasgan
6.	Pin code of study area	441208
7.	Tehsil	Armori
8.	District	Gadchiroli
9.	State	Maharashtra



Satellite view of Palasgaon Village



Geographical view of Palasgaon

Gadchiroli emerged as a separate district on 26 Aug 1982 having area about 14412 sq. Km. Armori is a municipal taluka in the Gadchiroli district in the Indian state of Maharashtra. It is connected with NH-353C. It is located on the left of the Wainganga River. It is about 120 km from the city of Nagpur and about 36 km from district headquarters, Gadchiroli. In present survey, we have selected Palasgaon village.

Palasgaon is a medium size village located in Armori Taluka of Gadchiroli district, Maharashtra with total 338 families residing. This village has population of 1400 of which 739 are males while 661 are females. Average Sex Ratio of Palasgaon village is 1036 which is higher than Maharashtra state average of 929. The literacy rate of Palasgaon village was 75.20 % compared to 82.34 % has lower literacy rate compared to Maharashtra.

In Palasgaon Male literacy stands at 81.43 % while female literacy rate was 68.39 %. As per constitution of India and Panchyat Raaj Act, Palasgaon village is administrated by Sarpanch Head of Village who is elected representative of village. For Palasgaon village Bore well, dug well and water treatment plant is set up on the river which provides drinking water for the people and most of the farmers of the village take paddy crop.

❖ **METHODOLOGY**

The complete PBR project consists of three parts.

1. Survey of Palasgaon village using questionnaires and peoples approach around water quality they used, misused, water recharging, shortage of water, and their role in conservation of water and agriculture related information.
2. Study and comparison various parameters of water by using water sampling kit and titration method.
3. Study and comparison various parameters of soil by using standard literature procedure and reference.

Peoples Biodiversity Register Survey of Palasgaon

Villager Name: - Annaji Shirpat Gonghale (Age -50 years)

Name of Interviewer: - Namrata S. Juare (4/3/2021)

village: - Palasgaon ward no.1 land area 05 Acre

Questionnaire (Survey) on water management

- Q.1 -What are various sources of water in Palasgaon area (village)?

Ans.: - Dug well, Gram panchayat tap water, Bore well.

- Q.2 - In rainy season, whether chlorination of drinking water is carried out by Gram Panchayat or not?

Ans.: - Yes, Chlorination is done by Gram Panchayat in drinking water.

- Q.3 -What is difference between pure water & impure water in your sense?

Ans.: - pure water is clean, Impure water is dirtier and more turbid.

- Q.4 - Generally well water quality is good in comparison with Bore well water. What is Your Experience?

Ans.: - As per my opinion Dug well water is good in comparison with bore well.

- Q.5 - Do you know, we get important minerals like calcium and fluoride from water?

Ans.: - Yes

- Q.6 -Do you feel water scarcity in summer season?

Ans.: - No, drinking water is sufficient in our village.

- Q.7 -Do you think we the people are responsible for the water scarcity?

Ans.: - Yes

- Q.8 -Water scarcity arises due to improper management and improper recharging of water.

What is your opinion?

Ans.: - No, we don't have any idea

- Q.9 -Whether water resources in your area is sufficient for irrigation point of view?

Ans.: - Yes, canal water is available.

- Q.10 -We can differentiate between soft water & hard water due to chemical activity. Water Which gives more scum (salt) it is called hard water if less scum (salt) is formed it is called soft water. Do you aware about it?

Ans.: - Yes

- Q.11 – What is effect of hard water on Agriculture produce?

Ans.: - we don't have any idea about it

- 12 -Due to washing of cloth, pollution of lake takes place. Do you aware about it?

Ans.: - Yes

- Q.13 -In rainy season, do you drink water after chlorination or boiling?

Ans.: - No

- Q.14 -Which method you applying for cold water in summer season.

Ans.: - Water store in matka made from soil.

- Q.15 -What type of method you are applying for water purification?

Ans.: - by Bleaching powder.

- Q.16 -What type of Ayurveda medicine (Jadibuti) you were practicing earlier?

Ans.: - Extract of Kadunimb use as insecticide as well as pesticide.

- Q.17 -What are the solution for water scarcity in summer season.

Ans.: - No Scarcity of water.

- Q.18 -What is the method for the removal of salt from water?

Ans.: - Alum is used for the removal of dirt.

Peoples Biodiversity Register Survey of Palasgaon

Villager Name: - Dudharam Lahuji Hajare (Age - 67 years)

Name of Interviewer:- Ashwarya Marodkar (4/3/2021)

Village:- Palasgaon, ward no. 2 land area 2 Acre

Survey on Agriculture Information

- Q.1- what type of fertilizer you are using in your farming whether chemical or organic?
Ans.: - Chemical fertilizers
- Q.2- Which type of chemical composition you preferred for chemical fertilizers?
Ans.: - 20:20:0
- Q.3 -Which Company Brand is more useful as per your opinion?
Ans.: - Krushi udhog
- Q.4- How many Kg or bag of chemical fertilizer your required per acre?
Ans.: - 3 Bags per Acre
- Q.5 - From how many Years you are using chemical fertilizers?
Ans.: - from 10 Years
- Q.6 - During use of chemical fertilizer what was the percentage of crop production? Whether increased or decreased.
Ans.: - Crop production increases
- Q. 7- During the use of organic fertilizer what was the percentage of crop production? Whether increased or decreased.
Ans.: - percentage of crop production was average.
- Q.8- compare to chemical fertilizer and organic fertilizer which is best?
Ans.: - Chemical is good, but it decreased soil fertility.
- Q.9- During use of chemical fertilizer what was the percentage of insect or paste attack on Crops whether increased or decreased?

Ans.: - The average percentage of insect or pest attack was increased

- Q.10 - During use of organic fertilizers what was the percentage of insect or pest attack on Crops? Whether increased or decreased.

Ans.: - Insect or pest attack was decreased in use of organic fertilizers.

- Q.11 - What type of pesticide and insecticide you were using before 20 years? Chemical or self-Made from plant extract.

- Ans.: -Self-made insecticide was used before 20 years.

- Q.12 - Please tell names of some self-made pesticide or insecticide if you know?

Ans.: - Panchamrut, Saptarni.

- Q. 13 - How much amount you spend on insecticide and pesticide per acre?

Ans.: - 1900 Rs per Acre.

- Q. 14- Are you ready to do the organic farming as before if you get some scheme or facilities from the government?

Ans.: - Yes

- Q.15- Do the soil fertility of your land increased or decreased using chemical fertilizer?

Ans.: - The soil fertility was decreased using chemical fertilizer.

- Q.16 - Compare production rate and selling rate of crop, profit or loss?

Ans.: - The production rate was 1600 and selling rate was 27,000, overall profit.

- Q. 17 - Have you ever done the Agriculture Audit?

Ans.: - No

- Q.18 - Did you ever compare the production rate and amount you spend for paddy crop?

Ans.: - Yes

- Q.19- Are you aware about soil analysis of your farmland conducted by the government? Did You participate there?

Ans.: - No

- Q.20 - Are you ready to do the soil analysis in current year?

Ans.: - Yes

- Q.21- Do you have any experience of Bagayti Agriculture?

Ans.: - Yes

- Q.22- if so, is it more useful than traditional Agriculture?

Ans.: - Yes, it is more profitable

- Q.23- Do you have proper facility of Irrigation?

Ans.: - yes, Irrigation is of sprinter type

- Q.24- Is it useful to take the production of oil Seeds

Ans.: - No

- Q.25- Do you take the production of cereals

Ans.: - Yes

- Q.26- If so, is it profitable?

Ans.: - Yes, it is profitable and cheaper than other crop production.

Total 08 water samples were collected from the various locations of Palasgaon village by the group of students and different parameters like: - Chloride, Hardness, pH, TDS, Fluoride, were investigated by using standard procedure of literature Result were depicted in **table1**.

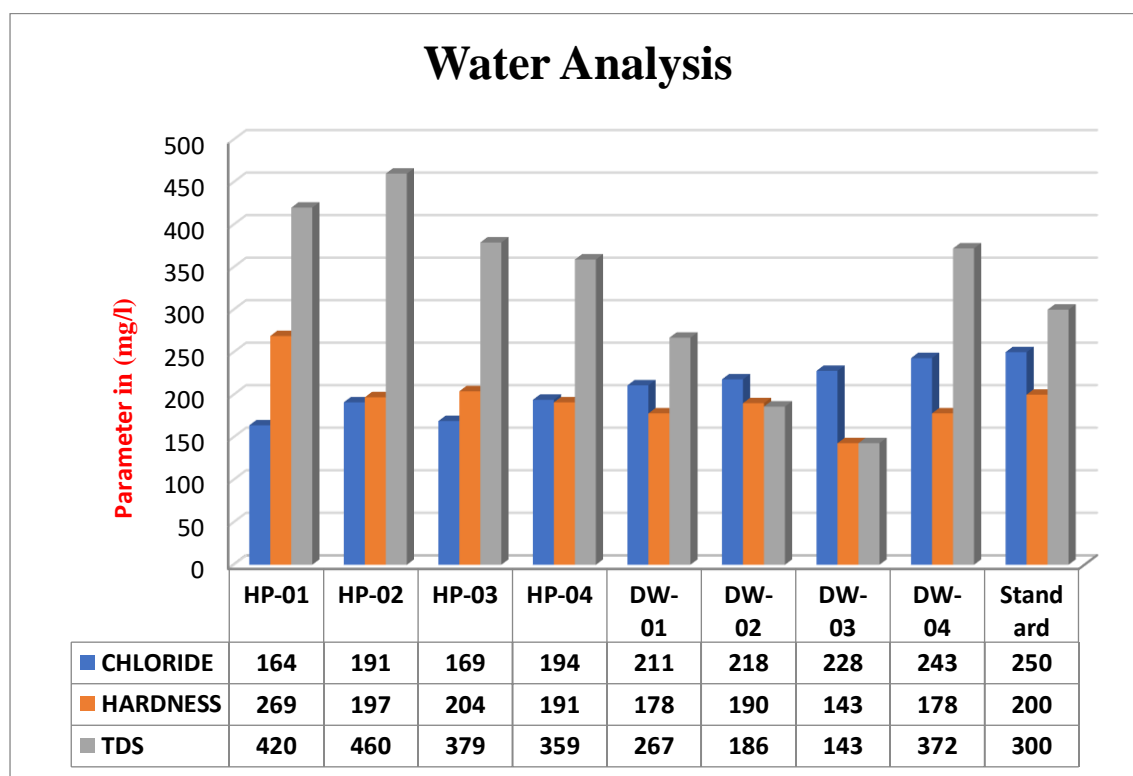
Group No. 01

Table No.- 1: -

Physico-chemical Analysis of Bore well and Dug Well Water of Palasgaon Village

Sources	Chloride (mg/l)	Hardness (mg/l)	pH	TDS (mg/l)	Fluoride (mg/l)
HP 01	164	269	6.95	420	0.37
HP 02	191	197	6.99	460	0.28
HP 03	169	204	6.59	379	0.30
HP 04	194	191	6.65	359	0.20
DW 01	211	178	5.67	267	0.50
DW 02	218	190	5.18	186	0.42
DW 03	228	143	5.72	143	0.34
DW 04	243	178	6.20	372	0.35
Standard (IS10500) (Excellent Acceptable range)	≤250	≤200	6.5-8.5	≤300	≤ 1

HP = Hand pump, DW = Dug Well



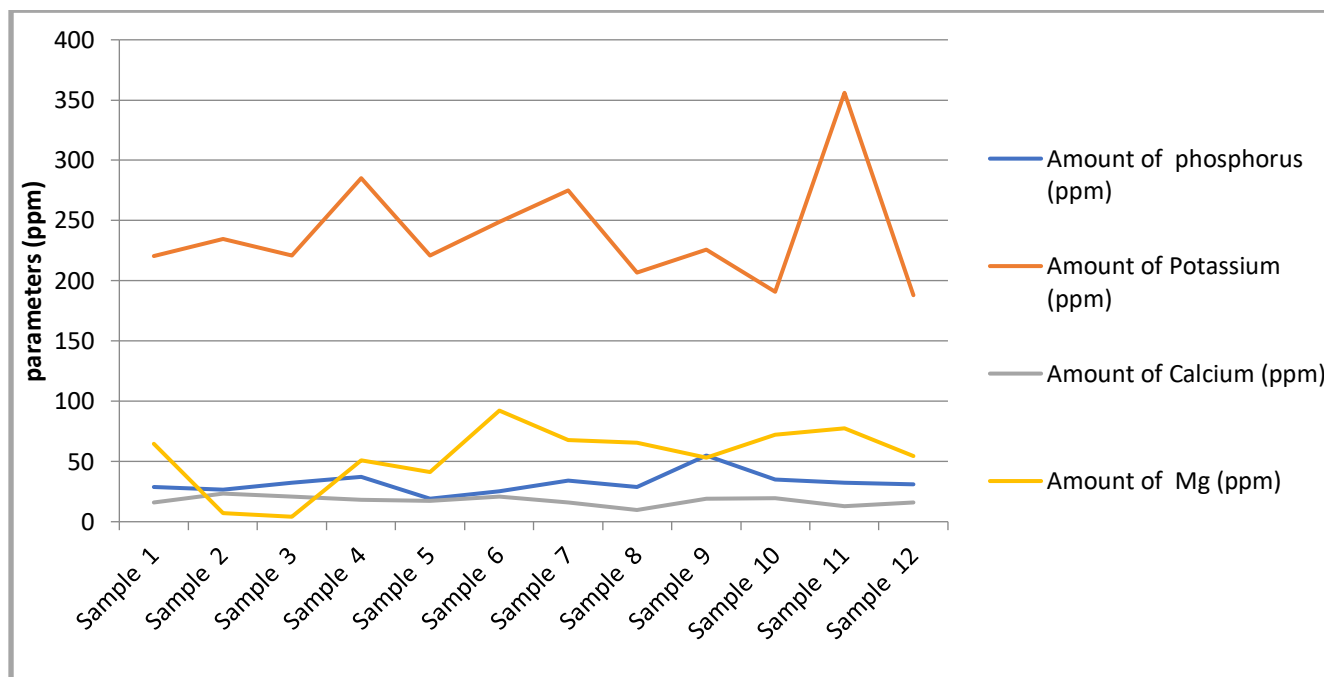
Soil Sample Analysis

Department of chemistry, Peoples biodiversity register group (PBR) visited Palasgaon village on 04 March, 2021 for the collection of soil samples. Total 12 soil samples were collected from Palasgaon village by adopting standard procedure for collection of soil sample and Students of chemistry PBR group analyzed parameters like P^H of Soil, Dissolved salt in water, Total Organic carbon, Amount phosphorus, Amount of Potassium, Nitrogen, Calcium and Magnesium in collaboration with District Soil Testing and Survey office, Gadchiroli. The results obtained are depicted below in **Table No. 2**

Table No. 2: Observation Table (Students Group No. 02)

Sample No.	P^H of Soil	Dissolved Salt of the soil water	Total Organic carbon (ppm)	Amount of phosphorus (ppm)	Amount of Potassium (ppm)	Amount of Calcium (ppm)	Amount of Mg (ppm)
1.	4.75	1.40	0.36	28.75	220.7	16.10	64.79
2.	6.32	0.07	1.20	26.51	234.5	23.35	7.02
3	7.15	0.02	0.47	32.31	221.1	20.97	4.14
4	5.21	0.5	1.85	37.14	285	18	51.13
5	4.94	0.56	1.93	19.10	221	17.5	41.11
6	6.91	0.45	1.83	25.32	249	21	92.25
7	7.7	0.29	1.86	34.10	275	16	67.98
8	5.6	0.35	1.62	28.78	207	9.73	65.42
9	7.6	1.02	1.97	54.94	226	19	53.34
10	7.8	0.36	1.94	34.86	191	19.32	72.20
11	7.2	0.40	2.69	32.34	356	13	77.36
12	7.9	0.23	1.68	30.94	188	16	54.32
Standard	6.0-7.5	0.18-0.63	1.8 - 2.5	25-40	150-250	10-20	50-70

Soil Sample Analysis



Result & Discussion

Hand Pump Water and Dug Well water of Palasgaon Village

We have collected various water samples from Bore well and dug well from different region of Palasgaon village using standard procedure and carried out analysis as per location given in the table. We have selected four location of hand pump some are private and some are public bore well.

- ❖ The concentration of chloride found average in all the bore well and dug well sample of Palasgaon village.
- ❖ Hardness of entire hand pump and dug well water samples varies from 143 ppm to 269 ppm. Sample of Hand pump **01** and **03** shows higher hardness while remaining sample is soft with respect to standard conventional Range of Indian standard.
- ❖ P^H analysis of water sample indicates that dug well **01**, **02** & **03** water is some of acidic compare with bore well.
- ❖ TDS of drinking water should be less than 300 as Indian standard (IS-10500). Water analysis confirmed that HP-01, HP-02, HP-03 and HP-04 having more TDS while remaining water sample are having very good TDS range.
- ❖ Concentration of fluoride was found be less than 1 and in the range of (0.2- 0.5) in all

Sample Hand pumps and dug well which is good sign of drinking water. Excessive fluoride causes fluorosis-changes in tooth enamel that range from barely noticeable white spots to staining and pitting. Fluoride can also become concentrated in bone stimulating bone cell

growth, altering the tissue's structure, and weakening the skeleton. Fluoride ion analysis confirmed that all collected water sample have concentration is in the range of **0.2- 0.5mg/l** which is considered as good water for drinking.

Soil Sample Report of Palasgaon Village

- ❖ Soil pH affects the amount of nutrients and chemicals that are soluble in soil water, and therefore the amount of nutrients available to plants. Some nutrients are more available under acid conditions while others are more available under alkaline conditions. However, most mineral nutrients are readily available to plants when soil pH is near neutral. The development of strongly acidic soils (less than 5.5 pH) can result in poor plant growth. Most of the soil sample of Palasgaon village with respect to P^H is above 7 which are slightly basic.
- ❖ Level of dissolved salt of soil water play vital role for the proper growth of plants more salt in soil result in dehydration of the plant, causing yield dropdown amount of dissolved salt in water found to be in range between **0.18-0.63mg/l**.
- ❖ Analysis of organic carbon content in the soil shows that it is in the standard reference range except sample no.1 and 3.
- ❖ Phosphorus is a vital component of ATP, the "energy unit" of plants. ATP forms during photosynthesis, has phosphorus in its structure, and processes from the beginning of seedling growth through to the formation of grain and maturity. Thus, phosphorus is essential for the general health and vigor of all plants. Investigation of Sample collected from Palasgaon village shows less amount of phosphorus than required according to standard specification. Nitrogen is so vital because it is a major component of chlorophyll, the compound by which plants use sunlight energy to produce sugars from water and carbon dioxide (i.e., photosynthesis).
- ❖ Analysis of total soil sample of calcium found in the range of **10-20** ppm. Except sample no. **2**, **3** and **6**. Calcium, magnesium are essential plant nutrients. They are called “secondary” nutrients because plants require them in smaller quantities than nitrogen, phosphorus, and potassium.
- ❖ Examination all-inclusive soil sample for magnesium found in the range of 50-70 ppm. Except sample no.6, 10 and 11. Calcium and magnesium both increase soil pH, but sulfur from some sources reduces soil pH. Compounds containing one or more of these nutrients are often used as soil amendments rather than strictly as suppliers of plant nutrition.

Recommendation for Palasgaon village general public

Water quality: -

1. Those hand pump and dug well water of Palasgaon village, which have high TDS and hardness value water of that source should be treated before drink water or if no such facility is available then banned for use.
2. Peoples are advice to chlorinate drinking water frequently.
3. Essential to arrange some more awareness program for Palasgaon village people on water and soil to know its importance and to increase its quality.

Soil quality: -

1. Analysis of soil sample of Palasgaon village shows some of it samples contain excess of amount nitrogen, potassium and Phosphorous hence they are advice to use less chemical fertilizer.
2. By our survey we are promoting Farmers of Palasgaon village towards organic farming by different government projects and subsidy.
3. By different program farmers should know its major benefit like food obtained from organic farming is free from any contamination. The organically grown foods have better tastes no effects on health than those grown by harmful chemicals such as pesticides, fungicides and herbicides
4. People advice to use compost or manure to increase the percentage of microorganism in the Soil.
5. Vermicomposting is also alternative solution to increase the quality of soil.

Conclusion: -

In summary, we have carried out survey and analysis on water and soil sample of Palasgaon village by using questionnaire and analysis of entire sample of water was completed in M.G Arts, Science and late N.P Commerce college Armori chemistry laboratory and soil samples were analyzed in the district laboratory of soil Testing and Survey office Gadchiroli. Different parameter of water like chloride, Hardness, P^H , TDS, and Fluoride was studied and compared with standard (IS10500) Excellent Acceptable range. Parameters of soil like P^H , dissolved salt in soil water, amount carbon, phosphorous, potassium, nitrogen, calcium and magnesium were also studied and compared with standard value. From the result of investigation, we recommended some key advice to that corresponding village.

Acknowledgement: -

Department of Chemistry PBR team is thankful to Sarpanch and Village people of Palasgaon for their support and cooperation during survey and sample collection. We also show our deep gratitude to principal of M.G arts Science and late N.P commerce college Armori, for continuous inspiration and guidance throughout survey.

Field Photography



Group of students collecting water sample of hand pump from different location of Palasgaon Village



Group of students collecting bore well water sample from different location of Palasgaon Village



PBR students group along with chemistry staff members visited to soil survey and testing office Gadchiroli for analysis purpose

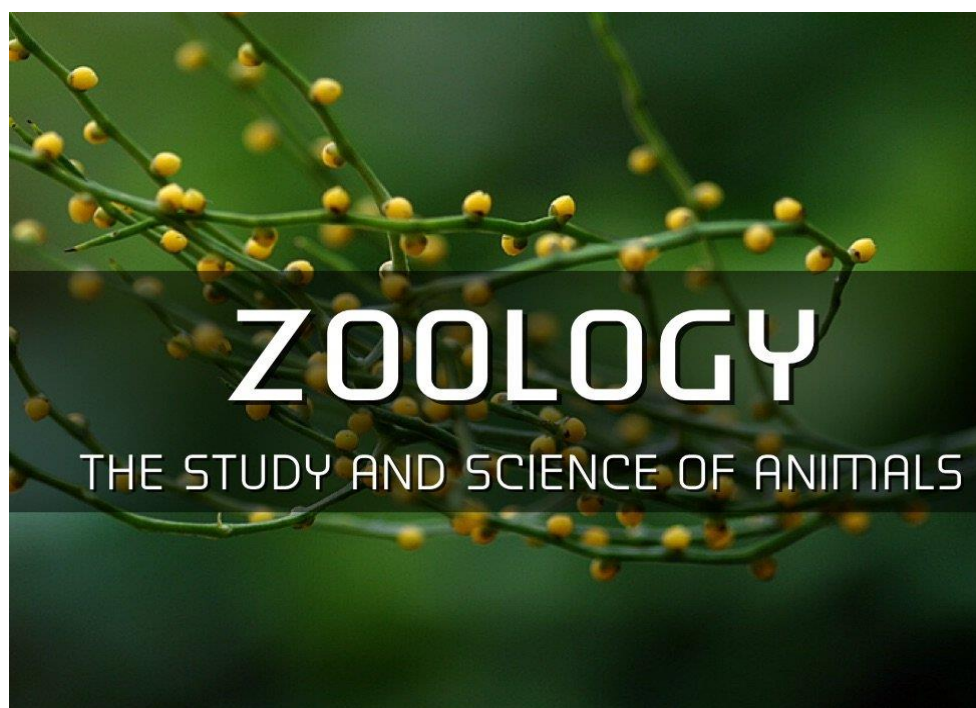
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4	Nikita Narendra Lakade	9529293987	
5	ASRA FATEMA ZAKIR BAIG	9307279868	
6	Sejal Diwakar Bharné	9356307800	
7	Aishwarya Ramesh Muchalwar	7507337712	
8	Tejas Narendra jakkulwar	9765911171	
9	Snehal Lahanu Bagmare	9022496891	
10	Aishwarya Ramesh Muchalwar	7507337712	
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12	Jayashri Raju Karangami	9423598614	
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14	Shreya Uttam Katare	7057456200	
15	Chandrakala Waman Meshram	8379836795	
16	Revata Sitaram Sondarkar	9404526828	
17	Mayuri Kalidas Gonnale	8080427439	
18	Namrata Suresh Juve	9145104823	
19	Shivani Wasudeo Boga	9823507967	
20	Poojakta Pundarikant Dhote	8459870658	

Date:- 4/3/2021
Place: Armoori

(S.M. Santakke)
HOD. chemistry

**DEPARTMENT OF
ZOOLOGY**



**Department Of Zoology - 2020-21
Peoples Biodiversity Register Report Entitled**

***“Animal Diversity in And Around Palasgaon Village of Tahsil Armori, Dist-
Gadchiroli 441208 (M.S.)”***

PBR submitted by **B. Sc. II** (Department of Botany) students' group **2020-21**

Under the supervision of **Dr. J.N. Papadkar, Dr. R. N. Chavhan and Prof. S.B. Kumre**

INTRODUCTION: -

The area of Palasgaon village provides nesting beds as tall trees (thick forest) for birds, and thick grasslands and swampy areas for residence of mammals. Palasgaon tekdi (Mahadeogarh) is one of the most important ecological localities, hence it is necessary to protect and maintain the diversity of the area. A scientific study was carried out of Palasgaon area in and around during last three months with reference to animal diversity with the help of local inhabitants and students of Zoology B. Sc. II. Forest is stand of trees growing close together with plants and many kinds of other organisms. The different vegetation forms like herbs, shrubs and trees provide significant parameters for animal diversity. This tropical area provides natural and varied ecological habitat for animals. The body form of animal is correlated with habitat, hence there is great diversity of reptiles, birds and mammal species in this area. The present PBR report enlists, identifies and quantifies the different species of reptiles, aves, insects and mammals.

Study Place: Palasgaon, Taluka Armori, Dist-Gadchiroli

About Palasgaon: According to Census 2011 information the location code or village code of Palasgaon village is 538506 with its latitude 20⁰.52N, longitude 80⁰.03⁰S and elevation 241.06. Palasgaon village is located in Armori Tehsil of Gadchiroli district in Maharashtra, India. It is situated 9km away from sub-district headquarter Armori and 43km away from district headquarter Gadchiroli. As per 2009 stats, Palasgaon village is also a gram panchayat. The total geographical area of village is 833.89 hectares. Palasgaon has a total population of 1,400 peoples out of this male 739 and female population is 661. There are about 338 houses in Palasgaon village. Desaiganj is nearest town to Palasgaon which is approximately 28km away.

Materials and Methods

Ecological conditions favour growth of many herbs, shrubs and trees, which are significant for biological diversity. The plant diversity is helpful for animals of different kind. During rainy season the entire area shows green cover due to plant growth. **27** students and **03** permanent teaching faculties of Zoology was visited regularly from November **2020** to March **2021** to the Palasgaon village. Most of the students was inhabitants of Palasgaon and nearby areas. Online mode teachers guided us. Photographs was taken with the help of **GeoTag mobile camera**. The observations on Birds, Pisces, Reptiles, Mammals and Insects were recorded.

Identification: Fishes: All specimens were identified based on the classification system of Nelson (2006) and scientific names were verified using <http://www.fishbase.org>.

Identification of species:

S.N	Animal species	Identification keys/ Standard reference Books of
1	Birds	(Salim Ali & Ripley 1972, 1983, Salim Ali 1979, Ripley 1982, Gole 1988).
2	Pisces	Nelson (2006) and scientific names were verified using http://www.fishbase.org .
3.	Reptiles	Deoras (1969),
4	Mammals	Prater (1971) and Sheshadri (1994).
5	Insects	Entomology by D. B. Tembhare

The data on wild carnivore animals were collected from local inhabitants.

Results and Discussion

This area has a rich faunal diversity that includes Insects, Birds, Pisces, Reptiles, and mammals etc. The varied climatic and geographical conditions provides ideal habitat to broad range of faunal species. During present study, different reptiles, birds and mammal species were recorded as described below. The following information was given by villagers in their local language, but we converted in scientific terms.

Insects:

The dragonflies are known to be one of the best biological indicators of ecological degradation and pollution in the water bodies. They form an integral part of a food chain in the ecosystem. Adult dragonflies are of great agricultural importance as active feeders of various pests of paddy, wheat, cotton, sunflower & swarms of termites and thus acting as natural “friends of the farmers”.

Insects Reported:

SN	Insects reported	SN	Insects reported
1	Mayflies	11	Bugs
2	Dragonflies	12	Tree hoppers
3	Damselflies	13	Mango hoppers
4	Mantids	14	Aphids
5	Mole	15	Thrips
6	Cricket	16	Moths
7	Grasshoppers	17	Butterflies
8	Locusts	18	Greasy cutworm
9	Termites or white ants	19	Fruit fly
10	Bird lice	20	Spingid moth

Aves: Birds might have become highest form of life upon the earth. Birds are warm blooded vertebrates able to survive in greater climatic extremes than the other animals.

Common birds Reported: -

SN	Common Birds	SN	Common Birds
1	Pea fowl,	11	Magpie robin,
2	Red jungle fowl (<i>Gallus ferrugineus</i>),	12	Indian robin,
3	Grey jungle fowl (<i>G. Sonnerati</i>),	13	Oriole,
4	Rain quail,	14	Bee eater,
5	Painted quail (<i>Lawa</i>),	15	Owl,
6	Red vented bulbul,	16	Night Jar,
7	Black Drongo	17	Indian Myna,
8	Racket tailed Drongo or Bhringraj.	18	Pigeon,
9	Tree pie,	19	Parakeet,
10	Wood pecker,	20	Munia

Threatened species of Birds reported:

SN	Threatened species of birds	SN	Threatened species of birds
1	<i>Myna (Gracula religiosa pennisularis),</i>	8	<i>Ibis</i>
2	<i>Lesser florician or likh (Syphiotis aurita)</i>	9	<i>Crane</i>
3	<i>Purple moorhen (Porhyrio policephalus),</i>	10	<i>Sarus</i>
4	<i>Wood snipe (Gallinago nemoricola),</i>	11	<i>Bittern</i>
5	<i>Painted spur fowl (Galloperdix lunulata)</i>	12	<i>Hornbill,</i>
6	<i>Bronze winged Jacana (Metopidus indicus)</i>	13	<i>Hareba</i>
7	<i>Red spur fowl (G. Ferruginesus)</i>	14	<i>Coot</i>

Aquatic macro fauna: Local peoples have knowledge of fish fauna, their role in ecology and techniques to protect them for sustainable use. They also have skill of fishing by indigenous methods. Macro fauna consists of fishes, small prawns, crabs, tortoises and turtles. There are some specific areas, where particular species are easily located, especially fish fauna.

SN	Macro fauna	SN	Macro fauna
1	<i>Anguila anguila</i>	11	<i>Bungarus bangarus</i>
2	<i>Clarius batrachus</i>	12	<i>Catla catla</i>
3	<i>Wallago attu</i>	13	<i>Cyprinus carpio</i>
4	<i>Labeo rohita</i>	14	<i>Channa morulus</i>
5	<i>Punctius ticto</i>	15	<i>Channa punctatus</i>
6	<i>Punctius sarana sarana</i>	16	<i>Chanda nama</i>
7	<i>Notopterus notopterus</i>	17	<i>Anabus</i>
8	<i>Notopterus chitala</i>	18	<i>Cirrhinus mrigala</i>
9	<i>Small Prawns</i>	19	<i>Tortoise</i>
10	<i>Crabs</i>	20	<i>Turtles</i>

Micro fauna consists of phytoplankton, zooplankton and others.

Reptiles: Reptiles are the cold-blooded animals and highly developed creatures. During the present survey many reptiles were observed in the area at various places.

SN	Reptiles	SN	Reptiles
1	<i>Krait</i>	6	<i>Indian Cobra</i>
2	<i>Russells Viper</i>	7	<i>King Cobra</i>
3	<i>Saw Scaled Viper</i>	8	<i>Calotes</i>
4	<i>Indian Rock Python</i>	9	<i>Lizards</i>
5	<i>Lampropholis guichenotia</i>	10	<i>Varanus bengalensis</i>

Mammals: Mammals are the highest warm blooded animals in the scale and evolution. Domestic animals such as dogs, cats, and cattle have been genetically adapted over generations to live alongside humans. Domesticated animals are animals that have been selectively bred and genetically adapted over generations to live alongside humans. They are genetically distinct from their wild ancestors or cousins.

During present survey several mammals were observed in the area at various places.

SN	Mammals reported	6	Monkeys
1	Cows, bulls and calves	7	Rats
2	Indian buffalo is <i>Bubalus bubalis</i>	8	Rabbits
3	Goats (<i>Capra Hircus</i>)	9	Mongoose
4	Cats	10	Pigs (<i>Sus scrofa</i>)
5	Squirrels	11	Indian Fox (<i>cannis lupus</i>)

Conclusion: Vidarbha form a continuous patch of dense forest, sheltering various floral and faunal species. Some of the species have become threatened and need urgent efforts to save them. The people of this area, particularly tribal, have played a vital role in protecting and conserving biodiversity of the region. Most of them are dependent on forest resources as it is the source of their livelihood. Development is inevitable, but it is necessary to set the tone of development, so that the biodiversity is well protected and livelihood of local tribal and people from deprived sections of the society will not be disturbed. Rich tribal culture and their traditions depict their sense of respect to the Mother Nature.

Root causes of biodiversity destruction:

1. The encroachment on forestland.
2. The public does not consider any development programme implemented by Government as their own programme for their long-term welfare.
3. Peoples lack entrepreneurship due to illiteracy.
4. Panchyats do not fulfil their duties in a democratic and transparent way.
5. People harvest all types of resources from the forest but they hardly help to replenish.
6. Protection of wild animals is of the least concern to people and their elected representatives

PBR activity is one of the most important institutional distinctiveness. Hence, we decided to visit the nearby villages for the study purpose and documented as it for further study.

Total No. of Students visited to Palasgaon or participated in such activity: 27

Following data collected from Palasgaon Peoples, such as:

1. Reported species of Insects: _____ **20** species.
2. Reported Common species of Birds: ____ **20** species.
3. Recorded threatened species of Birds: ____ **14** species.
4. Recorded species of macrofauna: _____ **10** species.
5. Recorded species of Reptiles and: _____ **20** species.
6. Recorded species of Mammals: _____ **11** species.

Some species are harmful and some are beneficial to local inhabitants. Most of the peoples of Palasgaon village are farmers. They are very familiar to these zoological species.



पळसगाव जंगल परिसरात प्राण्यांचे सर्वेक्षण

सकाळ वृत्तसेवा

आरमोरी, ता. २४ : महात्मा गांधी महाविद्यालय, आरमोरीच्या प्राणिशास्त्र विभाग व लोकांचे जैवविविधता रजिस्टर विभाग यांच्या संयुक्त विद्यमाने महाविद्यालयाचे प्राचार्य डॉ. लालसिंग खालसा यांच्या मार्गदर्शनाखाली तालुक्यातील पळसगाव जंगल परिसरातील विविध प्राण्यांचे अध्ययन करण्याच्या दृष्टीने कृमी, किटक, पक्षी, वन्यप्राणी, जलचर प्राणी व इतर पाळीव प्राण्यांचे अध्ययन व सर्वेक्ष विद्यार्थ्यांनी केले.

या सर्वेक्षणामध्ये जंगल परिसरातील विविध सजिवांची परिसंस्था, अधिवास व जीवन चक्र याबाबतची सखोल माहिती सहभागी विद्यार्थ्यांना प्रा. डॉ. जयेश पापडकर, प्रा. डॉ. राजेंद्र चव्हाण, प्रा. सुनंदा कुमारे यांनी दिली. अभ्यासदीन्यात प्राणिशास्त्र विभागाचे



आरमोरी : पळसगाव जंगलातील प्राण्यांचे सर्वेक्षण करताना विद्यार्थी.

तथा लोकांचे जैवविविधता रजिस्टर विभागाचे एकूण २७ विद्यार्थ्यांनी सहभाग घेतला होता.

विद्यार्थ्यांनी प्रश्नावली तयार करून पळसगावच्या शेतकऱ्यांशी हितगूळ करून विविध प्रकारची माहिती संकलित केली. यावेळी महाविद्यालयीन माजी विद्यार्थी धनपाल

वैद्य, चेतन कोसरे, शुभम नखाते या विद्यार्थ्यांनी सहकार्य केले. अभ्यासदौरा यशस्वितेसाठी खुशाल रामटेके, प्राणिशास्त्र विभाग असोसिएशनच्या विद्यार्थ्यांनी सहकार्य केले. यात सहभागी झालेल्या विद्यार्थ्यांना विविध प्राण्यांची माहिती यातून मिळाली. विद्यार्थ्यांनी प्रश्नावलीही तयार केली.



Time: 22-03-2021 10:38
Note: palasgaon

Powered by NotCam



Bos Indicus



Bos Indicus



Bos Indicus



Bubalus bubalis



Bubalus bubalis



Bubalus bubalis



Capra aegagrus hircus



Canis lupus familiaris



Canis lupus familiaris



Semnopithecus entellus



The house crow (Corvus splendens)



The house crow (Corvus splendens)



sparrow (Passer domesticus domesticus)



Breed Kadaknath *Gallus Domesticus*



Gallus gallus domesticus



Gallus gallus domesticus



***Acheta domestica* (Cricket)**



Dragonfly



Agricultural pest



Emydura subglobosa (Turtle)



Lissemys punctate



Hemidactylus flaviviridis



Calotes versicolor

Calotes versicolor



Bungarus fasciatus (Banded Krait)

Bungarus multicinctus

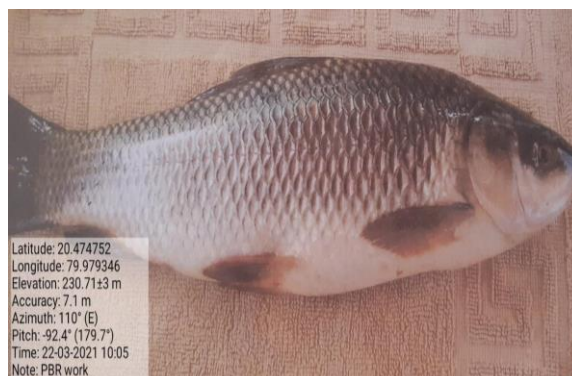


Labeo rohita

Punctius ticto



Clarius batrachus



Catla catla



Notopterus notopterus

People Biodiversity Register 2020-21
Department of Zoology

Sem III

S.N.	NAME	MOBILE	SIGNATURE
1	MRUNESHWARI SHIVCHARAN SAHARE	7875563683	
2	SANCHIT VILAS JUARE	8624990491	<i>[Signature]</i>
3	DHANSHREE WASUDEO BHANDEKAR	7666980547	<i>D. W. Bhandekar</i>
4	MAMTA DILIP KALBANDHE	7875821540	<i>M. Kalbandhe</i>
5	SAGAR SURESH WARKHADE	7083959282	
6	SHITAL BHASHKAR GHODMARE	9067530875	<i>[Signature]</i>
7	KALYANI SADANAND KUTHE	9359029843	<i>[Signature]</i>
8	AMAN DAMA HICHAMI	9011480473	<i>[Signature]</i>
9	MANISH PRAKASH HOLI	7378504772	
10	ACHAL ARUN SAMARTH	9422482946	
11	KHUSHABU ASHOK SHAHARE	7620934275	<i>[Signature]</i>
12	DNYANSI KAILASH GEDAM	8805877387	
13	AMISHA SANJAY HEMKE	9049474709	
14	BRAJAL PRABHAKAR GADPAYLE	8530960348	<i>[Signature]</i>
15	MRUNALI RAVINDRA HARSHE	8605286935	
16	HARSHADA DEORAM JAWANJAR	7875729374	<i>[Signature]</i>
17	PRANALI MAHENDRA VAIDYA	7066337833	<i>[Signature]</i>
18	SAKSHI NATTHUJI POINKAR	7798950992	<i>[Signature]</i>
19	HEENA DEVIDAS LANJEWAR	9527970550	<i>[Signature]</i>
20	NISHITA SHRAWAN BALBUDHHE	8788942017	<i>[Signature]</i>
21	SNEHA CHUDARAM DURBULE	9421733738	<i>[Signature]</i>
22	ATHARVA ASHOK CHANDANKHEDE	9373205854	
23	RAGINI INDARSHAHA DHURVE	9325471692	
24	DIVYATAI SHANIRAM DARVE	9527792741	<i>[Signature]</i>
25	PRANALI GIRIDHAR PILARE	7620704487	<i>[Signature]</i>
26	RUCHI TILAKCHAND LAKHANKAR	9403885445	
27	GAYATRI PREMNATH BEHARE	8390366876	<i>[Signature]</i>
28	SAYALI SHARAD GONNADE	9405718035	<i>S. Gonnade</i>
29	JAYSHREE PURANDAR INDURKAR	9405993830	<i>[Signature]</i>
30	AACHAL PRAMOD WASNIK	7378367963	
31	HEMANT REVANATH BHOYAR	8830140729	
32	VAIDAVI VILAS BADWAJK	9145104273	<i>[Signature]</i>
33	LINA KRUSHNA KINCHAK	9421280591	
34	OJSHRI KAWALU NIKOSE	8080774116	
35	MINAKSHEE RAMKRUSHNA RAUT	9022466908	
36	PRITI VILAS SAHARE	9049010275	
37	ACHAL DINESH MOHITKAR	7448192431	<i>[Signature]</i>
38	CHHABILA DHANJIBHAI KHARKATE	7030289483	
39	SURBHI RAMESH TICHKULE	9421735522	<i>[Signature]</i>
40	ISHA BHASKAR RAUT	7517460164	<i>[Signature]</i>
41	SHIVANI RAJENDRA SELOTE	9545341189	<i>[Signature]</i>
42	SNEHA DHARMRAJ SELOTE	8605119037	<i>[Signature]</i>
43	GITANGALI RAVINDRA CHAPLE	9637938180	

Dr. J. N. Papadkar

Dr. R. N. Chavhan

Prof. Kumre madam

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[Signature]

**DEPARTMENT OF
GEOLOGY**



Department of Geology
People Biodiversity Register Study Report on
A Study of Shallow Water Aquifer and Geology in Padasgaon Village of Armori
Taluka, Dist. Gadchiroli.

PBR submitted by: -B. Sc. II (Department of Geology) students group 2020-21
Under the supervision of Prof. Dr. C. P. Dorlikar

1. Introduction

The resource of groundwater is progressively becoming an indispensable factor for the development of any human community. The stores of groundwater occur mainly as deep aquifers (bore wells) and shallow aquifers (dug wells). The countryside inhabitant hinge mostly on dug wells as they are relatively erection friendly and economic. The bed rock or the instigator of any soil acts as a shallow water aquifer for groundwater storage. The geology of any area is a regulator of groundwater potential. An area with non-porous and impermeable rock strata is much problematic in terms of groundwater potential than the rest of the area. In groundwater exploration, the rock beneath is the most important factor, an explorer considers for. Hence, while studying groundwater resources the geological study is obligatory. The humans being investigative for fresh underground water properties are misusing them without any regulator, henceforth; the obtainability of fresh water in form of groundwater has become a task. The summer testifies the groundwater resource much intensely than any other seasons do.

The ever increasing residents of any area and respective demands are crafting inevitable situations. These situations need an urgent attention of all stakeholders to prepare a remediation plan. The present study is an endeavor to prepare a marginal interpretation about groundwater obtainability in Padasgaon village of Armori Taluka for the fulfillment of Peoples' Biodiversity Register by second year graduate students of Geology with following objectives;

1.1 Objectives

- To study general geology of the study area.
- To access the groundwater water availability in the study area.
- To understand the water utilization pattern in the study area.
- To measure the water table level in the study area.
- To identification of lithological units acquiring shallow water aquifer.

2. FUNDAMENTAL CONCEPTS

2.1 Groundwater Types

The groundwater is the water occurring underneath the earth's surface. Following are the types of groundwater.

2.1.1 Meteoric water

The atmospheric water is called as Meteoric water. It is originated in the atmosphere and becomes groundwater by infiltration after precipitation (rain).

2.1.2 Connate water

Connate water is referred to as 'fossil water' as it is trapped in the aquifers during the formation of aquifer itself.

2.1.3 Juvenile water

Juvenile water is classified on the basis of its permanent isolation from the hydrosphere. It is additionally categorized on the basis of its origin;

Magmatic water – It is the water driven out of magma during its crystallization.

Volcanic water – It is the water derived from magma at shallow depth or from the volcanism.

Cosmic water – It is formed out of earth atmosphere and never had been a part of hydrosphere.

2.2 Groundwater Reserves Types

The rock unit able to store and transmit water is called as aquifer, where 'aqua' stands for water and 'fer' stands for yield. The rock units like sandstone, limestone, gravel beds, etc. are good aquifers. Following are its type;

2.2.1 Unconfined Aquifer

An unconfined aquifer is the rock unit where water table is under atmospheric pressure and is not confined by any impermeable rock strata.

2.2.2 Confined Aquifer

It is also called as artesian or pressure aquifers where groundwater is under the pressure of overlying relatively impermeable strata.

2.2.3 Aquiclude

It is a rock unit with enough pore spaces but lack of transmissibility. The best example is Shale.

2.2.4 Aquifuge

It is a totally impermeable rock unit neither store nor transmits water. The best example is Granite.

2.2.5 Aquitard

It is a flooded permeable stratum allowing groundwater movement but does not yield water freely to well.

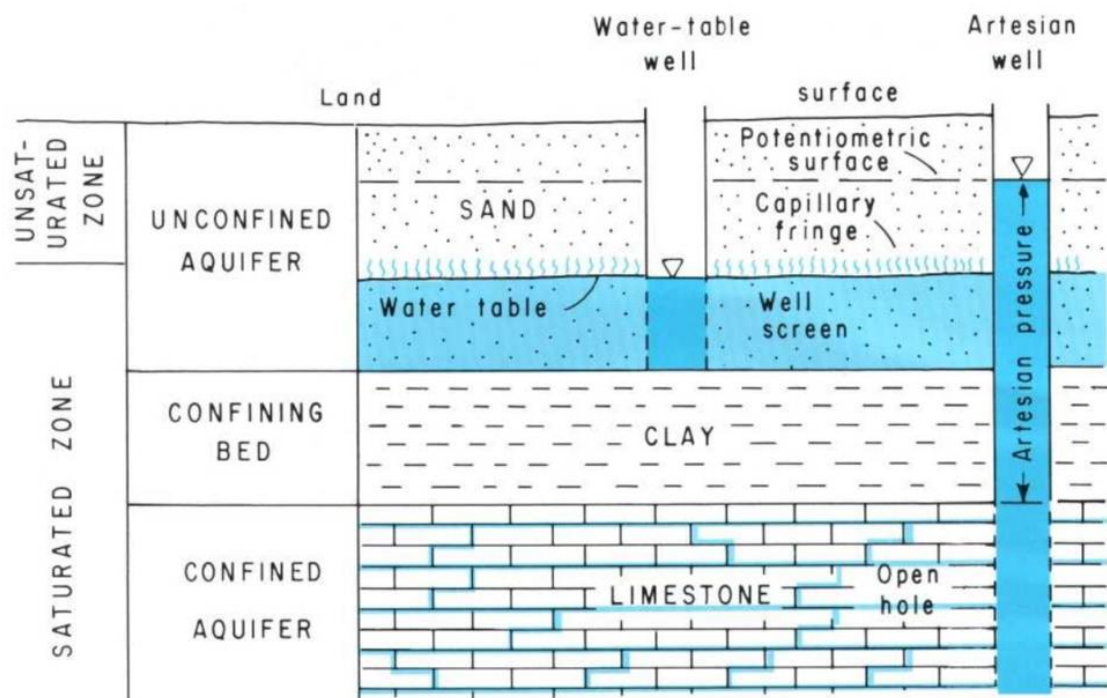


Figure 1. – General aquifer setup

2.3 Hydrological properties

2.3.1 Porosity

It is a percentage of pore spaces present in the rock stratum and is denoted by N. Following are some porosity range for some common material.

Unconsolidated Material	N (%)	Consolidated Material	N (%)
Clay	45 - 60	Sandstone	5 - 20
Silt	35 - 50	Limestone	4 - 20
Sand and gravel	25 - 40	Shale	0 - 10
Glacial till	10 - 25	Igneous and metamorphic rock	0 - 10
Vesicular basalt			5 - 40

2.3.2 Permeability

It is capability of the rock to allow the water to flow with within. Following are some common examples.

Class	Hydraulic Conductivity K (M/D)	Example
Extremely Permeable	>10	Coarse sandstone, limestone and fissured crystalline rocks, pebbles, gravels.
Semi-Permeable	10 – 0.1	Fined grained sands, loams, slightly jointed crystalline rocks.
Impermeable	< 0.1	Clays, marls, compact igneous rocks.

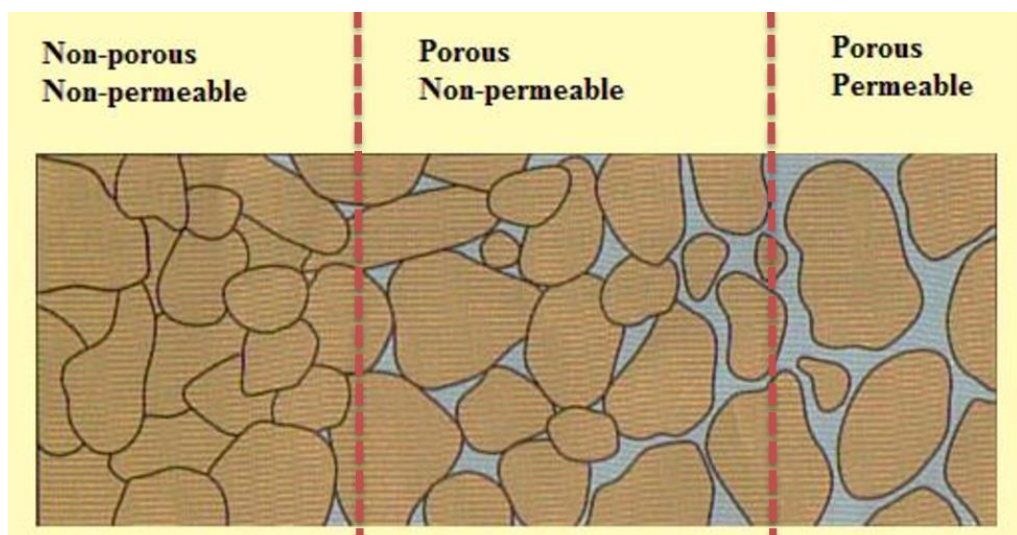


Figure 2. – Porosity and permeability of rock.

2.3.3 Hydraulic Conductivity

In hydro-geology, the hydraulic conductivity K , may be defined as the flow velocity per unit hydraulic gradient. It is expressed as meters/second

2.3.4 Hydraulic Gradient

The difference in hydraulic head at two points divided by the length is often called as hydraulic gradient.

2.4 Types of Wells

It is a shaft dig up into the zone of saturation for the exploration and exploitation of groundwater and its efficiency depends on the permeability of the aquifer, thickness of the aquifer and diameter of the well.

2.4.1 Dug wells

These are traditional wells dig up with means of picks and shovels with a diameter ranging up to one meter and of 20 meters as maximum depth.

2.4.2 Driven wells

It is constructed on unconsolidated materials by driving a pipe with the maximum diameter of 7.0 centimeters.

2.4.3 Bored wells

The bored wells are constructed in the unconsolidated materials by means of hand or power augers.

2.4.4 Jetted wells

These wells are excavated in the loose earth materials by the force of the jet of water which is produced by pumping water through hollow drill rods.

2.4.5 Drilled wells

The water from consolidated aquifers is extracted by drilling deep wells. These wells are generally constructed by hydraulic rotary drill methods. The drilled wells may attain a depth of 70 meters or more.

3. GENERAL OBSERVATIONS ON WATER RESOURCES OF PADASGAON VILLAGE

The survey of Padasgaon village with reference to water resources available and its utilization has been done. On the basis of field observation and local residents responses following observations were made;

- In the village dug wells were comparatively much fewer than the bore wells and hand pumps.
- The residents of Padasgaon village rely much on hand pumps/bore well than dug wells for domestic purpose.
- Almost all responses of the residents were in favor of the groundwater's suitability for drinking or domestic purpose.
- In concern with agricultural practices farmers relies on bore wells and dug wells in together.
- Towards the west of the Padasgaon village, the Gadhvi river act as a prominent source for fresh water.
- The agricultural lands out skirting towards west are much favorable for utilizing Gadhvi river's water for irrigation purpose.
- A small water pond can also be observed towards the north of the village, which could also act as a source of water for domestic purpose.



Figure 3: Student-resident interaction over questionnaire in Padasgaon village.

4. GEOLOGY PADASGAON VILLAGE

To understand the geology of the Padasgaon village, exposures around the villages were traced. In endeavour of outcrops, a prominent exposure of rocks was observed in the northern side of the village. Following observations were made in the preliminary attempt;

- The soil cover of the Padasgaon village is of light red in color. The red color probably signifies the occurrence of oxidized iron in soil.
- The megascopic of observations of the rock samples from the outcrop suggest Quartzite.
- Quartzite is the metamorphosed product of Sandstone, whose essential mineral composition Quartz and is much resistant to weathering.
- In rudimentary observation, the aquifer rock could be sandstone.



Figure 4: Dr. C. P. Dorlikar interacting with students over local geology.

5. WELL INVENTORY SURVEY OF STUDY AREA

WELL INVENTORY DATA SHEET 1

1. Village: **Padasgaon**
2. Taluka: **Armori**
3. District: **Gadchiroli**
4. Toposheet No: Quadrant:
6. Altitude: **211.3 metres (M.S.L.)** 7. Date: **05 – 03 – 21** 8. Time: **12.52 pm**
9. Location: **20° 30' 60" N & 80° 02' 10" E**
10. Owner's Name (In full): **Gram Panchayat/Mane's land**
11. Address: **Padasgaon**
12. Type of well: **Dug Well** 13. Height of Parapet: **0.8 m.**
14. Diameter of well top: **2.3 m.** 15. Bottom: _____
16. Depth of well: **10 m.** 17. Dimension of the Bore: _____
18. Dug cum bore well: _____ 19. Depth of lining: _____m
20. Nature of lining: _____ 21. Condition of lining: _____
22. S W L Summer /winter: **Dry.** 23. Draw Down Summer/Winter:
24. Use of water: **NA** 25. Quality of water: **NA**
26. Geological Formation: **Sandstone**
27. Trajectory: _____
28. Rate: _____
29. Duration of pumping summer/ winter:
30. Quality pumped Summer/Winter: _____ 30-A. Kilt/day: _____
31. Prime mover: _____ Make: _____
32. H.P _____ 32-A R.P.M _____ 32-B Drive _____ 32-C Pump-Type _____
33. Section of the well/lithology: **Sandstone**
34. Log of bore-hole: _____
35. Fluctuation of water table? Post Monsoon (Oct): _____
- Late Monsoon (June): _____
36. Any other remark: _____
37. Temperature: _____ 38. Conductivity: _____ 39. PH: _____
- 39-A D.O: _____
40. Date: **05 – 03 – 21** 41. Reporter:
42. Name of the student: **B.Sc. II yr Students.**

WELL INVENTORY DATA SHEET 2

1. Village: **Padasgaon**
2. Taluka: **Armori**
3. District: **Gadchiroli**
4. Toposheet No: Quadrant:
6. Altitude: **224.4 metres** (M.S.L.) 7. Date: **05 – 03 – 21** 8. Time: **12.58 pm**
9. Location: **20° 31' 08" N & 80° 02' 10" E**
10. Owner's Name (In full): **Mr. Bholanath Zalke**
11. Address: **Padasgaon**
12. Type of well: **Dug Well** 13. Height of Parapet: **0.4 m.**
14. Diameter of well top: **1.5 m.** 15. Bottom: _____
16. Depth of well: **20 m.** 17. Dimension of the Bore: _____
18. Dug cum bore well: _____ 19. Depth of lining: _____ m
20. Nature of lining: _____ 21. Condition of lining: _____
22. S W L Summer /winter: **14 m.** 23. Draw Down Summer/Winter:
24. Use of water: **Domestic** 25. Quality of water: **Fresh**
26. Geological Formation: **Sandstone**
27. Trajectory: _____
28. Rate: _____
29. Duration of pumping summer/ winter:
30. Quality pumped Summer/Winter: _____ 30-A. Kilt/day: _____
31. Prime mover: _____ Make: _____
32. H.P _____ 32-A R.P.M _____ 32-B Drive _____ 32-C Pump-Type _____
33. Section of the well/lithology: **Sandstone**
34. Log of bore-hole: _____
35. Fluctuation of water table? Post Monsoon (Oct): _____
Late Monsoon (June): _____
36. Any other remark: _____
37. Temperature: _____ 38. Conductivity: _____ 39. PH: _____
- 39-A D.O: _____
40. Date: **05 – 03 – 21** 41. Reporter:
42. Name of the student: **B.Sc. II yr Students.**

WELL INVENTORY DATA SHEET 3

1. Village: **Padasgaon**
2. Taluka: **Armori**
3. District: **Gadchiroli**
4. Toposheet No: Quadrant:
6. Altitude: **221.45 metres** (M.S.L.) 7. Date: **05 – 03 – 21** 8. Time: **13.01 pm**
9. Location: **20° 31' 11" N & 80° 02' 12" E**
10. Owner's Name (In full): **Gram Panchayat**
11. Address: **Padasgaon**
12. Type of well: **Dug Well** 13. Height of Parapet: **1.2 m.**
14. Diameter of well top: **2.3 m.** 15. Bottom: _____
16. Depth of well: **16 m.** 17. Dimension of the Bore: _____
18. Dug cum bore well: _____ 19. Depth of lining: _____ m
20. Nature of lining: _____ 21. Condition of lining: _____
22. S W L Summer /winter: **11 m.** 23. Draw Down Summer/Winter:
24. Use of water: **Drinking/Domestic** 25. Quality of water: **Fresh**
26. Geological Formation: **Sandstone**
27. Trajectory: _____
28. Rate: _____
29. Duration of pumping summer/ winter:
30. Quality pumped Summer/Winter: _____ 30-A. Kilt/day: _____
31. Prime mover: _____ Make: _____
32. H.P _____ 32-A R.P.M _____ 32-B Drive _____ 32-C Pump-Type _____
33. Section of the well/lithology: **Sandstone**
34. Log of bore-hole: _____
35. Fluctuation of water table? Post Monsoon (Oct): _____
Late Monsoon (June): _____
36. Any other remark: _____
37. Temperature: _____ 38. Conductivity: _____ 39. PH: _____
- 39-A D.O: _____
40. Date: **05 – 03 – 21** 41. Reporter:
42. Name of the student: **B.Sc. II yr Students.**

WELL INVENTORY DATA SHEET 4

1. Village: **Padasgaon**
2. Taluka: **Armori**
3. District: **Gadchiroli**
4. Toposheet No: Quadrant:
6. Altitude: **223.17 metres** (M.S.L.) 7. Date: **05 – 03 – 21** 8. Time: **13.06 pm**
9. Location: **20° 31' 12" N & 80° 02' 13" E**
10. Owner's Name (In full): **Mr. Pundlik Ghodam**
11. Address: **Padasgaon**
12. Type of well: **Dug Well** 13. Height of Parapet: **1.0 m.**
14. Diameter of well top: **1.1 m.** 15. Bottom: _____
16. Depth of well: **24 m.** 17. Dimension of the Bore: _____
18. Dug cum bore well: _____ 19. Depth of lining: _____ m
20. Nature of lining: _____ 21. Condition of lining: _____
22. S W L Summer /winter: **19 m.** 23. Draw Down Summer/Winter:
24. Use of water: **Drinking/Domestic** 25. Quality of water: **Fresh**
26. Geological Formation: **Sandstone**
27. Trajectory: _____
28. Rate: _____
29. Duration of pumping summer/ winter:
30. Quality pumped Summer/Winter: _____ 30-A. Kilt/day: _____
31. Prime mover: _____ Make: _____
32. H.P _____ 32-A R.P.M _____ 32-B Drive _____ 32-C Pump-Type _____
33. Section of the well/lithology: **Sandstone**
34. Log of bore-hole: _____
35. Fluctuation of water table? Post Monsoon (Oct): _____
Late Monsoon (June): _____
36. Any other remark: _____
37. Temperature: _____ 38. Conductivity: _____ 39. PH: _____
- 39-A D.O: _____
40. Date: **05 – 03 – 21** 41. Reporter:
42. Name of the student: **B.Sc. II yr Students.**

6. CONCLUSION

During the survey following conclusions were drawn;

- Quartzite is the major rock type exposed around the Padasgaon village, dipping towards NE.
- The bedrock and shallow water aquifer in the study area is probably sandstone.
- The existence of reddish soil is attributed to iron content, while some variation signifies geological control.
- The mainstream residents of Padasgaon village rely on groundwater with slight dependency on Gadhavi river.
- In groundwater resource, majority is in the form of bore well and hand pumps.
- Though the dug wells are relatively fewer, their importance cannot be denied in domestic purpose.
- The groundwater quality is good in primary observation and can be suggested for drinking use in absence of alternating source.
- The average mean static level from well inventory data is 14.66 m.
- The groundwater is also extensively used for agricultural purpose, except the western margin of Padasgaon village, where Gadhavi river suffice the requirement.

7. RECOMMENDATION

Following recommendations are made for the sustainable development of water resource in Padasgaon village;

- The dependability of groundwater for domestic purpose should be reduced by exploring new sources like canal water, water from Gadhavi river, etc.
- The residents should take efforts to replenish the lower water table by various methods of artificial recharge.

FIELD PICTURES



Figure 6 - Dr. C. P. Dorlikar and students in Padasgaon village.



Figure 7 - Dr. C. P. Dorlikar teaching the technique to measure depth of well at Padasgaon village.



Figure 8 - Dr. C. P. Dorlikar and students in discussion with local residents of Padasgaon village.

PBR छात्रों का स्टडी टूर

संवाददाता@ आरमोरी.

स्थानीय महात्मा गांधी कला, विज्ञान व स्व. नपं वाणिज्य महाविद्यालय अंतर्गत भूगर्भशास्त्र विभाग की ओर से प्राचार्य डा. लालसिंह खालसा के मार्गदर्शन में नागरिकों का जैवविविधता पंजीयन कार्य करने पलसगांव में कुओं स्तर व दिशादर्शक नक्शे तैयार किए गए.



इस अभ्यास दौरे में कुल 38 विद्यार्थी व भूगर्भशास्त्र विभाग के प्रमुख, डा. चंद्रकांत डोर्लीकर, जितेंद्र बोदेले ने जानकारी संकलित कर परीक्षण किया. गांव के सार्वजनिक व निजी कुओं का अध्ययन किया गया. पलसगांव के नागरिक झलके, बाबूराव गोंदोले, पुंडलिक घोडाम से कुओं का स्तर व गहराई, पानी का दर्जा आदि संबंधी संवाद किया. पलसगांव परिसर के विभिन्न पत्थरों के नमूने

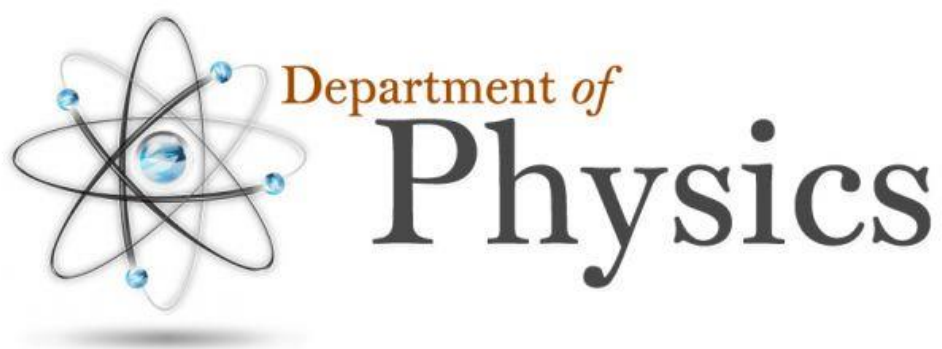
जमा किए गए. इन नमूनों का परीक्षण किया गया. पानी का स्तर और पत्थरों का संबंध तलाशने का प्रयास किया. इस अभ्यास दौरे के दौरान ब्राजल गडपायले, प्रणय मेश्राम, मयूरी जवकनवार, श्रुति कासेवार, प्राजक्ता खेवले, मनीष होली, आचल समर्थ, ज्ञानसी गेडाम, अथर्व चंदनखेडे, अमित काले, काजल चौधरी ने संबंधित प्रश्नावली भरकर जानकारी संकलित की.

Figure 9 – New of PBR visit (Navabharat 19.03.2021)

List of Students participated in PBR Geology

People Biodiversity Register 2020-21 Department of Geology			
S.N.	NAME	MOBILE	Sem III Signature
1	SHRUTI NARESH KASEWAR	8007735798	<i>Shruti</i>
2	ACHAL RAJENDRA MESHAM	9405324406	<i>Achal</i>
3	MRUNESHWARI SHIVCHARAN SAHARE	7875563683	<i>Mruneshwari</i>
4	SANCHIT VILAS JUARE	8624990491	<i>Sanchit</i>
5	SAROJ BHASHKAR DONADKAR	7588357263	<i>Saroj</i>
6	RUCHIT GURUDAS BHAKARE	8408939357	<i>Ruchit</i>
7	PRADIP BALKRUSHNA TORE	9168204299	<i>Pradip</i>
8	ACHAL RAJENDRA KOKODE	9075587756	<i>Kokode</i>
9	SAHIL RAJENDRA SONKUSARE	9673998817	<i>Sahil</i>
10	VAIBHAV VINOD PAL	7620611929	<i>V.V. Pal</i>
11	AMIT ANANDRAO KALE	9325997718	<i>Amit</i>
12	KAJAL DADILAL CHAUDHARI	9168417042	<i>Kajal</i>
13	DHANSHREE WASUDEO BHANDEKAR	7666980547	<i>Dhanshree</i>
14	MAMTA DILIP KALBANDHE	7875821540	<i>Mamta</i>
15	RAHUL RAMESH FARANDE	8956545790	<i>Rahul</i>
16	SAGAR SURESH WARKHADE	7083959282	<i>Sagar</i>
17	SUJATA DATTATRAY MYAKALWAR	9421643807	<i>Sujata</i>
18	SHITAL BHASHKAR GHODMARE	9067530875	<i>Shital</i>
19	PRAJAKT NARENDRA KHEOLE	8275213749	<i>Prajakt</i>
20	SAKSHI DAULAT JANBANDHU	9158450182	<i>Sakshi</i>
21	TAHARIN SABA ABDUL SHEIKH	8668720970	<i>Taharin</i>
22	KALYANI SADANAND KUTHE	9359029843	<i>Kalyani</i>
23	AMAN DAMA HICHAMI	9011480473	<i>Aman</i>
24	TUSHAR SURESH KHEDKAR	7507884764	<i>Tushar</i>
25	MANISH PRAKASH HOLI	7378504772	<i>Manish</i>
26	ACHAL ARUN SAMARTH	9422482946	<i>Achal</i>
27	KHUSHABU ASHOK SHAHARE	7620934275	<i>Khushabu</i>
28	TEJAS NARENDRA DHONGE	8007450167	<i>Tejas</i>
29	SANJIVANI ANAND GADHAVE	9579950617	<i>Sanjivani</i>
30	DNYANSI KAILASH GEDAM	8805877387	<i>D.K. Gedam</i>
31	ANJALI GIRIDHAR INKANE	9404034276	<i>Anjali</i>
32	AMISHA SANJAY HEMKE	9049474209	<i>Amisha</i> TC issued
33	BRAJAL PRABHAKAR GADPAYLE	8530960348	<i>Braj</i>
34	MRUNALI RAVINDRA HARSHE	8605286935	<i>Mrunali</i>
35	AKHIL DINKAR KHARWADE	9322005115	<i>Akhil</i>
36	ATHARVA ASHOK CHANDANKHEDE	9373205854	<i>Atharva</i>
37	Pransh Waman Meshram	9404937372	<i>Pransh</i>
38	Divya Nandaji Nagase	9307358791	<i>Divya</i>

**DEPARTMENT OF
PHYSICS**



Department of Physics
PBR Survey Report entitled

“Use of Electrical Appliances in Household at Palasgaon village”

PBR submitted by: **-B. Sc. II** (Department of Physics) students group **2020-2021**

Under the supervision of **Dr. R.M. Thombre Prof. S.B. Gedam and Dr. C.D. Mungmode**

Introduction:

Electricity and Electrical Appliances has played an important role in the development of human civilization. Numerous electrical appliances have made human life easy. Currently, lighting accounts for approximately 30 % of total residential electricity used followed by refrigerators, fans, electric water heaters, and TVs. Approximately 4 % of total residential electricity used is for standby power the apparently small amount of power that many modern appliances consume when they are not actively turned on. Modern electrical appliances consume less electricity as compare to old ones which ultimately results into low carbon emission helping the environment conservation. The Department of Physics conducted survey at nearby village *Palasgaon*.

The objective of this project was to carry out a survey on use of electrical appliances in household at adopted village *Palasgaon*. Twenty (20) students participated in this survey. Information of 98 families was collected. The survey was carried out using questionnaire based personal interviews in households.

Observations and Analysis:

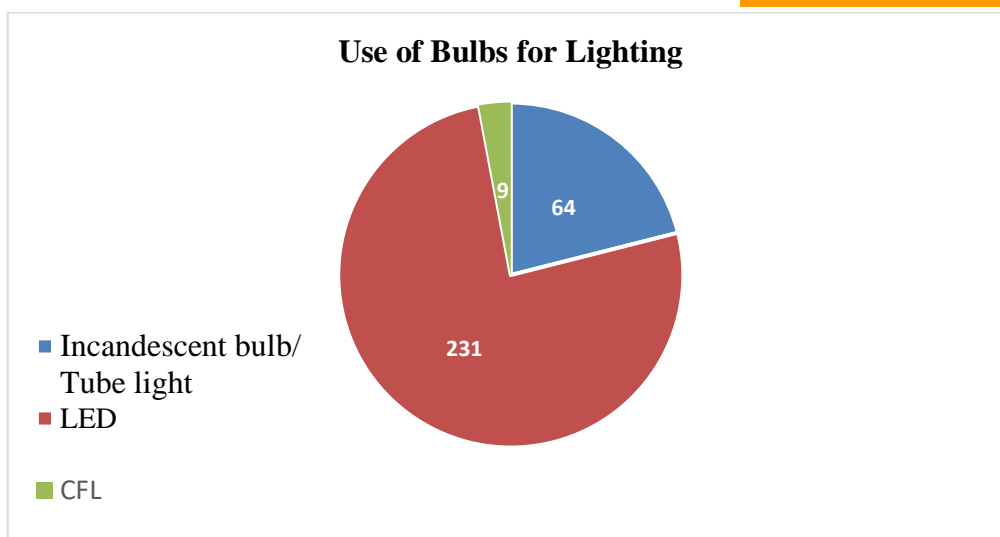
The brief analysis of the major results is presented in the following report. The tables with detailed results are included in appendices.

1. Number of Families without Electricity:

Every family in the village has electricity connection. Hence Village is fully electrified.

2. Use of Conventional Bulbs and LED Bulbs:

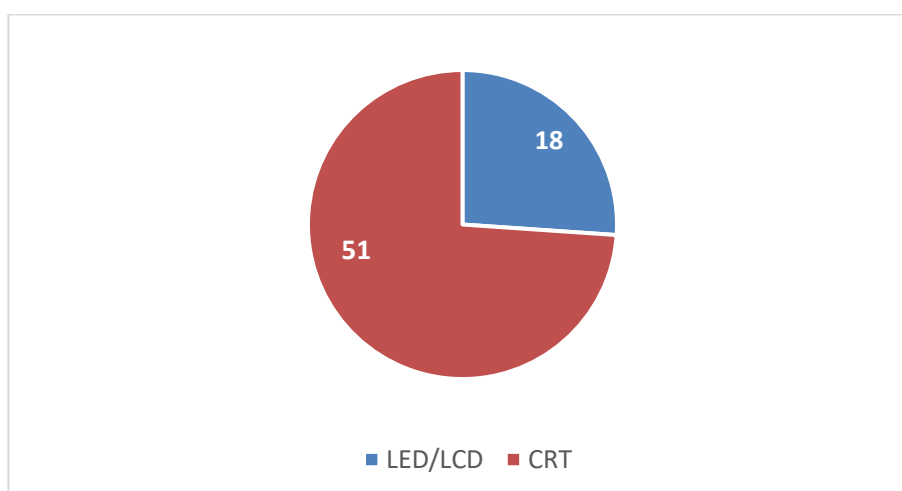
The data on lighting was collected on the type of light bulbs per household. The number of conventional bulbs/ tube light and LED/CFL bulbs used in these families are as bellow:



It is observed that 75.98 % household use LED bulb, 02.96% use CFL whereas 21.05 % household still use conventional bulbs for lighting purpose.

3. Use of Television:

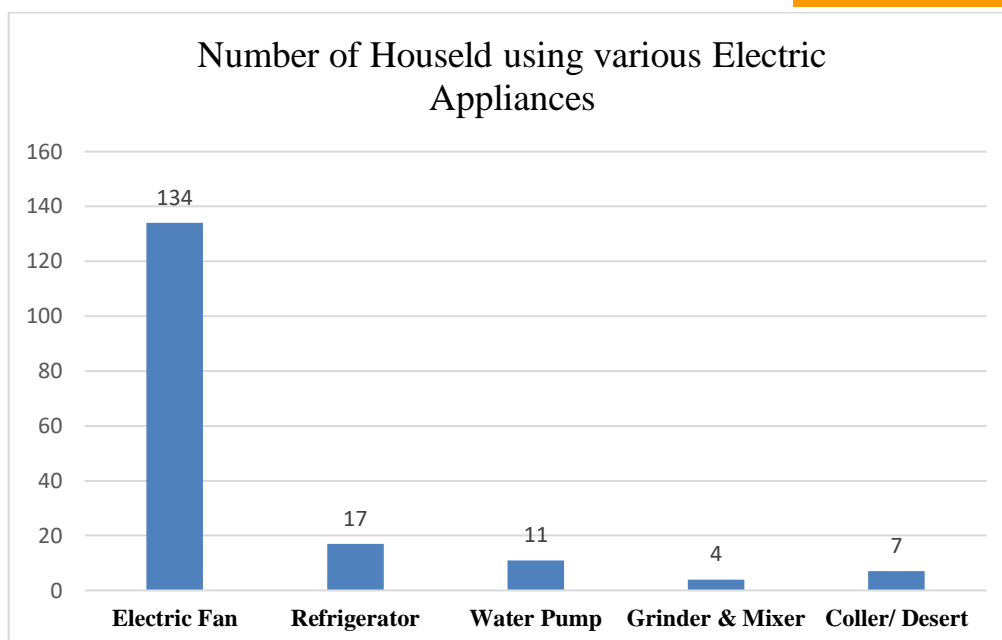
Out of 98 families 68 families has television set. The distribution of CRT and LED/LCD TV sets is as bellow:



Most of the families i.e. 73.92 % families use CRT TV sets which consumes more electricity whereas very few families i.e. 26.08 % families use LED/LCD TV sets.

4. Electric Fan, Refrigerator, Electrical Water Pump, Other Appliances:

Data on use of other electric appliances was also collected. It is found that 89 families i.e. 90.82 % have electric fans. Only 17 families (17.35 %) have refrigerator. Eleven (11) families have electric water pump. Only four (04) household have Grinder and Mixer whereas 04 household have Cooler/ Desert.



Other than electric appliances some questions were asked about electric consumption and monthly electric bill. Since many families are using few electric appliances, their monthly electric consumption is less but few families complained about more electric bill. The cause of more electric consumption in these families is found to be inappropriate earthling and old electric appliances.

Conclusion:

In this era where electricity and electrical appliances are very important for the survival of human being and government putting its efforts to make every household electrified, every family in *Palasgaon* has electricity connection. Moreover, since 30% of electricity in household is use for lighting purpose, modern lighting technologies are being adopted. It is found that 21.05 % household are still using conventional lighting sources resulting into more consumption of electricity. Very few other electrical appliances are being used in household and some of these are made up of old technologies. In some household, inappropriate earthlings are found.

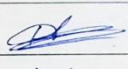









Recommendations:

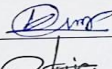
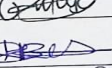
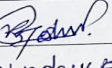
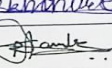
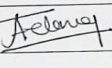
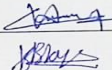
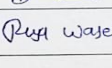

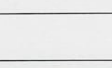
1. Use of LED bulbs should be promoted.
2. Use of energy efficient (5 star rating) electrical appliances is recommended.
3. Awareness camp on proper use of electric appliances and proper earthlings should be conducted.

Annexure: 1

Student Participated

Mahatma Gandhi Arts, Science & Late N. P. Commerce College, Armori
Survey on Electrical Home Appliances at Village Palasgaon
Department of Physics
(2020 -2021)

Sr. No.	Name of the Student	Class	Signature	Remark (if any)
1.	Himanshu A. Gonnade.	BSC 2nd		
2.	Vaugh K. Endumkur	Bsc 2 nd (PCM)		
3.	Nitesh B. Kadhao	BSC 2 nd (PCM)		
4.	Susapnil A. Mahade	BSC II nd (CS)		
5.	Anuj S. Ghose	Bsc II nd (PCM)		
6.	Harish S. Wande	BSC 2 nd		
7.	Karan D. Soyam	B.sc 2 nd year		
8.	Chandrashekhar D. Meshram	B.sc (2 nd year)		
9.	Kaushnakant R. Shinde	BSC 2 nd year		
10.	Akanksha G. Alami	Bsc 2 nd year		

11.	Kajal Sunil Doolikar	BSC II nd		
12.	Rutuja Braambadas Bansod	B.Sc - II nd		
13.	Harshita R. Juve	B.sc - II nd		
14.	Rajani S. Meshram	B.Sc - II nd		
15.	Pallavi K. Mohurle	BSC II nd year		
16.	Rupali S. Kamble	B.sc - II nd year		
17.	Aishwarya J. Telang	B.Sc - II nd year		
18.	Chetan Anil Nandanwar	B.Sc - II nd year		
19.	Kalyani Suresh Bhoyar	B.Sc - II nd year		
20.	Puja Dilip Wasekar	B.sc II year	Puja Wasekar	
21.				
22.				
23.				
24.				

Annexure: 2

Data Collection by students at adopted village Palasgaon

Mahatma Gandhi Arts, Science & Late N. P. Commerce College, Armori Dist. Gadchiroli
Department of Physics
People's Biodiversity Register (PBR)
Survey Data (Adopted village)
Session 20 - 20

Sr. No.	Name of Head of Family	Information of Electrical Instruments in Household use						Daily Electrical Consumption	Monthly average electrical bill	Signature
		Bulb/ Tube light	TV	Fan	Fridge	Electrical Motor	Other Instrument			
1	Sadhakar V. Meshram	LED 3	CRT 1	1(1)	-	-	-	30-35 250-300	250-300	A. S. Meshram
2	Sumitra R. Thengri	LED 2	-	1(1)	-	-	-	4-5	400	[Signature]
3	Nandkishor N. Tute	2	CRT 1	1(1)	-	-	-	4-5	500-600	[Signature]
4	Vilas B. Ruthe	LED 3	CRT 1	-	-	-	-	4-5	400	N. V. Ruthe
5	Shahu S. Dadmal	LED 2	-	-	-	-	-	2-3	200-300	[Signature]
6	Gopinath R. Urkude	LED 4	LED 1	2(1)	1	1	-	8-9	1000-1200	[Signature]
7	Mangesh H. Dadmal	2	-	1(1)	-	-	-	4-5	500-600	[Signature]
8	Harishchandra H. Dhore	LED 6	CRT 1	2(1)	-	-	-	2-3	250-300	S. H. Dhore
9	Mamir S. Kosare	LED 3	-	1(1)	-	-	-	2-3	200-300	[Signature]
10	Vinod L. Shende	LED 4	CRT 1	2	-	1	-	4-5	400-500	Monthan
11										

Hitesh B. Kadhao - Hitesh Kadhao
Mimansha A. Gonnade [Signature]

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Mahatma Gandhi Arts, Science & Late N. P. Commerce College, Armori Dist. Gadchiroli
Department of Physics
People's Biodiversity Register (PBR)
Survey Data (Adopted village)
Session 20 - 20

Sr. No.	Name of Head of Family	Information of Electrical Instruments in Household use						Daily Electrical Consumption	Monthly average electrical bill	Signature
		Bulb/ Tube light	TV	Fan	Fridge	Electrical Motor	Other Instrument			
1	Khushal Chauke	LED-2	-	1	-	-	-	25 unit	200	[Signature]
2	Ramdas Karankar	LED-6	1	2	-	-	2-cooler	55 unit	600	P. D. Karankar
3	Purushottam Donadkar	3-LED 1-TB	1	1	-	-	1-cooler	55 unit	600	K. P. Donadkar
4	Laxman Karankar	LED-3	1	1	-	-	-	40 unit	400	[Signature]
5	Kishan Dupare	LED-3	1	T.F-1	-	-	-	30 unit	300	[Signature]
6	Harichand Hajare	LED-3	1	1	1	-	-	20 unit	200	[Signature]
7	Nilkanth Bawane	LED-2	1	1	-	-	-	30 unit	300	[Signature]
8	Devanand Bawane	LED-3	-	1	-	-	-	20 unit	200	[Signature]
9	Liladhar Bawane	LED-2	-	1	-	-	-	20 unit	200	[Signature]
10	Atmaram B. Naktode	LED-6	1	1	-	-	2-cooler	100 unit	1000	[Signature]
11	Lalaji Sapate	LED-4	1	1	-	-	-	50 unit	500	[Signature]

① Harshita Ratishchandra Tuare
② Rajani Subhash Meshram

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Palasgaon, Maharashtra, India
Unnamed Road, Palasgaon, Maharashtra 441217, India
Lat N 20° 31' 10.7112"
Long E 80° 2' 16.728"
26/03/21 10:52 AM

DEPARTMENT OF COMPUTER SCIENCE



Department of Computer Science
People Biodiversity Register Report entitled
***“Use of Internet Banking & Android Mobile Application Survey of Palasgaon
Village”***

PBR submitted by **B. Sc. II** (Department of CS) students group **2020-21**

Under the supervision of Prof. Sunil Chute, Head of Computer Science

Introduction: -

The Palsagon village economy is primarily based on agriculture. Agriculture is the backbone of every village economy, despite economic development. Except from those who are actively working in the agrarian sector, just a small percentage of the population in that village is involved in agriculture. The use of advanced technology such as an Android phone and a computer or laptop is necessary in today's world, however villages in India lack these resources. On the tail of the government of India launching new projects such as Startup India, Standup India, and Digital India, we decided to conduct a survey project on the subject.

In contrast to smart cities, India's villages and farmers should be smart when it comes to internet banking and banking apps for Android phones. Banks are diversifying their roles in agriculture in order to generate revenue from their substantial contributions to agriculture in a changing environment. Marketing, management services, insurance, and infrastructure finance via private-public partnerships are just a few of the new tasks that banks have taken on. The advancement of information technology had a significant impact on the creation of more flexible payment options and user-friendly financial services. Consumers use the Internet to access their bank accounts and conduct mobile banking transactions from the comfort of their own homes.

Objective of the study: -

Banking has always been a time-consuming process that primarily relies on information technology (IT) to collect and transfer data to all relevant users. IT is crucial not only for analyzing information, but that also enables banks to differentiate their products and services available in the market. The mobile phone, cellphone, or smartphone isn't just for Whats Apps, Facebook, or Angry Birds; it can be used for a range of items, such land information like 7/12 analyses and various government farmer schemes.

Study area - Palasgaon Tah- Armori, District- Gadchiroli (M.S.)

Palasgaon village is a part of our college People Biodiversity Register study program, so it was chosen for survey of internet banking and an Android mobile application. Palasgaon village is located inside the Gadchiroli district of Maharashtra, India, inside the Armori Tehsil.

It is 10.3 kilometers from the sub-district headquarters Armori and 43.1 kilometres from the district headquarters Gadchiroli. The village's entire geographical area is 833.89 hectares. Palasgaon has a population of approximately 1,400 as per census- 2011. Palasgaon village has approximately 338 homes. The nearest railway station to Palasgaon is Wadsa, which is around 28 kilometers away.

Particulars	Total	Male	Female
Total No. of Houses	338	-	-
Population	1,400	739	661
Child (0-6)	142	82	60
Schedule Caste	136	74	62
Schedule Tribe	292	161	131
Literacy	75.20 %	81.43 %	68.39 %
Total Workers	882	460	422
Main Worker	520	-	-
Marginal Worker	362	187	175

Materials and Methods: -

The usage of internet banking and android mobile application survey of the village Palasgaon was studied by students of B.Sc. II Computer Science and a questionnaire was prepared by the computer science department with regard to the use of internet banking and android mobile application. There are 338 families in the village, with 67 families chosen for study by PBR Computer Science groups. With the use of a camera phone, a photograph of the families with PBR students was taken.

Results and Discussion: -

Total No Of Home	Bank Account	Nationalized Bank Account	State Level Bank	Private Bank	No. of Android Mobile	Simple Mobile	Mobile Bank Application	Total No of Used Social Site	Total No Of Used Internet Banking (UPI)
67	67	50	67	0	67	20	40	67	50

A total of 67 home surveys are conducted in that village Palasgaon in various aspects such as bank holders such as Nationalized Banks, State Level Banks, cooperative bank and Private Banks. It is interested to note that Internet Banking, Android mobile, banking application for mobile has been using by the people of Palasgaon village.

In the study, it was observed that every family in the sample has a bank account with a national bank as well as a co-operative bank and nearly 80% of people have an Android phone whereas the remaining 20% have a simple phone for communication purposes.

One of the most striking findings was that 50% of people utilized UPI applications like Phone Pay, Google Pay, etc. and 3% used internet banking, while 76 % used social media sites like Facebook or WhatsApp.

Farmers in rural areas faced tremendous challenges due to illiteracy in the agriculture industry. They are unable to use the internet to gain access to agricultural information.

Farmers will be aided in making critical decisions by the information displayed in icons. There would also be an advantage to farmers because there will be speech-based engagement with symbols in Indian language.

Conclusion: -

Some Palasgaon families are familiar with Android mobile applications and internet banking, even if they do not have their own android phone.

The Krishi-Mitra website provides comprehensive information about crops, weather conditions, and expert advice in both Marathi and English. The Krishi-Mitra application can be used as a smart system that works more inventively for the user's benefit.

With a simple press of a button, a user can be informed about current meteorological statistics as well as fresh crop, seed, and fertilizer information. If necessary, people might also seek

advice from specialists. Even if native language support is not available, this programme can be quite useful.

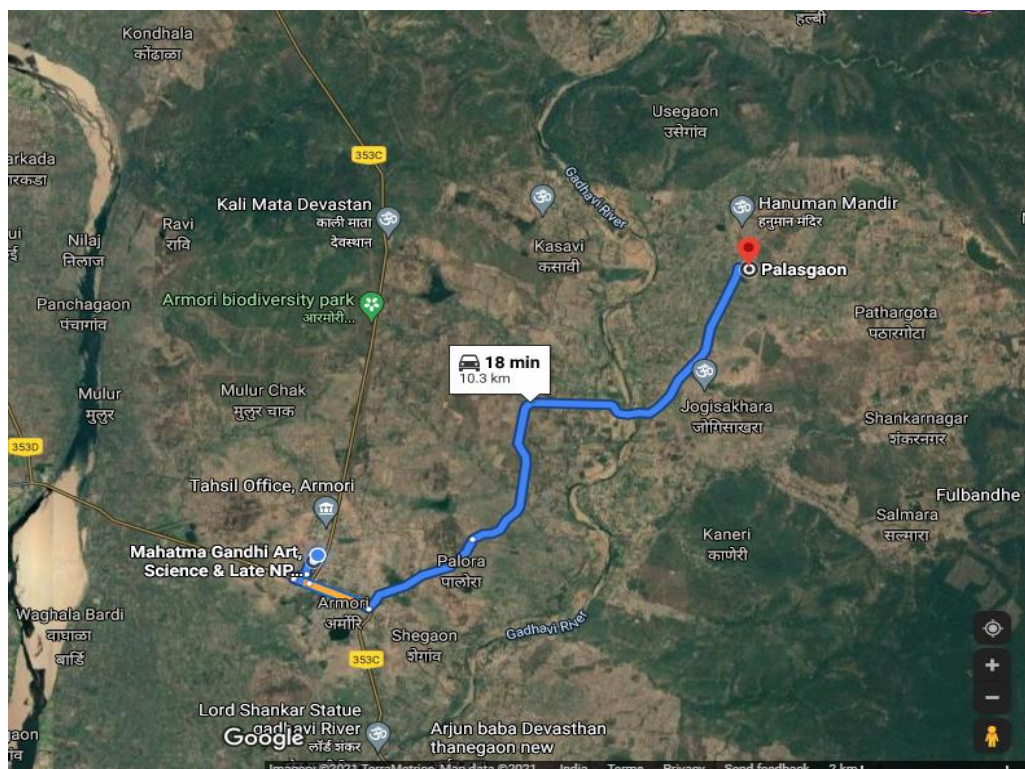
This model will be a significant improvement over current method. This is how the Krishi-Mitra expert system for farmers gets closer to being implemented. As a result, farmers' troubles in farming are overcome and resolved. More native language support and dynamic query resolution will be added to this system in the future. The application will also allow users to obtain various data and information offered by professionals.

The Indian government is putting a greater emphasis on the use of new technology, but this is ineffective without the participation of the people.

Recommendation: -

Farmers should develop a technical understanding of how to use online banking and the Android mobile application in agriculture. They should be aware of the dynamism of the agro-based sector, which has and produces production and consumer goods.

Web location of Palasgaon Village


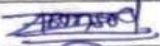



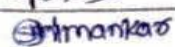







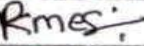
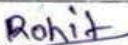


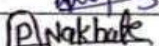
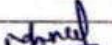










Field Photography

Students of B.Sc. Computer science taking interview with villager's



List of Student Participate in PBR Survey

Subject Name: COMPUTER SCIENCE		
Sr.No	Student Name	Sign
1	ALONE RUTUJA SHRIDHAR	
2	BANSOD JYOTI AVINASH	
3	BARAPATRE PAREKH KESHAV	
4	BHARANE AASHUTOSH MADHUKAR	
5	CHIKRAM KUNAL DILIP	
6	CHIMANKAR SHUBHAM ANMOL	
7	DANGE SAKSHI SUNIL	
8	DESHMUKH SAURABH ABHAY	
9	GANGAVE VAISHNAVI VIVEK	
10	JAMBHULKAR AISHWARYA RAJHANS	
11	KAMBLE SHUBHAM NARESH	
12	KHODRAGADE PRATIK MANOHAR	
13	KOHADÉ SWAPNIL NARENDARA	
14		
15	MESHARAM PRANAY RAJU	
16	MESHARAM PRARTHANA KUNDAN	
17	MHASHAKHETRI ROHIT NITIN	
18	MOHURLE TRUPTI STRUGHNA	
19	MURMURWAR RITIK KOVID	
20	NAKHATE PUNAM DAYARAM	
21	NANDANWAR YASH KISHOR	
22	RAMNANI MONAL MANOHAR	
23	PAUT BHUSHAN VIJAY	
24	SHIENDRE DIKSHIT HIRALAL	
25	SHIMPI TUSHAR SUKDEO	
26	SORTE VAIBHAV DILIP	
27	TITIRMARE MAYUR KIRAN	
28	UNDIRWADE PALLAVI DURWAKAR	
29	UNDIRWADE VALLAVI VIJAY	
30	WARKE VAISHNAVI BHARAT	
31	ZILPE SHARMILA SHIVKUMAR	

DEPARTMENT OF GEOGRAPHY



Department of Geography
People Biodiversity Register Report entitled
Agro, socio and economic Survey of Palasgaon village of Armori tehsil of
Gadchiroli district Maharashtra

PBR submitted by: **B. A. II** (Department of Geography) students group **2020-21**

Under the supervision of **Prof. Parag Meshram and Dr. Vijay Gorde**

Introduction

The Gadchiroli District has founded on dated 26 August 1982 in landscape of 14412 Sq. fit. Geographically Armori taluka has found North South in Gadchiroli, and Palasgaon is situated on north - east at a distance of 08 km from Armori taluka of Gadchiroli District and there is a Gadhavi river goes North – South.

➤ **Climate – Rainfall & Temperature: -**

There is a variety of diversity in Gadchiroli district. Where temperature is more in May and June an average Temperature growth is Summer time almost 47 to 48 Degree Celsius and in winter time 9 to 11 Degree Celsius. Probably in this District rainfall from monsoon wind and rainfall from 1400 to 1500 mm June to October.

➤ **River**

Gadchiroli District is mainly the Wainganga River. The river goes to the west of the District and the Gadhavi River flows through the east from east. Godavari from the southern border. The Indravati River flows from east. In the besides imp rivers are Dina, Khobragadi, Kathani, Por, Nibra, Kotari, Parlkota, Pamul Gantam etc.

➤ **Nature of Soil**

The soil in Palasgaon is situated in the lower part of the Wainganga river bank. The lower part of the river is fertile and the mud is the soil. Sandy soil, black soil and rocky soil are found in and around Palasgaon. It is included some parts are Gadchiroli, Armori, Chamorshi taluka. Rice is a main crop in there.

➤ **Crops Pattern**

In all the talukas of Gadchiroli District, Rice crop is important. Rice crop and around 75% of the area rice dominated. Along with it seen Tur, Popat, Chilli, Groundnut and Vegetable etc.

➤ **Transportation and Communication: -**

In Gadchiroli District major transportation takes place through road just like Nagpur – Gadchiroli – Sironcha, Gadchiroli – Chandrapur and Gadchiroli – Dhanora – Rajnandgaon. Wadsa is the single Relve station in Gadchiroli district. The state governments, Zilla Parishad and Public works department constructed the road length of 11,798 km by the end of 2012.

➤ **The Socio-economic Status of the People of Palasgaon village**

In internal the biodiversity record of the people of Palasgaon related. Studied under the information. Agriculture –Economic Social Survey, made in Palasgaon, student have filled the form about area of agricultural land, irrigated and non-irrigated agricultural area, various crops and production, expenditure of agriculture, food security, adding agro base business etc. with questionnaire method in which the students actual 158 family information filled with questionnaire.

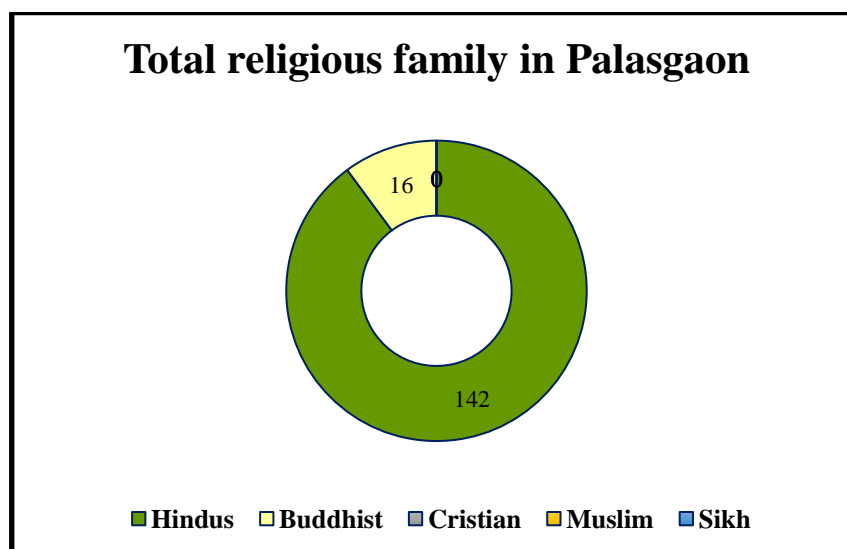
B.A. Part 3 Semester 5 students have obtained the following information by conducting Agricultural - Social and Economic Survey at Palasgaon.

❖ **Family Related Information: -**

1. Religion of family: -

Sr. No.	Hindu	Sikh	Buddhist	Cristian	Muslim	Total
Total	142	--	16	--	--	158

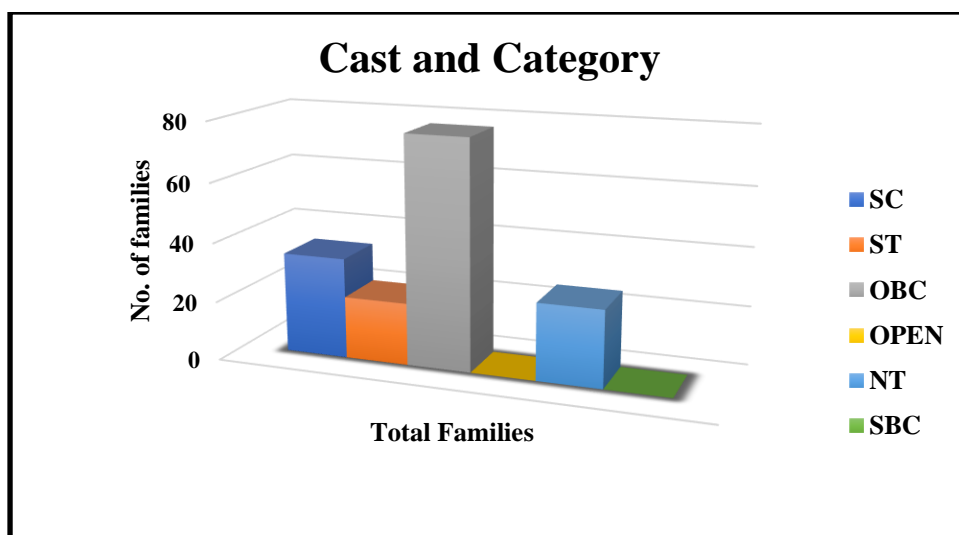
Out of the total 158 families in Palasgaon, 142 houses belong to Hinduism and 16 houses belong to Buddhism, while the proportion of other religions is not very visible.



2. Cast and category of family: -

Sr. No.	SC	ST	OBC	Open	NT	SBC	Total
Total	34	21	77	-	26	00	158

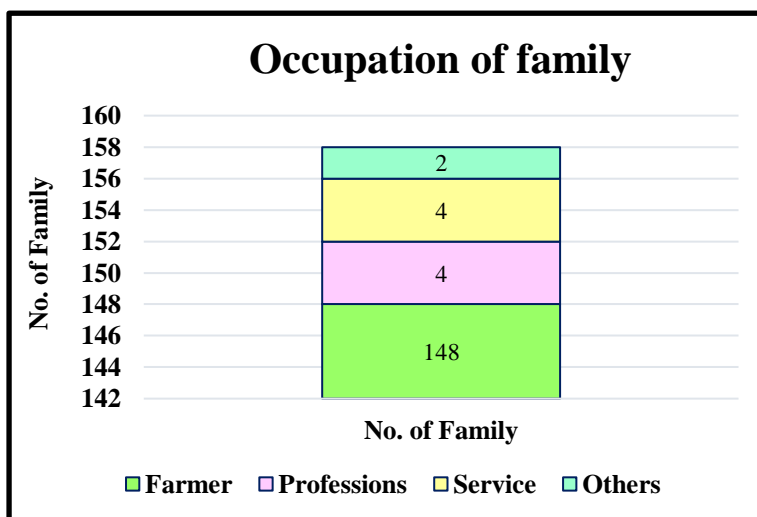
Out of total 158 families in Palasgaon, 77 families are in OBC category, 21 families are in SC category, 34 families are in ST category and 26 families are in NT category. Of all these other castes, Palasgaon has the highest number of OBCs.



3. Occupation of family: -

Sr. No.	Farmer	Professions	Service	Others	Total
Total	148	04	04	02	158
%	93.67	2.53	2.53	1.26	100

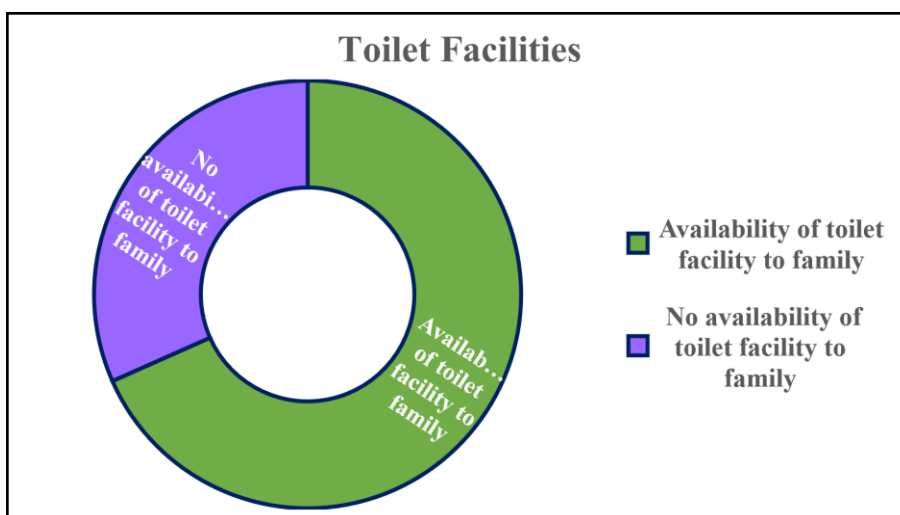
The main occupation in the village of Palasgaon is agriculture and farm labor. Of these, 148 families are engaged in agriculture, 4 families in industry and 4 families in jobs.



4. Availability of toilet facility to family: -

Sr. No.	Availability of toilet facility to family	No availability of toilet facility to family	Total Family
Total	108	50	158
%	68-35	31-64	100

Out of 158 families in Palasgaon, 108 families have toilets while 50 families do not have toilet facilities.



5. Type of house of family: -

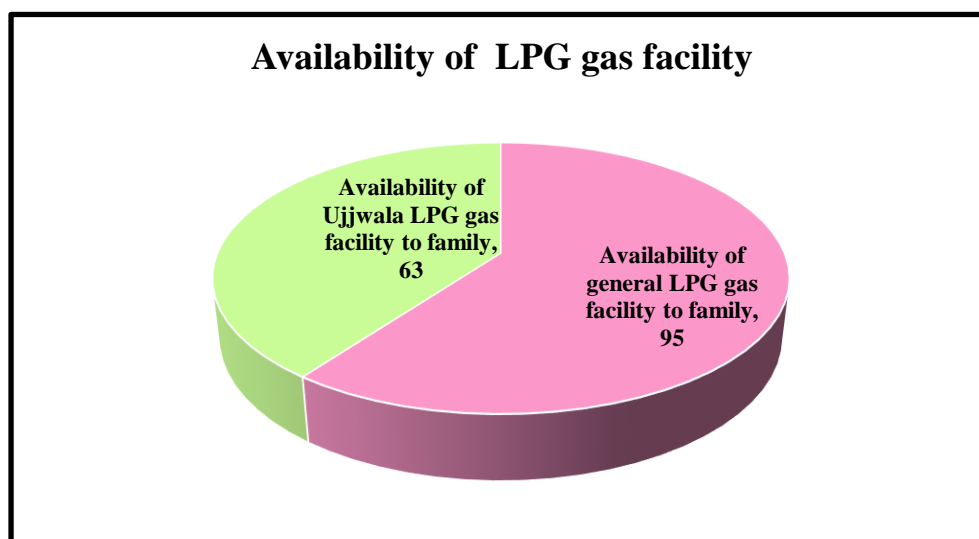
Sr. No.	Kachha House	Pakka House	Total Family
Total	91	59	158
%	57-59	37-34	100

Out of 158 farming families in Palasgaon, 59 families have permanent houses (**Pakka House**) and 91 families have unfinished houses (**Kachha House**).

6. Availability of gas facility to family: -

Sr. No.	Availability of general LPG gas facility to family	Availability of Ujjwala LPG gas facility to family	Total Family
Total	95	63	158
%	60-12	39-87	100

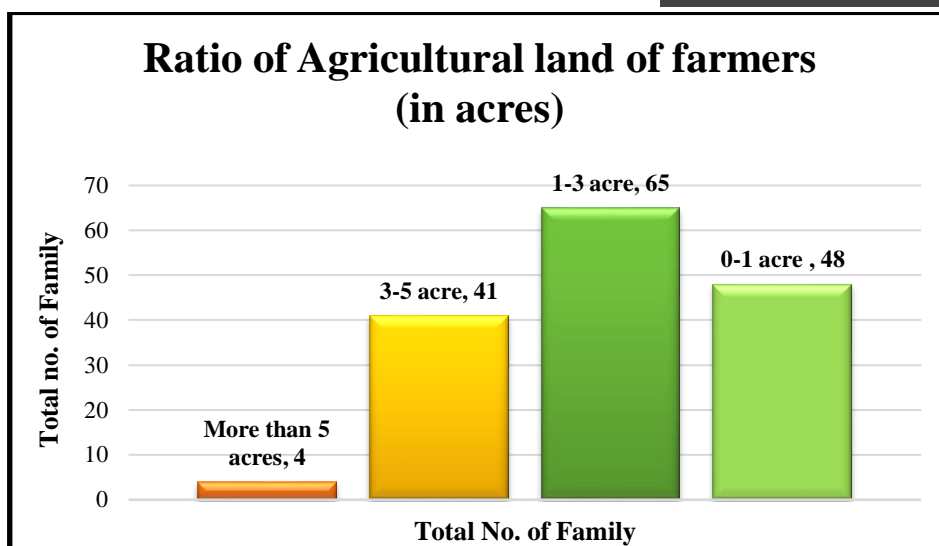
A socio-economic survey conducted at Palasgaon showed that 158 households had access to gas. Out of 158 farming families in Palasgaon, 95 families have simple gas and 63 families have Ujjwala gas.



❖ Ratio of Agricultural Land Holders at Palasgaon (in Acres) -

1. Ratio of Agricultural land of farmers (in acres) –

Agricultural land of farmers (in acres)	More than 5 acres	3-5 acre	1-3 acre	0-1 acre	Total
Total No. of Family	04	41	65	48	158

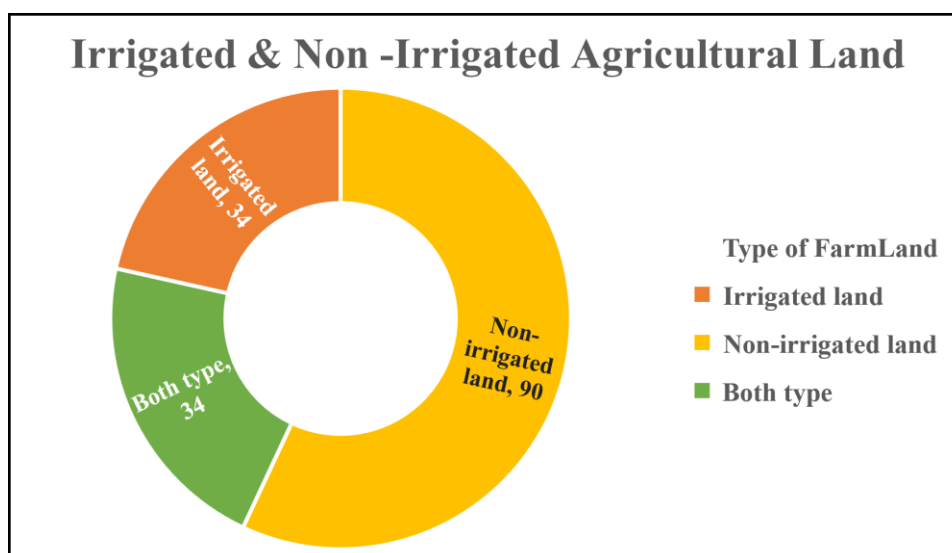


A study of the extent of farming held by a farming family in Palasgaon village reveals that there are a total of 12 farming families with more than 5 acres of land. 31 families with 3 to 5 acres of land, 55 families with 1 to 3 acres of agricultural land and 48 families with less than one acre of agricultural land are smallholders.

2. Type of farm land (irrigated and dry land) -

Sr. No.	Irrigated land	Non-irrigated land	Both type	Total
Total No. of Family	34	90	34	158

A study of the type of irrigated agricultural land at Palasgaon reveals that out of the total cultivable area, 34 households have irrigated agricultural land. While 90 households have dryland type of agriculture, 34 families have both irrigated and dryland farming.



3. Agricultural Soil Types-

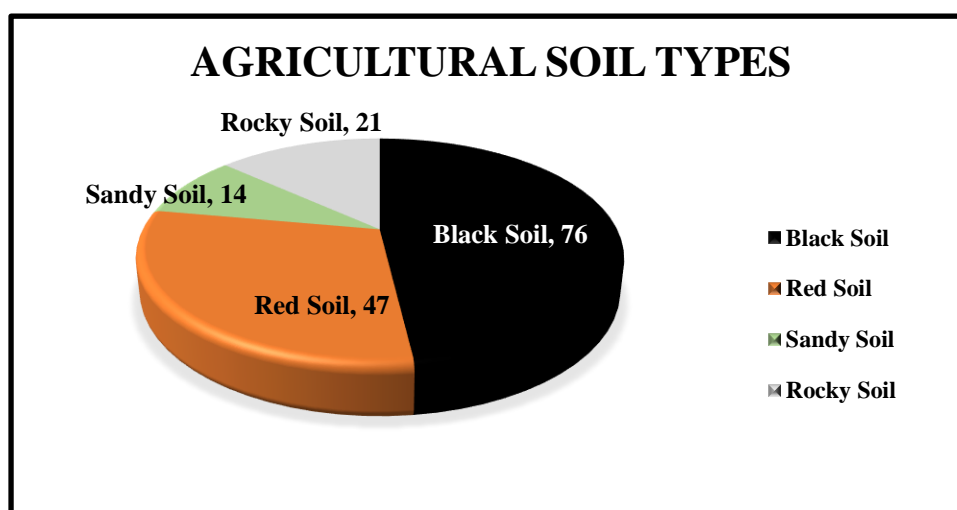
Agricultural land of farmers (in acres)	Black Soil	Red Soil	Sandy Soil	Rocky Soil	Total
Total No. of Family	76	47	14	21	158

Black soil - The analysis at Palasgaon showed that black soil was found in the farms of 76 families in Palasgaon.

Red soil - Red soil is found in the farms of 47 families in Palasgaon.

Sandy soil- Sandy soil is found in the farms of 14 families in Palasgaon.

Rocky soil - Rock soil is found in the farms of 21 families in Palasgaon.



Analysis of the soil type of the field shows that the highest black soil is found in agriculture at Palasgaon, followed by red soil and the lowest amount of rocky and sandy soil.

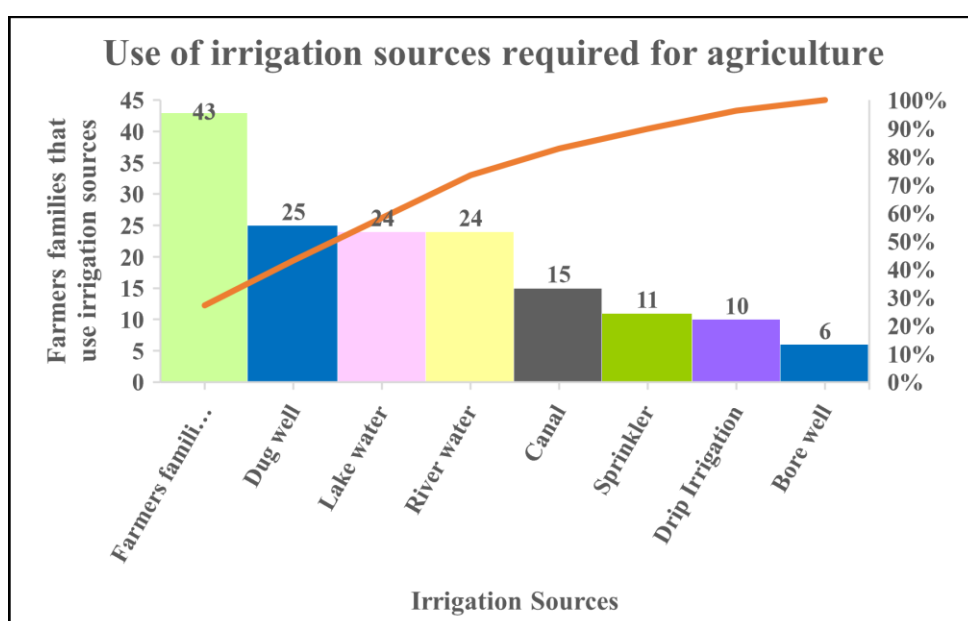
4. Use of irrigation sources required for agriculture –

Sr. No.	Irrigation Sources	Farmers families that use irrigation sources
1	Dug well	25
2	Canal	15
3	Bore well	06
4	Lake water	24
5	River water	24
6	Drip Irrigation	10
7	Sprinkler	11

8	Farmers families who do not use irrigation sources	43
Total		158

Analysis of agricultural irrigation sources in 158 farming families in Palasgaon village shows that during Rabi season, 25 farmer families through wells, 15 farmer families through canals, 10 farmer families through coupon pipelines, 24 farmer families through ponds, 10 farmer families through drip irrigation, 11 farmer families through sprinkler irrigation and 24 We find families irrigating by river water.

It is seen that 43 farming families who do not use irrigation sources are doing non- irrigated (dryland) farming.



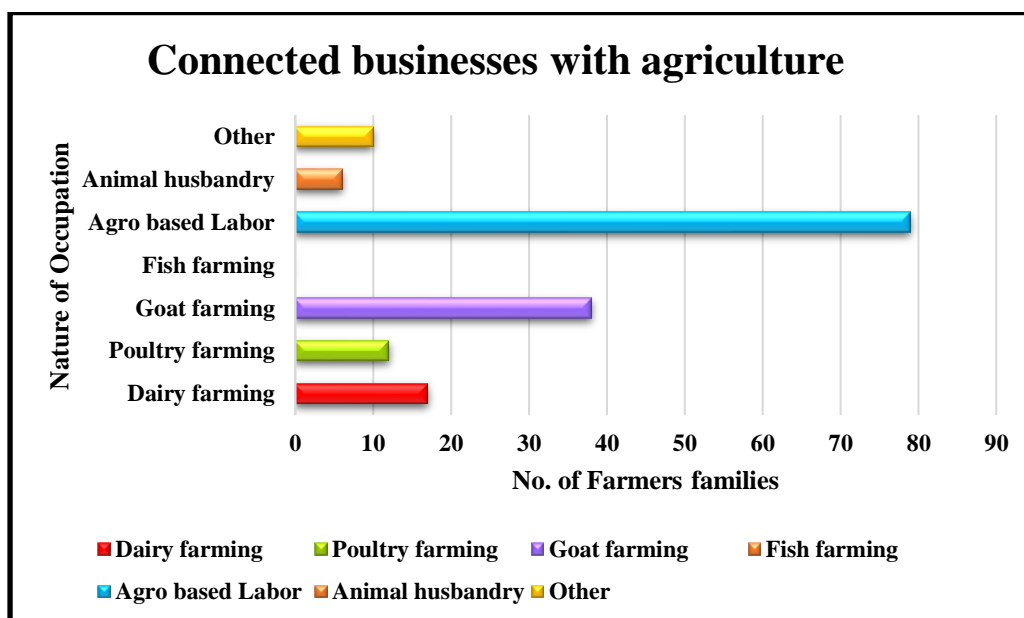
From this we can see that most of the essential irrigation sources on the farm is canal irrigation during kharif season and well irrigation during rabi season.

5. Connected businesses with agriculture –

Sr. No.	Nature of occupation	Farmers families
1	Dairy farming	17
2	Poultry farming	12
3	Goat farming	38
4	Fish farming	00
5	Agro based Labor	79
6	Animal husbandry	06
7	Other	10

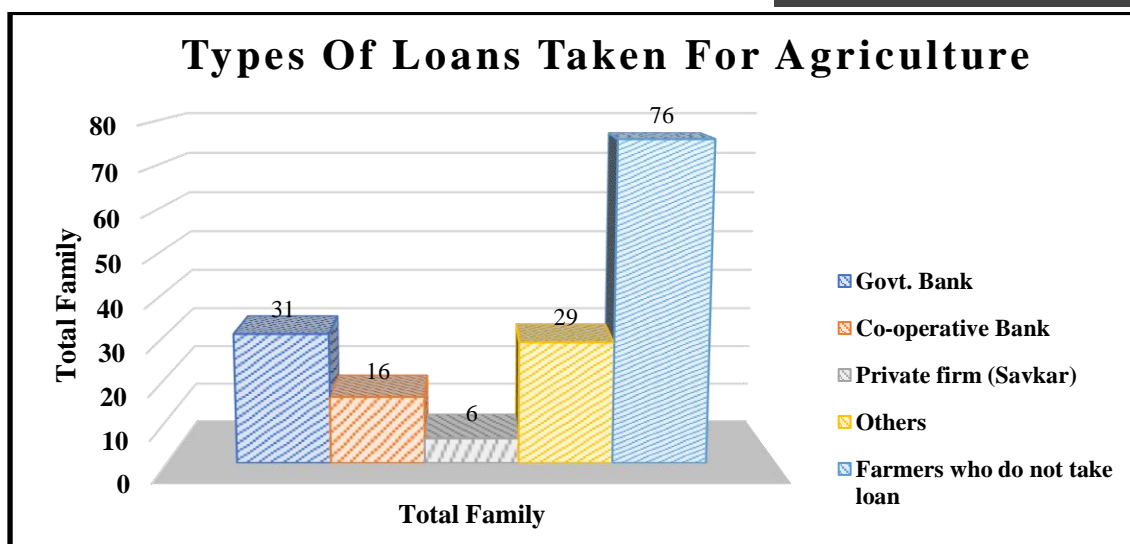
The socio-economic survey conducted at Palasgaon shows that we can also see the business along with the agricultural business in that village.

In Palasgaon, 17 families are engaged in dairy farming, 12 families in poultry farming, 38 families in goat farming and 79 families are engaged in agricultural labor. Etc. types of joint businesses are seen in Palasgaon.



6. Types of loans taken for agriculture –

Sr. No.	Loan providing factor	Total Family
1	Govt. Bank	31
2	Co-operative Bank	16
3	Private firm (Savkar)	06
4	Others	29
5	Farmers who do not take loan	76
Total		158



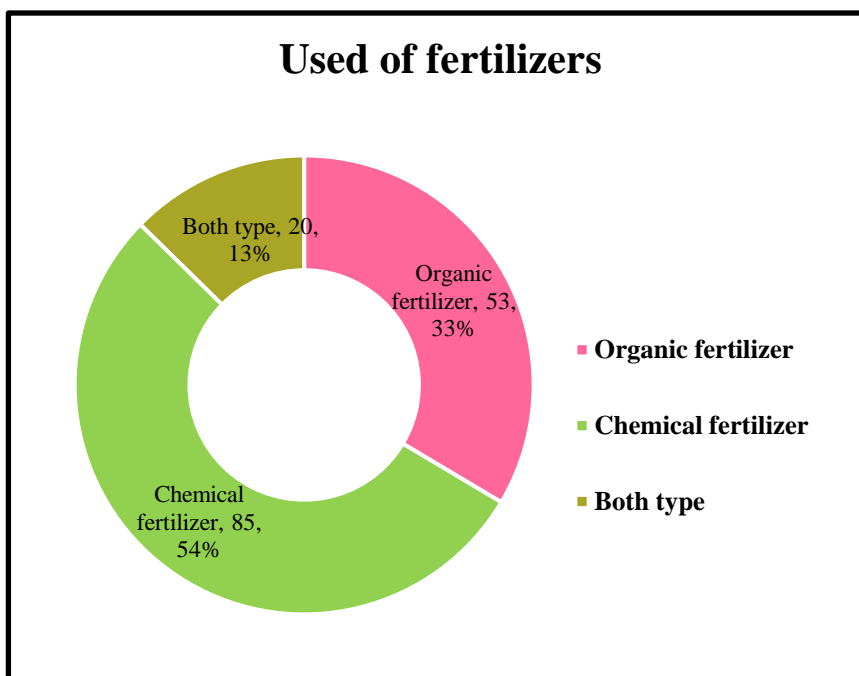
Out of 158 families in Palasgaon during kharif and rabi seasons, 31 families have taken loans from co-operative banks. 16 families have taken loans from co-operative banks, 31 families from lenders, 29 families from other people and 76 families have not taken loans.

7. Fertilizers used in the field-

Sr. No.	Used of fertilizers	Total Family
1	Organic fertilizer	53
2	Chemical fertilizer	85
3	Both type	20
4	Total family	158

Use of Kharif and Rabi season fertilizers--

Out of 158 households in Palasgaon, analysis of kharif and rabbi season fertilizer expenditure shows that there are 53 farming families using organic manure and 85 farming families using chemical fertilizer and 20 farming families using both manure (organic and chemical).



This shows that during the kharif and rabi seasons, there are more farming families who use chemical fertilizers than organic ones.

8. Important crops grown in the field –

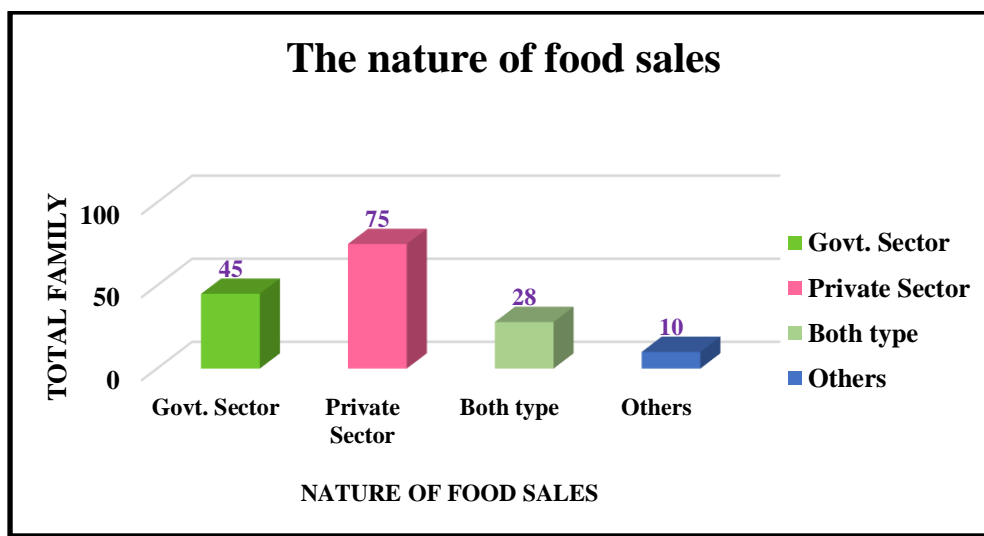
Sr. No.	Crop Name	Total Family
1	Rice	84
2	Pulses (Tur)	33
3	Rice and Pulses (Tur)	23
4	Others	18
Total		158

The agro-social and economic survey at Palasgaon shows that farmers in the village cultivate different crops in different seasons, Rice is the most important crop in the total area under cultivation during the kharif season.

Out of 158 families in Palasgaon, 84 farming families planted rice, 33 farming families planted tur and 23 farmer families cultivating combined rice and tur.

9. The nature of food sales –

Sr. No.	Nature of food sales	Total Family
1	Govt. Sector	45
2	Private Sector	75
3	Both type	28
4	Others	10
Total		158



10. The total cost, income and profit to the farmer: -

Sr. No.	Agricultural land of farmers (in acres)	Total expenditure in rupees	Total income in quintal	Total income	Total Profit
1	Small land holders 0 & 1 acres	859000	379	702000	157000
2	Lower land area holders 1 & 3 acres	1301000	866	1323000	22000
3	medium land area holders 3 & 5 acres	680000	420	705000	25000
4	Lower land area holders More than 5 acres	85000	40	100000	20000

The cost of cultivation, yield and profit during the kharif and rabi seasons in the area under cultivation at Palasgaon was Rs. 8509000 per acre in the area under cultivation in both the seasons. The yield was 379 quintals, the total income was Rs 702000 and the total profit was Rs 157000. The total cost in 1 to 3 acres was Rs.1301000 out of which the yield was 866 quintals and the total income was Rs.1323000 in rupees while the total profit was Rs. 22000. The total cost in 3 to 5 acres was Rs. 680000 out of which the income was 420 quintals and the total income was Rs.

25000. Similarly, in an area of more than five acres, the total expenditure was Rs. 85000 and 40 quintals were generated from it. Also, a total of fifty rupees became one lakh rupees and the profit from it was 25 thousand rupees.

From this we can see the total cost, income in quintals and in rupees and the proportion and nature of total profit.

Conclusion: -

1. In the survey of 158 families in Palasgaon, the proportion of Hindus in various religions is highest, the proportion of Buddhism is very low while the proportion of other religions is not seen, as well as O.B.C., S.T., S.C. and N.T. in which O.B.C. Category proportion is highest.
2. Out of 158 families in Palasgaon, 108 households have access to toilets, while 158 out of 158 households have access to gas, of which Ujjwala Gas has access to 63 households.
3. In Palasgaon, the proportion of raw houses is more than that of pucca houses.
4. The maximum area under households in Palasgaon is 1 to 3 acres. It also shows the highest number of farming families not using irrigation equipment. Irrigation is more heavily irrigated by wells, lakes and rivers than canals and tube well.
5. Farmers in Palasgaon use a lot of chemical fertilizers in their agriculture. Rice is the most important food crop in kharif and rabi seasons.
6. In the agricultural area of Palasgaon, black soil and sandy soil are found in large quantities.
7. The main crop in Palasgaon is rice and it is grown in RPN, Jai Shriram, 1010, Suvarna, Paras etc.
8. Most of the farmers in Palasgaon seem to have taken loans from co-operative banks and farmers are seen selling their produce in private on a larger scale than the government.
9. Apart from agriculture, the main occupation in Palasgaon is mainly agricultural labor.
10. The area under agriculture in Palasgaon shows a higher rate of total profit as compared to total expenditure and total income.





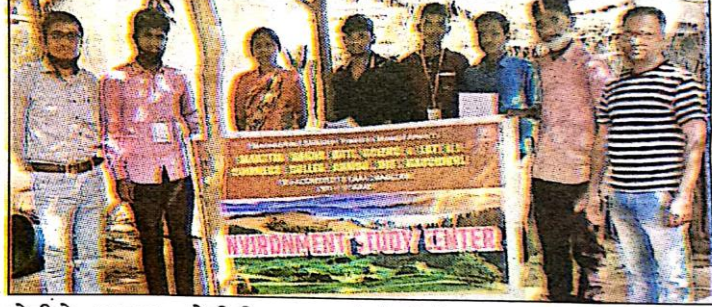
People Biodiversity Register Survey (Socio- Agro-Economic Survey) (B.A.II) at Palasgaon
Village – (06/03/2021)

भूगोल विभागाचे जैवविविधताविषयक सर्वेक्षण

लोकशाही वार्ता/ आरमोरी

महात्मा गांधी महाविद्यालय आरमोरी अंतर्गत भूगोल विभागातर्फे प्राचार्य डॉ. खालसा यांच्या मार्गदर्शनाखाली पर्यावरण अभ्यास समितीमार्फत बीए भाग २ च्या विद्यार्थ्यांनी पळसगाव येथे जैवविविधताविषयक सामाजिक व कृषी आर्थिक सर्वेक्षण करण्यात आले.

या जैवविविधताविषयक सामाजिक व कृषी-आर्थिक सर्वेक्षणांतर्गत सामाजिक घटक व कृषी आधारित घटकांचा अभ्यास प्रश्नावलीच्या माध्यमाने विद्यार्थ्यांनी माहिती भरून घेतली. यामध्ये सामाजिक व कुटुंबविषयक माहिती, जात, धर्म, व्यवसाय, पुरुष व स्त्रियांचे प्रमाणे, साक्षरता, शौचालयाची व्यवस्था व घरगुती गॅसचा वापर, शेतकऱ्याकडील



शेतीचे प्रमाण, शेतीतील मृदा प्रकार, प्रत्येक हंगामात घेण्यात येणाऱ्या पिकांची माहिती, शेती मशागतीसाठी लागणारा खर्च, पिकांपासून मिळालेल्या उत्पन्नाची नोंद, शेतातील आवश्यक सिंचन साधनांचा वापर, अन्नधान्य विक्रीचे प्रमाण व प्रकार, शेतीसाठी घेतलेल्या कर्जाचा प्रकार, कृषी आधारित उद्योग,

शेतीसोबत असलेले जोडव्यवसाय, पीकपद्धती, शेतीवरील खर्च, उत्पादन, नफा-तोटा, पीक प्रारूप, पिकांची तीव्रता, शेतकऱ्यांचे उत्तन आदी घटकांचा अभ्यास केला. सदर सर्वेक्षण भूगोल विभाग प्रमुख प्रा. पराग मेश्राम, प्रा. डॉ. गोरडे यांच्या मार्गदर्शनात विद्यार्थ्यांनी गावातील प्रत्येक घरी जावून केले.

जैवविविधता सर्वेक्षणातून कृषी घटकांचा अभ्यास

लोकमत न्यूज नेटवर्क

आरमोरी : स्थानिक महात्मा गांधी कला, विज्ञान व स्व.न.पं. वाणिज्य महाविद्यालयात भूगोल विभागातर्फे पर्यावरण अभ्यास समितीमार्फत बी.ए. भाग २ च्या विद्यार्थ्यांनी पळसगावचे जैवविविधताविषयक सामाजिक व कृषी-आर्थिक सर्वेक्षण केले.

जैवविविधताविषयक सामाजिक व कृषी-आर्थिक सर्वेक्षणांतर्गत सामाजिक घटक व कृषी आधारित घटकांचा अभ्यास प्रश्नावलीच्या माध्यमातून विद्यार्थ्यांनी केला. सामाजिक व कुटुंबविषयक माहिती, जात, धर्म, व्यवसाय, पुरुष व स्त्रियांचे प्रमाण, साक्षरता, शौचालयाची व्यवस्था व घरगुती गॅसचा वापर,

शेतकऱ्यांकडील शेतीचे प्रमाण, शेतीतील मृदा प्रकार, प्रत्येक हंगामात घेण्यात येणाऱ्या पिकांची माहिती, शेती मशागतीसाठी लागणारा खर्च, पिकांपासून मिळालेल्या उत्पन्नाची नोंद, शेतीतील आवश्यक सिंचन साधनांचा वापर, अन्नधान्य विक्रीचे प्रमाण व प्रकार, शेतीसाठी घेतलेल्या कर्जाचा प्रकार, कृषी आधारित उद्योग, शेतीसोबत असलेले जोडव्यवसाय, पीकपद्धती, शेतीवरील खर्च, उत्पादन, नफा-तोटा, पीक प्रारूप, पिकांची तीव्रता, उत्पन्न आदी घटकांचा अभ्यास विद्यार्थ्यांनी केला. सदर सर्वेक्षण भूगोल विभागप्रमुख प्रा. पराग मेश्राम व प्रा. डॉ. विजय गोरडे यांच्या मार्गदर्शनात १०० विद्यार्थ्यांनी केला.

भूगोल विभागाचे जैवविविधताविषयक सर्वेक्षण

पुण्य नगरी / प्रतिनिधी

आरमोरी : येथील महात्मा गांधी महाविद्यालयात भूगोल विभागातर्फे प्राचार्य डॉ. लालसिंग खालसा यांच्या मार्गदर्शनाखाली पर्यावरण अभ्यास समितीमार्फत बीए भाग २ च्या विद्यार्थ्यांनी पळसगाव येथे जैवविविधताविषयक सामाजिक व कृषी, आर्थिक सर्वेक्षण केले.

जैवविविधताविषयक सामाजिक व कृषी, आर्थिक सर्वेक्षणांतर्गत सामाजिक घटक व कृषी आधारित घटकांचा अभ्यास प्रश्नावलीच्या माध्यमाने विद्यार्थ्यांनी माहिती भरून घेतली. यामध्ये सामाजिक व कुटुंबविषयक माहिती, जात, धर्म, व्यवसाय, पुरुष व स्त्रियांचे प्रमाण, साक्षरता, शौचालयाची व्यवस्था व घरगुती गॅसचा वापर, शेतकऱ्यांकडील शेतीचे प्रमाण, शेतातील मृदा प्रकार, प्रत्येक हंगामात घेण्यात येणाऱ्या पिकांची



माहिती, शेती मशागतीसाठी लागणारा खर्च, पिकांपासून मिळालेल्या उत्पन्नाची नोंद, शेतीतील आवश्यक सिंचन साधनांचा वापर, अन्नधान्य विक्रीचे प्रमाण व प्रकार, शेतीसाठी घेतलेल्या कर्जाचा प्रकार, कृषी आधारित उद्योग, शेतीसोबत असलेले जोडव्यवसाय, पिकपद्धती, शेतीवरील खर्च, उत्पादन, नफा-तोटा, पीक प्रारूप, पिकांची तिव्रता,

शेतकऱ्यांचे उत्पन्न आदी घटकांचा अभ्यास केला. सदर सर्वेक्षण भूगोल विभागप्रमुख प्रा. पराग मेथ्राम, प्रा. डॉ. विजय गोरडे यांच्या मार्गदर्शनाखाली करण्यात आले. विद्यार्थ्यांनी गावातील प्रत्येक घरी जावून माहिती गोळा केली. त्याचे विश्लेषण करून अहवाल तयार केला. सर्वेक्षणातील १०१ विद्यार्थ्यांनी सहभाग घेतला.

भूगोल विभागाने केले सर्वेक्षण

आरमोरी, ता. १४ : महात्मा गांधी महाविद्यालयाच्या भूगोल विभागातर्फे प्राचार्य डॉ. खालसा यांच्या मार्गदर्शनात पर्यावरण अभ्यास समितीमार्फत बीए भाग २ च्या विद्यार्थ्यांनी पळसगाव येथे जैवविविधताविषयक सामाजिक व कृषी आर्थिक सर्वेक्षण केले.

या जैवविविधताविषयक सामाजिक व कृषी-आर्थिक सर्वेक्षणांतर्गत सामाजिक घटक व कृषी आधारित घटकांचा अभ्यास प्रश्नावलीच्या माध्यमाने विद्यार्थ्यांनी माहिती भरून घेतली. यामध्ये सामाजिक व कुटुंबविषयक माहिती, जात, धर्म, व्यवसाय, पुरुष व स्त्रियांचे प्रमाण, साक्षरता, शौचालयाची व्यवस्था व घरगुती गॅसचा वापर, शेतकऱ्यांकडील शेतीचे प्रमाण, शेतीतील मृदा प्रकार, प्रत्येक हंगामात घेण्यात येणाऱ्या पिकांची माहिती, शेती मशागतीसाठी लागणारा खर्च, पिकांपासून मिळालेल्या उत्पन्नाची नोंद आदींची माहिती घेण्यात आली.



Manoharbhair Shikshan Prasarak Mandal's
Mahatma Gandhi Arts, Science & Late N. P. Commerce College
Armori Dist. Gadehiroli M.S. 441208
Department of Geography
Participant Student List
B.A.III – SEM-III & IV
Session: - 2020-21

Activity: - People Biodiversity Register
Survey at Palaggaon

Date: - 06/03/2021

Sr. No.	Students Name	Gender	Sign
1.	Aanchal Khobragade	Female	— AA —
2.	Achal Haridas Kamble	Female	<i>Achal Kamble</i>
3.	Achal Sanjay Meshram	Female	<i>Achal Meshram</i>
4.	Aishwarya Baban Kunghadkar	Female	<i>A.B. Kunghadkar</i>
5.	Akhil Prabhakar Gondole	Male	<i>A.P. Gondole</i>
6.	Akhil Tukaram Tijare	Male	<i>A.T. Tijare</i>
7.	Ankesh Rupanshaha Pendam	Male	— AA —
8.	Anusaya Chamutrao Gawale	Female	— AA —
9.	Ashwini Ramlal Kumare	Female	— AA —
10.	Avinash Dilip Mandape	Male	— AA —
11.	Bhagyashri Manik Pradhan	Female	<i>Bhagyashri Pradhan</i>
12.	Chaitali Sanjay Rakhade	Female	— AA —
13.	Chandar Sakharan Koreha	Male	— AA —
14.	Devanand Jivan Bhoyar	Male	<i>D.J. Bhoyar</i>
15.	Devnath Prabhakar Kodap	Male	— AA —
16.	Dipali Ghanshyam Nagre	Female	— AA —
17.	Dipali Vitthal Atram	Female	— AA —
18.	Dnyandip Pralhad Mohurle	Male	<i>D.P. Mohurle</i>
19.	Ganesh Anandaro Gondole	Male	— AA —
20.	Ganesh Dhanpal Darve	Male	<i>G.D. Darve</i>
21.	Ganesh Shrawan Shende	Male	<i>G.S. Shende</i>
22.	Gopal Pundalik Ghodam	Male	<i>G.P. Ghodam</i>
23.	Guddu Damodhar Kamble	Male	— AA —
24.	Gurudeo Ananrao Bhoyar	Male	<i>G.A. Bhoyar</i>
25.	Harshal Prabhu Koram	Male	<i>H.P. Koram</i>
26.	Hitesh Divakar Barsagade	Male	<i>H.D. Barsagade</i>

PART- B:

SOCIO-ECONOMIC SURVEY

**DEPARTMENT OF
SOCIOLOGY & HISTORY**



Department of sociology and History

Socio-economic Survey Report entitled

“Social and Historical Studies of Women status in Palasgaon Village”

Study Report submitted by **B. A. II** (Department of Sociology and History)
students' group **2020-21**

Under the supervision of **Dr. Gajendra Kadhao**

Introduction

Indian society is mainly divided into two parts, an urban society and a rural society. Artificiality is seen in urban society while natural life is seen in rural society. In the past, joint family system existed in Indian society. But today in the rural society, the joint family system has disintegrated and been replaced by a separate family. A variety of changes are taking place in rural society today. The same transformation has been studied through the present research.

Woman and man are two human beings created by nature. It is a sign of nature that both of them should live with each other, both of them should complement each other and the flow of social consciousness should be maintained. But nature has given an important responsibility to woman, which is the responsibility of motherhood. And the responsibility of fatherhood is given to men by nature. Therefore, just as a woman is physically and mentally involved in the birth of her offspring for a long time, men are not. Even if a man is responsible for the birth of a child, he can be relieved of the responsibility of his father, but a woman cannot be relieved of the responsibility of her mother.

In every human society, women and mothers have been sung since ancient times. Even in Indian society, the verse 'Janani Janmabhumi ch Swargadapi Gariyasi' appears in the verses of Gaurav Valmiki Ramayana. This verse means that Janani and Janmabhoomi are superior to the heavens, just as her greatness is sung with the words 'Matrudev Bhav'. The position of motherhood due to which a woman is glorified in the society is the reason why women are bound by many chains in the society. Being confined in a society has created many problems in a woman's life.

Woman is first a man and then she is a woman, but society does not think that woman is first man. In every society, a man is called a man and a woman is called a woman. In India, women are hailed as the deity of men, power, deity of knowledge, but this is just a social phenomenon because in this culture, women are considered as deities and on the other hand, they are given a secondary and inferior position as compared to men. This paradox is reflected in Indian culture this

is an example of how many women like Sita and Savitri are considered as role models in Indian culture. The status of women in Indian culture is very low.

Dr. Leela Patil has portrayed the role of Indian women in Indian society as a woman is only a commodity from the point of view of the husband, kumkum on the forehead is the wife's fortune and chool and child is the mantra of life. In Indian culture, women have to face masculine egoism, patriarchal tendencies, husband's dictatorship or domination of the wife as she has no one but her husband.

Even in the 19th century, society's attitude towards Indian women has not changed. Today, women are being educated on par with men, so they are making progress in many fields like science, technology, law, politics, medicine, bureaucracy. Although women are advancing in various fields, they do not seem to have a place of honor and respect in the society, especially in the family. Today, injustice, oppression, rape, and molestation are rampant. Today, women are not safe even in the family.

History of Gadchiroli District

On August 26, 1982, Chandrapur district was divided and a new district, Gadchiroli, emerged. In Gadchiroli district, there are ancient forts at Tipagad and Vairagad, the capital of Puramshah king. There is a Hemadpanthi Markandeshwar Devasthan on the north bank of the Wainganga river at Markanda in Chamorshi taluka. The district is known as Gadchiroli due to its dense forests and abundant forts and hills. This is a tribal district and various tribal tribes live in this district. These tribes mainly include Gond, Kolam, Madiya, Pardhan etc. They use Gondi and Madiya dialects to exchange messages. Besides, Marathi, Hindi, Telugu, Bengali, Chhattisgarh etc. are spoken in Gadchiroli district.

Geographical Location:

The district extends between 18°41' North to 20°50' North latitude and 79°46' to 80°55' East longitude. The total area of the district is 14412 sq. The district covers 4.69% of the state of Maharashtra.

The main occupation of the district is agriculture and 82 per cent of the people are engaged in agriculture and are idle during the rest of the season. Although a large number of raw materials for industries are available in the district, there are no industries that process them. There are iron ore mines and no iron ore factories have been set up. Irrigation projects like Tultuli have been stalled due to the Forest Act, despite spending crores of rupees on the same forest that the tribal people cultivated and conserved. The same forests that were cultivated by the tribals are now creating obstacles in the way of their development.

Research methodology

The present research project is related to the women of Palasgaon village in Armori taluka of Gadchiroli district. For this research project, 20 samples from Gadchiroli district were selected in the study and their systematic interviews were conducted through the interview schedule and systematic study was done on the subject.

Research Objectives

1. Examining the status of men and women of different periods on the basis of gender.
2. To study gender inequality.
3. To study the social transformation of women.
4. To know about the oppression of women.

Hypothesis

1. Social factors are more responsible for a woman's weakness than natural causes.
2. In modern times, women have been educated and started earning money, but the oppression of women has not diminished.
3. There is a huge gender inequality in the society.

Sample selection

In order to complete the present research project, 20 women from Palasgaon village in Armori taluka of Gadchiroli district have been selected on purpose.

Social and historical studies of women

The present research project is related to the women of Palasgaon village in Armori taluka of Gadchiroli district. For this research project, 20 women from Palasgaon village in Gadchiroli district have been selected as sample in the study. The following table shows that the information was collected by interviewing them through their actual interview schedule.

Table showing social and historical information

Question no. to	women's response	response		Total
		Yes	No	
1.	Marital status	15 (75.00%)	5 (25.00%)	20 (100%)
2.	Education	14 (70.00%)	6 (30.00%)	20 (100%)
3.	Women as a member of the family Are women's opinions asked in the family decision making process?	11 (55.00%)	9 (45.00%)	20 (100%)
4.	Are you allowed to attend religious or cultural events in the community?	17 (85.00%)	3 (15.00%)	20 (100%)
5.	Is the choice of girls asked in your family when getting married?	14 (70.00%)	6 (30.00%)	20 (100%)
6.	Do unmarried or widowed women have a place in the family?	9 (45.00)	11 (55.00%)	20 (100%)
7	Your opinion on interracial and interfaith marriage	8 (40.00%)	12 (60.00)	20 (100%)
8	Opinions about the boy being the beacon of the tribe and the girl being the foreign treasure	17 (85.00%)	3 (15.00%)	20 (100%)
9	Opinion that girls should be educated just like boys	18 (90.00)	2 (10.00%)	20 (100%)
10	Would you send your daughter to study and work in a big city?	8 (40.00)	12 (60.00%)	20 (100%)
11	What do you think about love marriage?	5 (25.00%)	15 (75.00%)	20 (100%)

Conclusion

1. 75% of the women selected in the field of study are married and 25% of them are unmarried. Of these, 70 per cent women are educated and 30 per cent women are uneducated.
2. Women as a member of the family seem to be asked for their opinion in the family decision making process.
3. Women seem to be allowed to attend religious, cultural events in the community.
4. Girls' preferences appear to be being questioned when marrying into a family.
5. Unmarried or widowed women do not seem to have a place in the family.
6. Sixty per cent of women in the study area disagree on inter-caste and inter-religious marriages.
7. Even today women seem to agree that a son is a beacon of the family and a daughter is a foreign treasure.
8. Women seem to agree that girls should be educated just like boys.
9. Women do not agree to send a girl to study and work in a big city.

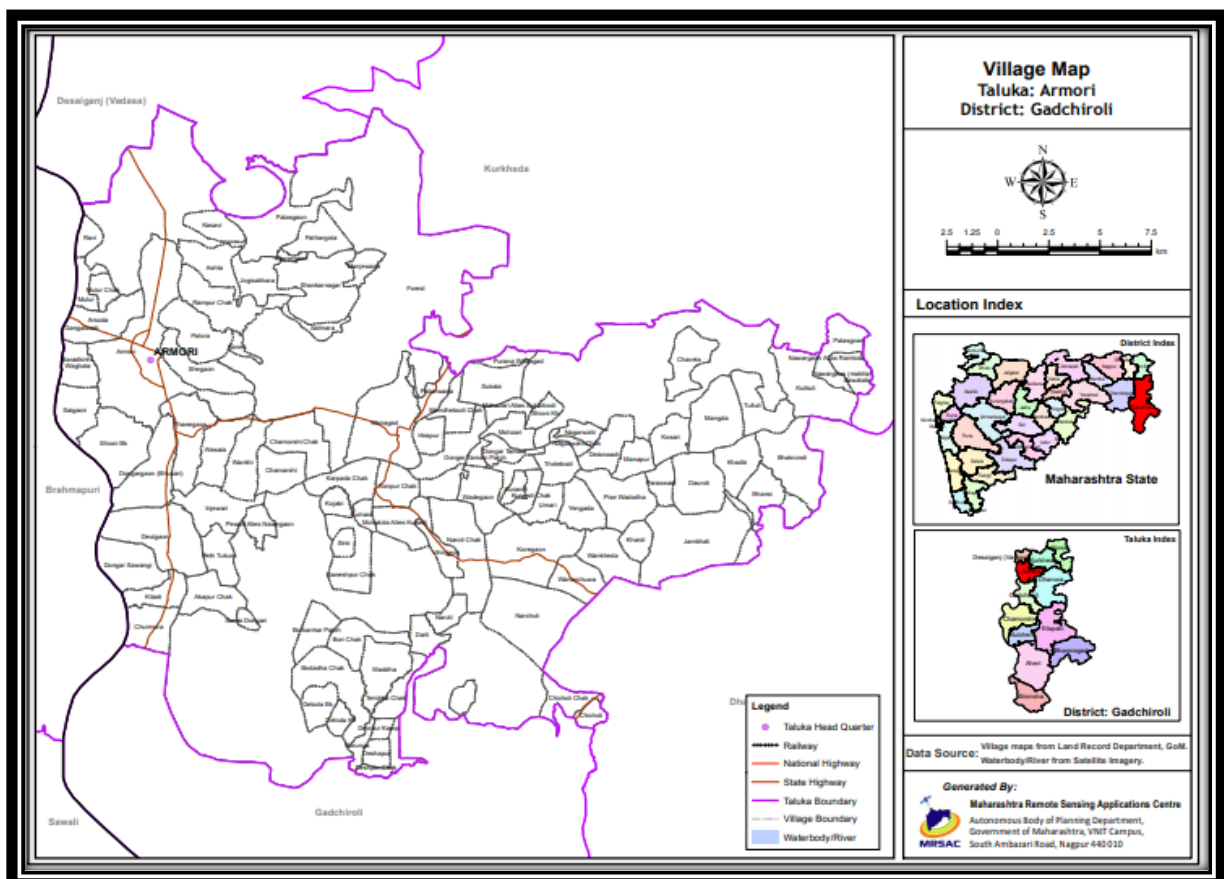
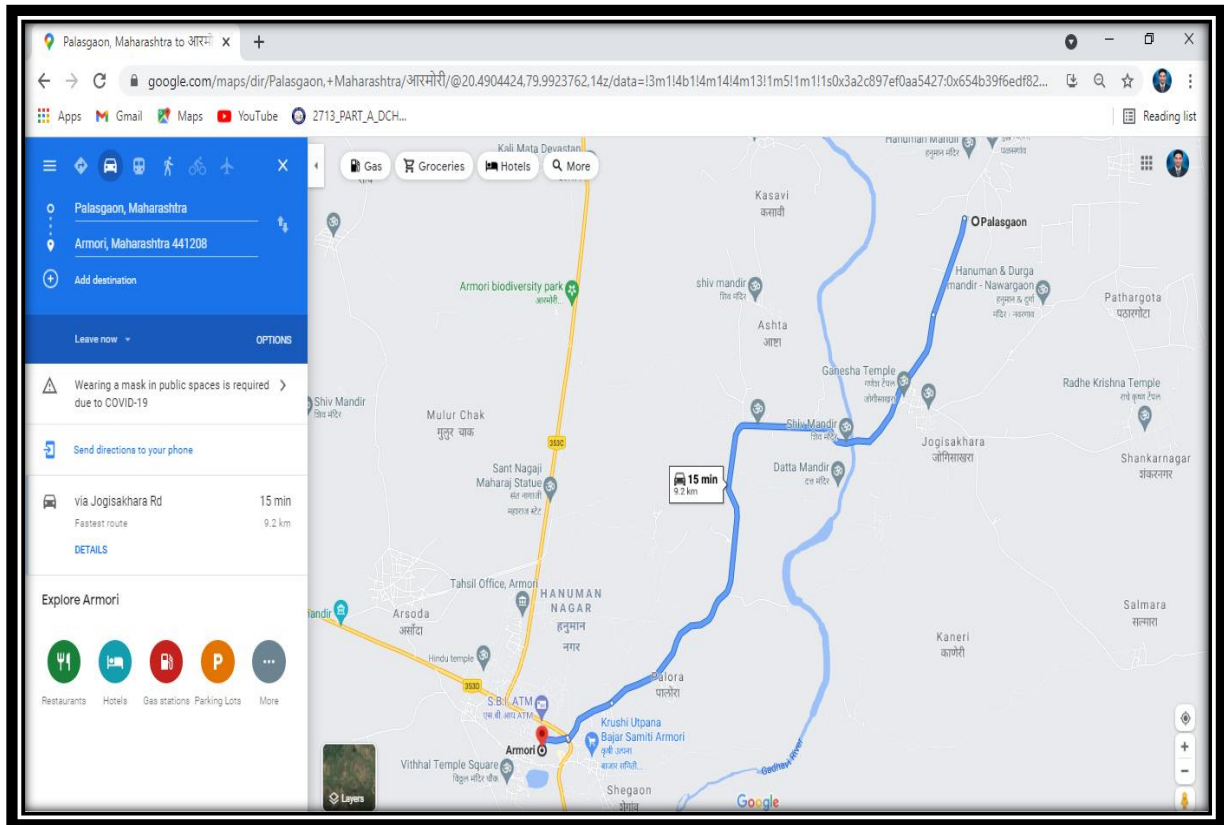
Suggestion

1. We should try to inculcate the seeds of gender equality in the society.
2. The son is the beacon of the family and the daughter is the foreign wealth, salvation is obtained by giving fire to the child after death, the mentality of the society to drink water from the hand of the dying child should be changed.
3. Boy and girl should not be discriminated against while raising a girl.
4. Every society should take a stand that I will not oppress women and will not allow anyone else to do the same.
5. Campaigns like 'Balika Bachao Abhiyan', 'Lake Ladki Abhiyan' should be implemented and the society should actively participate in it and the family in which the girl was born should be welcomed in the society.
6. The feeling of male dominance is so different in the minds of women that she has accepted the status that women themselves are secondary to men. If she wants to make a decision, she has to ask men. Only when women change their mindset will injustice and oppression be reduced.

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Palasgaon Map



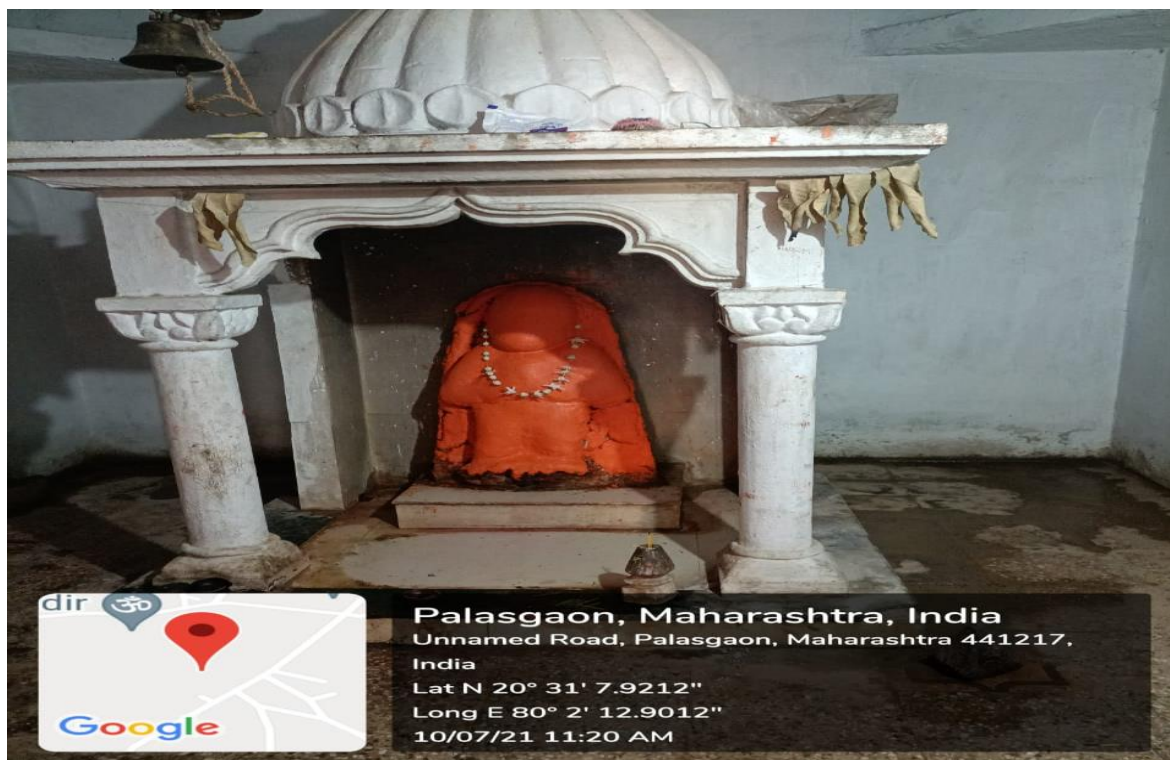
‘Social and Historical Studies of Women in Palasgaon Village’

Interview schedule

1. Name of the respondent
2. Marital status 1. Yes 2. No.
3. Education 1. Yes 2. No.
4. Are women as members of the family asked for their opinion in the family decision making process? 1. Yes 2. No.
5. Are you allowed to attend religious or cultural events in the community? 1. Yes 2. No.
6. Is the choice of girls asked in your family when getting married? 1. Yes 2. No.
7. Do unmarried or widowed women have a place in the family? 1. Yes 2. No.
8. How do you feel about interracial and interfaith marriage? 1. Yes 2. No.
9. Do you agree that a boy is a beacon of the family and a girl is a foreign treasure? 1. Yes 2. No.
10. Do you think girls should be educated just like boys? 1. Yes 2. No.
11. Would you send your daughter to study and work in a big city? 1. Yes 2. No.
12. What is your opinion about love marriage? 1. Yes 2. No.







नवराष्ट्र

सामाजिक, ऐतिहासिक माहितीचे संकलन

महात्मा गांधी महाविद्यालयाचा उपक्रम



आरमोरी (वा.) स्थानिक महात्मा गांधी महाविद्यालयातील समाजशास्त्र, इतिहास विभागाद्वारे प्राचार्य डॉ. लालसिंग खालसा यांच्या मार्गदर्शनाखाली लोकांचे जैवविविधता नोंदवही अंतर्गत समाजशास्त्र आणि इतिहास विभागातील पीबीआर विद्यार्थी गटाच्या वतीने तालुक्यातील दत्तक ग्राम पळसगाव येथे सामाजिक आणि ऐतिहासिक सर्वेक्षण करण्यात आले.

विद्यार्थ्यांमध्ये संशोधनाची आणि सर्वेक्षणाची वृत्ती निर्माण व्हावी या हेतूने महाविद्यालयामध्ये सदर उपक्रम राबविण्यात आला. या अभ्यासांतर्गत समाजशास्त्र विभागाच्या वतीने पळसगाव ग्रामवासीयांची सामाजिक, आर्थिक स्थिती, सामाजिक परिवर्तनाची गती, लॉकडाऊनमुळे कुटुंबावर

आणि शिक्षणावर पडलेला प्रभाव, शिक्षणाबद्दल पालकांचे आणि विद्यार्थ्यांचे मत, अशा विविध माहितीचे संकलन केले. इतिहास विभागाच्या वतीने पळसगावातील ऐतिहासिक सांस्कृतिक वारसा, धार्मिक स्थळ, ऐतिहासिक प्रथा-परंपरा अशा विविध माहितीचे संकलन करण्यात आले. तसेच पळसगावातील पुरातन असलेले मंदिर, महादेवगड येथे प्रत्यक्ष भेट देऊन तेथील वृद्ध लोकांकडून मंदिराविषयी माहिती जाणून घेतली. सर्वेक्षणावेळी समाजशास्त्र विभाग प्रमुख प्रा. डॉ. गजेंद्र कडव, इतिहास विभागातून प्रा. गजानन बोरकर, पीबीआरचे विद्यार्थी सारंग नखाते, युगांतर भोयर, ज्ञानदेव मोहुर्ले, देवानंद भोयर, योगाजी कांबळे, योगेंद्र वैद्य, अविनाश मंडपे उपस्थित होते.

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18 July 2021 Page No. 2
epaper.navarashtra.com

सामाजिक आणि ऐतिहासिक माहितीचे संकलन

आरमोरी : स्थानिक महात्मा गांधी कला, विज्ञान व स्व. न.पं. वाणिज्य महाविद्यालयातील समाजशास्त्र आणि इतिहास विभागाद्वारे लोकांची जैवविविधता नोंदवही अंतर्गत समाजशास्त्र आणि इतिहास विभागातील पी.बी.आर. विद्यार्थी गटाच्या वतीने आरमोरी तालुक्यातील दत्तक ग्राम पळसगाव येथे सामाजिक आणि ऐतिहासिक सर्वेक्षण करण्यात आले. पळसगाववासीयांची सामाजिक, आर्थिक स्थिती, सामाजिक परिवर्तनाची गती, लॉकडाऊनमुळे कुटुंब आणि शिक्षणावर पडलेला प्रभाव, शिक्षणाबद्दल पालक आणि विद्यार्थ्यांचे मत अशा विविध माहितीचे संकलन केले तर इतिहास विभागाच्या वतीने पळसगाव येथे प्रत्यक्ष भेट देऊन तेथील वृद्ध लोकांकडून मंदिराविषयी माहिती जाणून घेतली. याप्रसंगी प्रा. डॉ. गजेंद्र कडव, प्रा. गजानन बोरकर तसेच विद्यार्थी सारंग नखाते, युगांतर भोयर, ज्ञानदेव मोहुर्ले, देवानंद भोयर, योगाजी कांबळे, योगेंद्र वैद्य, अविनाश मंडपे उपस्थित होते.



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**DEPARTMENT OF
POLITICAL SCIENCE**



Department of Political Science
Socio-economic Survey Report entitled
***“Study of implementation of MGNREGA scheme under Palasgaon Gram
Panchayat village”***

Study Report submitted by **B. A. II** (Department of Political Science) students
group **2020-21**

Under the supervision of **Prof. Gajanan Borkar**

Introduction:

The majority of people living in India are living in rural areas, where they face many problems as they do not get full employment. As a result, most people from rural areas are migrating to cities for employment. To solve such problems, the central government launched the MGNREGA scheme for people in rural areas. The economic development of the people in the rural areas is essential for the development of the rural areas. For that, they should have employment. Only then can their lives be radically changed. With this in mind, the Government of India took an ambitious decision to provide employment to everyone. Implemented the National Rural Employment Guarantee Act 2005 on February 2, 2006. Initially, the scheme was launched in only 200 districts. However, on April 1, 2008, the Government of India issued a notification and implemented the scheme in all the districts of the country. From October 2, 2009, the scheme was renamed as Mahatma Gandhi Employment Guarantee Scheme (MNREGA). Gadchiroli is known as a tribal district at the very end of Maharashtra. Palasgaon, Pathargota, Navargaon villages are included in Palasgaon group gram panchayat in Armori taluka of the district. MGNREGA scheme is implemented in this village. A medical study of MGNREGA work under Palasgaon Gram Panchayat in the financial year 2019-20 was conducted with the ambition of knowing the work done under this scheme, the employment available to the citizens and the actual development of the village.

Population of Palasgaon Gram Panchayat: (Census-2011)

Sr. No.	Name Of the Village	Female	Male	Total
1	Palasgaon	666	734	1400
2	Pathargota	680	735	1415
3	Navargaon	7	13	20
Total population		1353	1482	2835

Features of Mahatma Gandhi National Rural Employment Guarantee Act:

- Individuals from rural families are guaranteed 100 days employment from a fund in a financial year.
- Interested adults in a hardworking family have to apply to the Gram Panchayat or Panchayat Samiti for written or oral registration.
- All members of his family can be registered through the Adult Family application.
- It is mandatory for all interested families to provide a laminated identity card with a job card photo.
- If employment is provided at a distance of 5 km from home, additional travel and 10% increase in wages for livelihood is provided.
- Men and women are given equal employment rates.
- One-third of those who have applied for employment are required to be women.
- The use of contractors and machinery for the work under this scheme is prohibited to benefit more and more workers.
- At the Gram Panchayat level, 50% of the cost of development work needs to be done under this scheme.

Beneficiary Selection Criteria for National Rural Employment Guarantee Scheme: -

Beneficiaries of Scheduled Castes, Scheduled Tribes, Below Poverty Line, Women with Disabilities, Physically Handicapped, Beneficiaries of Bhusudhar Yojana, Beneficiaries of Housing Scheme, Forest Residents of Scheduled Tribes, Tribal Persons are eligible for this scheme.

Activities under National Rural Employment Guarantee Scheme (MNREGA):

The MGNREGA scheme provides employment to the public as well as to individuals who are engaged in individual works such as personal irrigation wells, toilets, farms, cattle sheds, poultry sheds, water conservation works, etc. Public works, planting of trees in villages, wells, seepage ponds, removal of silt from village ponds, paving, farms, roads in forest areas and villages, construction of footpaths, planting of orchards, (horticulture) silk production, planting and afforestation, composting to do, to do animal husbandry works, to manage water and solid waste, to build infrastructure to promote fisheries, to build toilets.

MGNREGA Employment Guarantee Scheme Job Card:

According to the MGNREGA Act, a family identity card is required to avail the benefits of the scheme which Contains registration number with photo of beneficiaries of the scheme. The work done under the scheme attendance on paid days and wage rate have to be recorded on muster. To avail the benefits of this scheme, those who do not have a job card should immediately remove it through the Gram Panchayat. Mahatma Gandhi National Rural Employment Guarantee - MGNREGA Scheme Maharashtra Wages: The Central Government fixes the rate of wages every year as per Section 6 of the MGNREGA Act. Wages are paid at the rate fixed by the Central Government.

The price is the same as the work; the same rate is fixed for men and women. In the financial year 2019-2020 - Rs. 206 / -wages are per person was fixed.

Holders of MGNREGA Job Card under Palasgaon Gram Panchayat: 2019-20

Sr.No.	Registration		Number
1	Family Registration		679
2	Labour Registration	Female	1227
		Male	1322
Total			2549

Work done by MGNREGA under Palasgaon Gram Panchayat for the session 2019-20:

Estimated Amount	Expenditure On Wages	Expenditure On Goods	Total Amount
81,21,000	16,95,000	31,000	17,26,000

Conclusion: -

The main objective of the MGNREGA scheme is to provide financial strength to the people of the village along with development works as well as to provide employment at the Gram Panchayat level so as to stop migration to other cities for employment. Strengthening livelihoods and increasing the income of poor families was another motto of this scheme came true. The MGNREGA scheme has provided a golden opportunity to create prosperous villages through job creation in villages and further strengthen Panchayati Raj institutions in India. A study of the implementation of this scheme in Palasgaon shows that the work of MGNREGA is carried out eagerly through public participation under the Gram Panchayat. This provides employment to the people of the village along with the development of the village



Student's interaction with villager regarding MNREGA Scheme



Student along with concern teacher taking interview of villagers



MAHATMA GANDHI ARTS, SCIENCE & LATE N. P. COMMERCE COLLEGE, ARMORI
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PROF. G. W. BORKAR

**DEPARTMENT OF
MUSIC**



Department of Music
Socio-economic Survey Report entitled

“Survey of folk music (folk songs) at Palasgaon village”

Study Report submitted by **B. A. II** (Department of Music) students group **2020-21**

Under the supervision of **Prof. Meena Upadhye**

Introduction

For songs, instruments, and dances, folk music is the original source of classical music. Folk music is the foundation of classical music. Folk music is made comprised of two words: "folk" and "music." Folk music is a blend of singing, playing, and dancing that is performed in a public setting.

Music is an integral part of human life from birth to death. Music is an integral part of human life. Music accompanies human beings in both happiness and sorrow.

Pujat Koti Gunam, Ganam
Ganaat Koti Gunam, Layam
Layat koti gunam dhyana te
There is no return to meditation

In spiritual science, singing is considered superior to worship. Because music has the highest power to meditate on the combination of tone and rhythm. That is why music is considered to be the most important of the 64 arts.

Music is the instrument of worldly, otherworldly material happiness. In that sense, music is a precious gift from God to mankind. The supernatural power of music achieves the task of maintaining social balance and integration. Music comes from nature, animals, birds, sun, moon, rivers and streams. Music is used for the development of human personality and that is why music has maintained its place in the meeting of psychology. Similarly, music has made an invaluable contribution to the field of education. That is how Indian culture is preserved.

Great scholars like Mahatma Gandhi, Pandit Nehru, Rabindranath Tagore, the famous literary P.L. Deshpande, the Greek political thinker Plato have called music the art of living. That is why we are making a successful journey on this artistic path of life with the help of music. The movement of music varies from region to region, especially in rural areas where folk music is more prevalent.

It will be folk songs composed by people for people and composed by people in spontaneous folk language and sung easily and simply the roots of folk music are rooted in Vedanta and have found a place in religious tradition. The supply of water of love came from social bonds, nurtured

from family intimacy, language, costumes, folk music spread from country to region, huge branches of Rupee tree so much that even its beginning cannot be applied.

Folklore is an independent and comprehensive subject.

Features of folklore

- * Folk music sheds light on human civilization and culture. Folk music is anonymous.
- * Folk music was created in ancient times in an illiterate society and its existence in the society has been unaffected for many centuries. Folk music reflects the joys and sorrows of human life.
- * Folk music is regular.
- * Folk music has only four or five tones so it can be easily assimilated.
- * The words of the song are in all dialects.
- * Anyone can learn by imitating folk music.
- * Rhythm and rhythm are determined by the meaning of the words in folk music.
- * In folk music, many songs are sung in a single tune.
- * Many instruments are used in folk music but vary by region.
- * Folk music has less elegance and more beauty.
- * The origin of all juices is found in folk music.
- * Cultivating social dances creates a sense of belonging.
- * Since folk music is sung by a group, the instrument is used for the accompaniment. The instruments are as follows.

The instruments in folk music are usually the ones that attract the group through a knife and a fork.

1. Cube instruments.: Taal, Zanj, Chiplyya, Ghanti
2. Unrestricted instruments.: Tabla, Dhol, Nagara, Choughada, Mridang, Dholaki, Damru, Halgi, Duff, Khanjiri
3. Musical instruments.: Conch, flute, clarinet, sundari, algon pava, sundari, shing, tutari.
4. Fiber instruments.: Ektari, Tuntune, Veena.

Background of folk music

People who are in tune with nature are born with the gift of inspirational, emotional word melodies provided by nature. There is no exaggeration of words or melody in this music. There is only a naive mind, a reaction to an event that happens in daily life or the commentary contains the pleasant or sad state of mind shown, the descriptions of the different seasons in nature, the grateful praise of the endless love of the sea, the commentary on various human relationships, the ridicule of life's

contradictions, sacrifice, worship, sorcery, superstition, mantras, good crops. An epic or love story, a sakade worn to a village deity, etc.

Mahatma Gandhiji says, 'Earth, mountains, rivers, crops are found in folk songs. Similarly, seasons, festivals, traditions are also found in singing.

*** Nobel Prize-winning poet Rabindranath Tagore writes, 'Folk song is the arbitrary composition of the semi-conscious mind of the people.'**

Folklore reflects the culture of that province. How people speak, how they behave, how they behave, what their mentality is, what their general occupation is, what their financial status should be, can be guessed from the folklore. Folklore is not created out of any selfishness. They are created out of a huge urge to express. These songs are not individualistic but represent the whole society. Folk songs are the servants of a culture that has been going on for ages. We don't find folklore in written form, and no one seems to have tried to collect it because its literary values are not so high. Folk songs are passed down orally from one generation to another. Naturally it is said that these songs are not specially taught. One may say that listening to the other makes lessons. Folk songs never get old. This folk song is full of unnaturalness. When happiness flows through the whole body, it is impossible to limit this happiness to the 'I'. When that joy, that serenity is manifested through folklore. In the reality of the heart, the word bhav stands in front of us in the form of a melody and accommodates us in it. Only folk songs can inspire and awaken spiritual beauty.

Folk songs touch all aspects of life. Interest and emotion are their basic principles. These are not subjective. These songs have no scripture but folk songs are in their pure form and in its original form. So, folklore is ubiquitous. A certain class can give him happiness Not everyone can afford it. Discrimination, inferiority, big and small, rich and poor etc. Forgetting the feelings of inequality, the role of equality is seen in the rural masses enjoying these folk songs.

Folk songs are the basis of popular raga music. Music originated from Omkar.

Later, the recitation of Ruchas took place in three cities, Udatta, Anudatta and Swarita. Matanga has said that the songs of wild tribes are of four tones. Ancient Sam singing was a religious song. Seven tones were used for that song. Also, old melodies, panika, sagas, bhajans, sources, aartyas, folk songs, etc. were created. It usually used four or five tones. These moves increased to seven tones and became classical. Each particular and regular composition with the same vowel as well as the same currency was then named a specific raga. Therefore, it has to be said that folk songs are not a competitive side of classical music but a supporting and coordinating organ.

Folklore can be classified as follows.

1. Utsavageet (social, religious, family)
2. Love song (separation, adornment)
3. Songs of Nature (Seasons)
4. Virpuja, Powade
5. Bhakti Rasatmak folk songs
6. National Folk Songs
7. Relationship songs

In all these cases, the provinces have different characteristics but basically the formula is the same.

In Maharashtra, Povade, Lavani, Angaigeet, Jogwa, Mangalashtake, Gondhal, Jatya's Ovy, Vihin Pathavane, Fugdi, Jhimma, Bhondla, Mothe Varchi Gaani, Koli Geete, Adivasi Geete, etc. are among the folk songs.

Folklore found in the Armori area

Different languages are spoken and folk songs are sung in the Armori area of Gadchiroli and the district. In this area, mainly Jhadiboli is spoken, as well as languages according to caste. Gondi languages, Kohli language, Kunbi language, dialect languages are spoken and folk songs are sung in the same dialect.

Types of folklore in the area

- Gondi song
- Jhadiboli song
- Wedding songs
- Barsa Geet
- Goddess worship songs
- Dandar Songs
- Songs sung while working.
- All these songs are sung in their dialect.

Folk songs sung at Palasgaon

In Palasgaon, songs were usually sung in only two languages, Marathi dialects and Gondi songs in the village.

Gondi song type

Ghadi nese kiyala vayalaga baba
Ghadi nese kiyala vayalga baba
Walung opened the door, Kim
Niva pedicuring vodka
Falasgaon Natala Mod Adya Valana Mara
Aden Khandi Mode Kim and Bai
Falasgaon Asha Nat Sode Kim

The meaning of the words

Or lung = four
Kim = ga, c
Neva = your
Pedaling = girl
Wadka = speak
Falasgaon = Palasgaon
Natala = Chi
Adaya = there
Walana = Vadacha
Die = tree
Adena = his

Marathi translation

Open all four doors
Baba, open the four doors
Talk to your Leki
Palasgaon mode there
Vada tree
Its twig mode g bai
Give up hope of Palasgaon.

Songs in dialects of other societies

1. Mother and ex-mother came and came from the bush
Throws flowers from the car and my
This is my mother
Mother of my love
Nimba Khalya Thana
Take the price of Haldi Kukwa
My mother and mother

The standard meaning of words in the dialect

Ex = mine
Flowers = flowers
Eat neem = under the neem tree
Haldi = turmeric

2. What time does the bell ring?
In the Valya Valya mandava, the bell rings
At the time of Baja Kaha, Bapu was Navra Deva
Moonlight in a beautiful tent
Pi tachi rangoli on the moon stick
Pita's Rangolivara Chavarag Pat
Waist fold on Chavarang Pata
Cook's finger on the waist
Navi Bai Ubi Raye on Kukawa's finger

The standard meaning of words in the dialect

Wet = wet
Waja = instrument
Something = something
Pitachi = pithachi

Nomenclature Songs

Kunti's Pandava Gangavari's Kaivar
Renuki's Parashuram Jo Bala Jo Jo Re Jo
Dattatra of Namdev Anusai of Gunabai
Dharma Devachi Sarvasati Jo Bala Jo Jo

The standard meaning of words in the dialect

Kunti = Kunti

Anusui = Anusaya

Sarvasati = Saraswati

Zadi boli songs

Khelu na ka malun zhopi ala sirihari

Khelu Na Ka Malun Ala and Maja Rairamba

Aala rairamba kelan dhandyacha khoramba

Playing Malun Aala Maja Ragunat

He was shaken

The standard meaning of words in the dialect

By playing = by playing

Sirihari = Sreehari

Kellan = banana

Business = work

Khoramba = captivity

This is how the people of Pal Sagav sing songs in their dialect.

Musical tastes of the villagers of Palasgaon

Along with the study of folk songs at Palasgaon, the musical tastes of the place were also studied. People in Wadgaon love Natak Bhajan Gavalan Haripath song type. It was found that the plays and drama songs in the bush were in the bush.

Conclusion

While studying folk songs at Palasgaon, various songs of the area and their musical tastes were studied. It was studied that the format of the project was in the form of a face-to-face interview. It was found that people belong to Gond, Kunbi, Dhiwar, Maa Akhati etc. lived in Palasgaon have their folk songs accordingly. The Gondi language was different, so the folk songs in that language felt different but since the dialect of the rest of the society is Marathi, it was found that the folk songs of other communities are almost in Zadi (local) language.

Outcomes

2. In Palasgaon, dialects are different according to caste and songs are sung using words accordingly.
3. The main language of the villagers of Palasgaon is Marathi but it is seen that most of the villagers speak in Zadiboli.
4. The villagers of Palasgaon were found to be more interested in music but especially in Natya Geeta.
5. Songs are sung according to various ceremonies like Haripath and bhajan in pola is especially famous here

List of students

SOCIALLY GANDHIAN SCIENCE & LITERATURE COMMERCE COLLEGE, PALASGAON SOCIO-ECONOMIC SURVEY (PBR) 2020-21 DEPARTMENT OF HOME ECONOMICS & MUSIC		
1	ADAM DINESH DITAI	9405146490
2	ADANAGADE DILESH DIBAKAR	9405146490
3	ADANAGADE DIVYAKANIP	9405146490
4	ADARSH NIKHIL PRAMOD	9405146490
5	ADARSH NIKHIL PRAMOD	9405146490
6	ADARSH NIKHIL PRAMOD	9405146490
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29	ADARSH NIKHIL PRAMOD	9405146490
30	ADARSH NIKHIL PRAMOD	9405146490

Student studying folk songs at Palsagaon



Photographs published in the newspaper



**DEPARTMENT OF
HOME-ECONOMICS**



Department of Home-economics

Socio-economic Survey Report entitled

“Survey of Wild Edible Plants Consumed by the People of Palasgaon village”

Study Report submitted by **B. A. II** (Department of Home-economics) students group **2020-21**

Under the supervision of **Prof. Pranali Garode**

Introduction

To boost the diet's quality, a variety of vegetables should be included in our daily usage as per season. Vegetables are an essential part of a balanced diet. Minerals, calcium, iron, sodium, and all vitamins are abundant in vegetables. That is why veggies are referred to be "preservative foods." According to the survey, these veggies grow in the forest, steep areas, and on the farm in the village during the start of the rainy season. Preparation methods, many legumes were studied, as well as their nutrients and nutritional treatment approaches. The older citizens of Palasgaon village, particularly the senior women, responded enthusiastically.

Characteristic of Wild Vegetables

1. Wild vegetables that grow naturally without being cultivated or cared for.
2. Because of the nutrients in Wild vegetables, numerous vegetables are included in the diet that is beneficial to one's health; such vegetables are recognized as Wild vegetables.

Various Wild Edible Plants in the area of Palasgaon Village

1. कुड्याची फुले, शेंगा
2. कुरड
3. शेरडेर
4. अरतफरी
5. कडू भाजी
6. धान भाजी
7. तरुभाजी
8. कडुभाजी
9. तिफनची भाजी
10. चिउरची भाजी
11. पातुर
12. खापरखुटी
13. पिंपळाचा बार
14. दुंबरसात्या (मशरूम)
15. काटवल, (करटोली)
16. आघाड
17. केना
18. बहावा
19. बांबूची वास्ते
20. अळूची पाने, देठे . (धोपा)
21. हादग्याची फुले
22. काटेसावर
23. अंबाडी
24. शेवग्याची फुले -पाने -शेंगा(मुंगणा)
25. गोडनिंब
26. गुडवेल
27. सुरण कंद
28. घोळ भाजी
29. मोह फुले
30. केळ फुले.. इत्यादी.



Palasgaon is a beautiful mountainous area with a lot of greenery and a lot of Wild Edible Plants.

Features of Wild Edible Plants.

1. There are numerous medicinal properties.
2. These Vegetables are affordable since they grow organically and do not require farming or maintenance.
3. Wild Edible Plants contain minerals, elements, and all of the chemical elements necessary for the body, which are useful in terms of digestion.
4. Grows primarily in the forest or on the field's embankment and hence does not require cultivation.
5. Because Wild Edible Plants do not employ fertilizers or pesticides, the natural and nutritional ingredients remain intact.
6. Boiling certain vegetables does not change their qualities; yet, some vegetables are boiled while others do not.
7. Vegetables with as few spices and oils as possible are good for health.
8. Since some vegetables are cold and others are hot, they both are healthy.

Wild Vegetable: - Society and Culture

In terms of society and culture, wild vegetables are extremely important. Older people are becoming aware of this, and as a result of their knowledge of medicinal properties, they include Wild Edible Plants in their diet. These vegetables have indeed been identified and are being eaten. Some vegetables are boiled before eating. Even still, having one is still out of reach for most people. All vegetables are included in diet, but some vegetables are only cooked during certain festivals.

The importance of Wild Vegetable in the diet.

1. It is important to provide a variety of wild vegetables in one's diet in order to increase food quality and preserve excellent health.
2. Wild Vegetable help to protect the body, aid to protect the body, and improve immunity because they are high in body protective vitamins and minerals.
3. Iron-rich wild vegetables aid in the maintenance of a healthy hemoglobin level.
4. Blood cleansing effects are also found in some wild vegetables.
5. Wild vegetables can make you eat more.

Some wild plants have significant digestive properties and hence aid digestion.

6. Different processing methods can be used to add variation to vegetables.

e. g.

1. Vegetable Moringa beans
2. Vegetable Moringa Flower

3. Vegetable Moringa leaves etc

Thus, a variety of items from the same plant can be used to make meals.

The licorice Wild Vegetable can prevent you from getting constipation.

In Wild Vegetables with a lot of leaves, the linear component is large, and the cellulose content is enough. Vitamin C and iron are found in wild vegetables. Calcium is found in dark green leafy vegetables. The following factors should be considered in order to keep veggies nutrient-dense.

(१) भाज्या नेहमी ताज्या वापराव्या. ताज्या भाज्यात पोष्टिक घटक अधिक असतात.	(१) शिळ्या भाज्या हवेच्या संपर्कात येवून पोषकतत्वांचा नाश होतो.
(२) भाज्या धुवून नंतर चिराव्यात.	(२) चिरल्यानंतर धुतल्यास पोषकघटक पाण्यात विरघळतात आणि नासाडी होते.
(३) भाज्या फोडणीपूर्वी चिराव्यात.	(३) फोडणीला घालण्यापूर्वी बराच कालावधी गेल्यास हवेच्या संपर्कात प्राणीद्विभवनाची क्रिया होते. त्यामुळे पोषकघटकांचा नाश होतो.
(४) भाज्या (बहुतांश) सालासगट शिजवाव्यात. उदा. बटाटे	(४) साल काढून भाज्या शिजविल्यास सालातील पोषक घटक वाया जातात.
(५) भाज्या शिजवितांना पाणी बेताचे घालावे.	(५) भाज्या शिजविताना जास्तीचे पाणी वापरल्यास शिल्लक पाण्यात सोडियम पोटॅशियम आणि जीवनसत्त्वे वाया जातात.
(६) भाज्या मऊ होईपर्यंत शिजवाव्यात.	(६) मोकळ्या भाज्यातील तेल सुटे पर्यंत शिजवू नये. यामुळे चव वाढत असली तरी पोषकतत्वांची नासाडी होते.
(७) सोड्याचा वापर पोषण मूल्यांची हानी करणारा आहे.	(७) सोड्याचा वापर टाळावा.
(८) भाजी शिजत आली अशा स्थितीत आम्ल घालावे.	(८) भाजीत शिजताना सुरुवातीपासूनच आम्ल घालू नये. कारण ब गटातील जीवनसत्त्वांचा नाश होतो.

Nutrients in vegetables: -

1. Carbohydrates - Carbohydrate content in vegetables varies depending on the type of vegetable. Leafy vegetables, for example, include a part of carbohydrates in the form of cellulose. Carbohydrates abound in the Suran tuber.

2. Protein - There is a lack of protein in the diet. Peanut seeds can be found in abundance.

3. Vitamins - Vitamin A and C are plentiful.

4. Minerals - Minerals are plentiful. Sodium and calcium are abundant in iron.

Wild Vegetable Pigments

भाज्यातील रंगद्रव्ये	
हरितद्रव्ये	केरोटेनाइड्स
	फ्लेवोनॉइड
	अँथोसायनिन
	अँथोक्झॅन्थिन
<p>(१) हरितद्रव्ये (Chlorophyll) : हरित म्हणजे हिरवेपणा आणणारे द्रव्ये. यामुळे भाज्यांना हिरवा रंग प्राप्त होतो. पालेभाज्यांमध्ये हरित द्रव्याचे प्रमाण अधिक असते.</p> <p>वैशिष्ट्ये : (१) उष्णतेचा हरितद्रव्यावर परिणाम होतो. जास्त वेळ शिजविल्यास हिरवा रंग फिकका होतो आणि निस्तेज दिसतात.</p> <p>उपाय : (१) शिजविताना ३-४ मिनीट सुरुवातीला उघड्यावर शिजविल्यास भाजीत असलेल्या आम्लांचे बाष्पीभवन होते. त्यानंतर झाकण ठेवून मंद आचेवर शिजवाव्यात. असे केल्यास भाज्यांचा हिरवा रंग कायम राहतो आणि भाजी आकर्षक दिसते.</p> <p>(२) भाज्या शिजविताना आम्ल घातले असता भाज्यात रासायनिक बदल घडून येतो आणि रंग तपकिरी होतो.</p> <p>(२) केरोटेनाइड्स (Carotenoids) : नारिंगी आणि पिवळसर भाज्या या रंगद्रव्यांमुळे दिसतात.</p> <p>हिरव्या पानांच्या भाज्यात हे हरितद्रव्यासोबत कमी प्रमाणात असते. हिरव्या भाज्या शिळ्या झाल्या म्हणजे त्यात रासायनिक बदल होवून त्या पिवळसर दिसतात ते केरोटेनाइड्स या रंगद्रव्यामुळे.</p> <p>वैशिष्ट्ये : केरोटेनाइड्स या रंगद्रव्यावर -</p> <p>(१) आम्ल आणि अल्कलीचा रिणाम होत नाही.</p> <p>(२) हे रंगद्रव्य अधिक उष्णता दिल्यास पाण्यात विरघळतात आणि रंग काळपट दिसतो.</p> <p>(३) फ्लेवोनॉइड (Flavonoids) : यात दोन रंग द्रव्यांचा समावेश असतो. तो पुढीलप्रमाणे</p>	
अँथोसायनिन रंगद्रव्ये (Anthocyanin)	अँथोक्झॅन्थिन रंगद्रव्ये (Anthoxanthine)
<p>(१) रंगकण लाल रंगाचे असतात. उदा. लालभोपळा</p> <p>(२) पाण्यात विरघळतात.</p> <p>(३) आम्लाच्या संपर्कात लालरंग तेजस्वी होतो.</p>	<p>(१) पांढरे रंगकण असता. उदा. बटाटा, कांदा, मुळा</p> <p>(२) अल्कली माध्यमात पिवळा होतो.</p>

Wild Vegetable selection and collection:

When selecting Wild Vegetable, keep the following points in mind.

1. What to do with it.
2. Who will you serve vegetables to?
3. The need and condition of those who will benefit from the consumption of vegetables.
4. Family members' preferences and choices.

The classical approach to vegetable selection:

1. Vegetables that is fresh

- Fresh fruits and vegetables should always be chosen because they are shiny and rocky since they are high in nutrients.

2. Stale vegetables.

- Wrinkles are caused by the effects of the external environment on the moisture content of stale fruits and vegetables.
- Leafy vegetables- The leaves of leafy vegetables fall off and turn yellow as the chlorophyll in them decreases.

3. Pests.

- When choosing vegetables, make sure that they are not infested with pests.
 - Pests are cheaper than good vegetables but most of them are wasted
4. Mature vegetables should not be too stiff. Seeds of more mature vegetables are characteristically stiff Ripe vegetables are high in kashti and vary in their taste and nutritional value. Utility which vegetable to choose for what Choose vegetables accordingly For example, choose tomatoes for salads and more ripe soups The arrival of vegetables varies according to the season Vegetables that are widely available for a particular season are cheaper At such times specific vegetables should be selected.

Wild Vegetable storage and care:

1. Collection of Wild Vegetables should be chopped, wrapped in cloth and kept in a cool place.
2. If you want to use a fridge, break it, wash it, drain the water, dry it, make small holes in the plastic bag and put it in it. This will keep the freshness of the vegetables longer.

Conclusion:

1. Almost every senior citizen knows a lot about wild vegetables.
2. Everyone benefits from Wild Vegetables since they are abundant.
3. Wild vegetables are crisp and require little maintenance. It also doesn't have to be planted.
4. Given the importance of diet to one's health, the younger generation is adding wild vegetables in their diet.
5. Educating the next generation about the relevance of wild vegetables is beneficial to their health.
6. Due to the importance of diet in one's health, individuals of all ages are including wild vegetables in their diet.
7. There is no need to purchase Wild Vegetable, resulting in cost savings.

1. Shadow pictures of the live interview



Photograph in the newspaper.



DEPARTMENT OF ECONOMICS



Department of Economics
Socio-economic Survey Report entitled

“Farming and Agro-based business: Survey and critical Analysis”

Study Report submitted by **B. A. II** (Department of Economics) students group **2020-21**

Under the supervision of **Prof. Mohanlal Ramteke**

Introduction

Palasgaon is an agriculture-based village, surrounded with forest, its locality is dependent on farming and Agro-based business only. Agriculture provides them sufficient economy to fulfill their basic needs, so it becomes their main source of income. Additional to this they carry some Agro-based business which helps them to improve their livelihood. To fulfil this purpose, we, the student of department of Economics visited the place to survey the same.

❖ **Objectives of the study: -**

- To enhance self-employment and poverty alleviation.
- To collect information about Agriculture and business based on it.
- To suggest some additional action plan on the basis of Analysis of collected information.

Information of survey site: -

Palasgaon is one of the biggest village in Armori Tehsil with the Population about 1400, Which is located at 10 km. from main city of Armori. People in this village carry their livelihoods with Agriculture and Agro-based Business. They have many Agricultural Resources. Village is provided with the facility of P.H.C. Veterinary Hospital and Junior college.

❖ **Methodology: -**

Survey is being carried out according to sample survey method. Information is collected through the direct visit and group discussion with the villagers. Students of Economics department worked hard to carry on the survey in different groups on 07th and 08th April 2021.

❖ **Analytical Discussion: -**

The main objective of Survey carried out by Economics Dept. is to improve research technics in student. The students were trained with informative questionnaire. Some probable difficulties may occur during the Survey. Keeping this in mind, student followed the polite behavior to make it easy. Cooperativeness of both, the student and the villagers, the Survey was carried out smoothly.

Agro-related Information

Sr. No.	Land Information	No. of Family	Percentage
1.	Land holding farmers	22	88%
2.	Farmers with no land	03	12%
	Total	25	100%

As per survey conducted by the students, it is observed that 88% farmers holding land for cultivation purpose in which dhan and groundnut is the major crop they are using.

➤ Farmers Classification on the land holding: -

Sr. No.	Land holding Capacity	No. of Family	Percentage
1.	Atyalpbhudharak (1.25 Acre)	17	77.27
2.	Alpbhudharak (2.5 – 5.0 Acre)	05	22.73
3.	Madhyam bhudharak (5-10 Acre)	--	
4.	Uchha bhudharak (More than 10 Acre)	--	
	Total	22	100

In Palasgaon village majority of farmers belong to atyalpbhudharak category (77.27%) due to less availability of land and minimized income they are facing difficulties to fulfill their primary needs (roti, Kapda and makan). Therefore, peoples migrate for job in other district or state for labour work. It is observed that nearly 25% farmers migrate to **Chandrapur** and **Yawatmal** district for soyabean cutting work.

➤ Type of Land (Irrigated and Non-irrigated land)

Land Type	Non-irrigated	Irrigated type		Total
		Patbandhara	Pumps	
No.of Family	15	01	06	22
Percentage	68%	4%	27%	100%

From the survey, it is observed that large percentage of family follow under non-irrigated category (68%) i.e., one of the important factors in the development of rural economy. If the people get the facility of irrigation, they can take two crops annually so that rural economy can increase.

Agriculture Loan Facility

Sr. No.	Loan Information	No. of family	Percentage
1	Loan Holder	9	40.90%
2	No Loan Holder	13	59.01%
Total		22	100%

Information stated above shows most of the Farmers are not interested in loan facility to run the agriculture.

Information of Paddy Crops:-

- **Number of Farmers running Paddy Crops are 22 i.e. 88.00 %**

In Palsgaon village, farmers engaged in paddy crop is 88.00 % means most of the people are dependent on agriculture and carry their livelihood on the same income.

➤ Information of Paddy Crops Production

Sr. No.	Production Of Paddy crops	No. of family	Percentage
1	10000-25000/-	17	77.27%
2	25000-50000/-	05	22.73%ss
3	50000-100000/-	-----	
4	100000/- and above	-----	
	Total	22	100%

Above information states that, Farmers getting average Paddy Crop Income annually about 10000-25000/-are 77. 27 % this percentage declares that farmers always live a poverty life.

➤ Farmers Satisfied with crop Production

Sr. No.	Information Of Production	No. of Family	Percentage
1	Farmers Positive with Production	9	40.90 %
2	Farmers Negative with Production	13	59.01 %
	Total	22	100 %

According to the survey, 59% farmers are not satisfied with production of paddy crop annually. It is impossible to survive their life in low-income group therefore there is an urgent need of Agro-based business. Meantime guaranteed income by the government is not related to investment on the crop production.

➤ Vegetable Production

Sr. No.	Vegetable Crop	No. of Family	Percentage
1.	vegetable pursuing farmers	03	4.54%
2.	Vegetable not pursuing farmers	22	95.46%
	Total	25	100%

In the survey, it is observed that nearly 95.46% farmers are not interested in vegetable crop which is called as cash crop.

Number of Vegetable producer is very less as compared to other Agro based business.

There is lack of fruit farming, only 4% farmers have lake farming (shettale), 12% farmers are doing poultry farming.

➤ Information of Flower-Based Agriculture

Sr. No.	Flower based Agri.	No. of Family	Percentage
1	Farmers with flower-based agriculture	3	4.54 %
2	Farmers without Flower Based agriculture	22	95.46%
	Total	25	100%

Above information reveals that very a smaller number of farmers are dependent on flower-based Agriculture.

➤ Information of Dairy Product: -

Sr. No.	Information Of Dairy Product	No.of Families	Percentage
1	Farmers with Cattles	05	22.72
2	Farmers without Cattle	17	77.27
	Total	22	100%

According to survey, farmers are not interested in agro-based business-like cattle rearing, fish rearing and poultry farming.

Conclusion: -

Palasgaon locality is agrarian and most of the villagers are atyalp bhudharak category (77%) as well as having lack of irrigation facility which is responsible for underdevelopment of rural economy. Agro-based business is key factor for the enhancement of rural people but due to lack of information, government schemes are far away from farmers and this becomes the only reason, why villages still live-in poverty.

➤ **Action- Plan (Solution)**

- To increase the land area under irrigation
- Traditional crops should be replaced with commercial crops.
- Flower farming should be done, to meet the demand of flower -production.
- Number of milky cattle should be increased.
- Livestock Department should step forward.
- Green House- Shade should be developed in farm itself.





List of Participating Students in PBR

MAHATMA GANDHI ARTS, SCIENCE & LATE N. P. COMMERCE COLLEGE, ARMORI
SOCIO-ECONOMIC SURVEY (PBR) 2020-21
DEPARTMENT OF ECONOMIC

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5	KUKADKAR YOGITA VILAS	9112354898	Y.V. Kukadkar
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7	MADKAM HASINA YASHWANT	8275661630	
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14	SAYAM PRACHI GANESH	8767456711	
15	THAKARE GAYATRI SUDHAKAR	9689826653	
16	TIJARE ROSHAN TAMRAO	9373046702	
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Department of Eco

DEPARTMENT OF ENGLISH & MARATHI

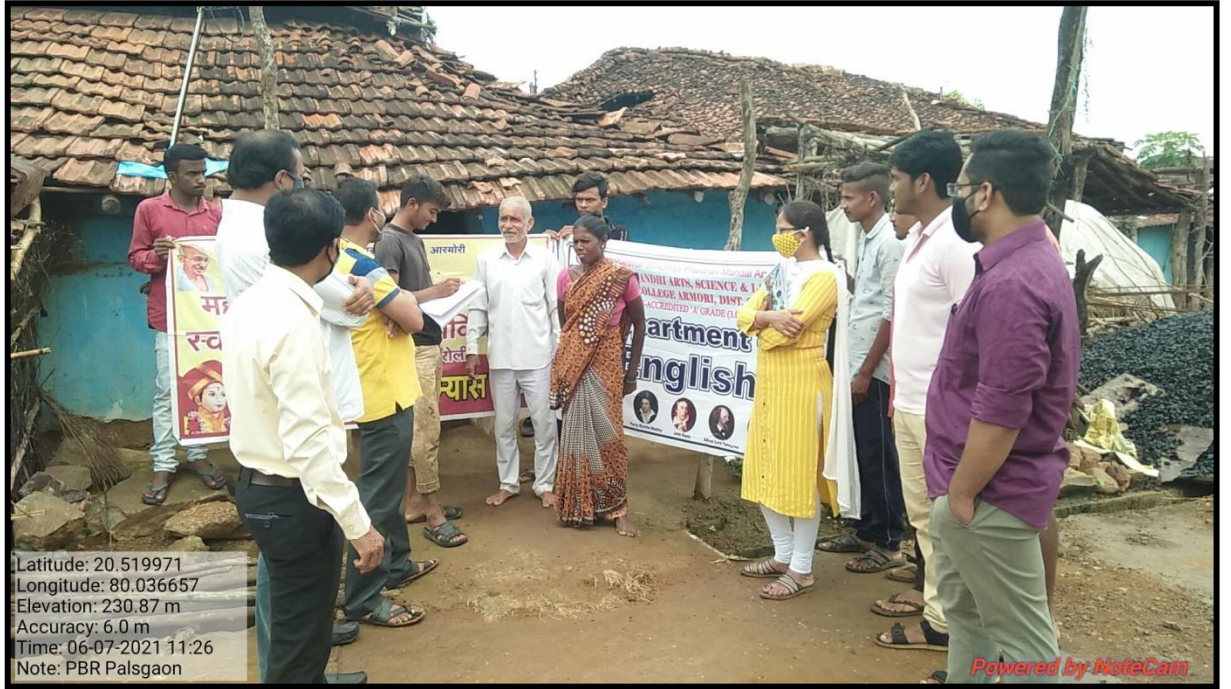


मनोहरभाई शिक्षण प्रसारक मंडळ आरमोरी द्वारा संचालित

महात्मा गांधी कला, विज्ञान व स्व. न. पं. वाणिज्य महाविद्यालय, आरमोरी, जि. गडचिरोली

ग्रामीण जीवनव्यवहारात मराठी-इंग्रजी शब्दांचे उपयोजन: एक अभ्यास
(पळसगाव ता. आरमोरीच्या विशेष संदर्भात)

A Study of the Usage of Marathi-English Words in Everyday Rural Life
(With Special Reference to Palasgaon Village Taluka Armori)



मराठी विभाग आणि इंग्रजी विभाग

२०२०-२१

ग्रामीण जीवनव्यवहारात मराठी-इंग्रजी शब्दांचे उपयोजन: एक अभ्यास

(पळसगाव ता. आरमोरीच्या विशेष संदर्भात)

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प्रस्तावना (Introduction)

महात्मा गांधी कला, विज्ञान व स्व. न. पंजवाणी वाणिज्य महाविद्यालय, आरमोरी द्वारा ग्राम पळसगावातील सर्वच स्तरांचा अभ्यास करून विकास आराखडा व कृतिकार्यक्रम राबविला जात आहे, त्याचाच एक भाग म्हणून लोकांचे जैवविविधता नोंदवही (PBR) अंतर्गत पळसगाव, ता. आरमोरी, जि. गडचिरोली येथील ग्रामवासीयांच्या ग्रामीण जीवनव्यवहारातील मराठी-इंग्रजी शब्दांचे उपयोजन : एक अभ्यास (A Study of the Usage of Marathi-English Words in Everyday Rural Life) हा प्रकल्प महाविद्यालयातील भाषा विभागाच्या वतीने राबविण्यात आला.

ग्रामीण जीवनात दैनंदिन वापरामध्ये वापरल्या जाणाऱ्या मराठी व इंग्रजी शब्दांचे संकलन करून समाज व संस्कृतीचे संवर्धन होण्याच्या दृष्टीने भाषेतील ग्रामीण जीवनव्यवहारातील शब्दांचे जतन करणे व नवीन पिढीला लुप्त होत चाललेल्या ग्रामीण जीवनसंस्कृतीचे ज्ञान व भान प्राप्त करून देणे हा या प्रकल्पाचा हेतू होता. सदर प्रकल्प पूर्णत्वास जाण्याकरिता पळसगाव येथील नागरिकांनी आनंदाने सहकार्य केले. पळसगाव ग्रामवासीयांच्या अनेक कुटुंबांतील जेष्ठ नागरिकांनी उत्स्फूर्तपणे प्रतिसाद देताना आम्हाला ग्रामीण जीवनव्यवहारातील मराठी तसेच त्यांना ज्ञात असलेल्या इंग्रजी शब्दांची माहिती दिली. यासाठी वयवर्षे ५० व त्यापेक्षा अधिक वयाच्या व्यक्तींची मुलाखतीकरिता निवड करण्याचे निश्चित केले. त्यांच्या मुलाखतीतून अस्सल ग्रामीण बाज असलेले मराठी शब्द व सामान्य वापरात असलेले इंग्रजी शब्द, बोलीभाषेतील शब्दयोजना यासंदर्भात आमच्या मुलाखतकर्त्या प्राध्यापक व विद्यार्थ्यांना महत्त्वपूर्ण माहिती प्राप्त झाली. त्याद्वारा भाषिक व सांस्कृतिक ठेवा आजच्या तरुण पिढीला निदर्शनास आणून देण्याचा प्रयत्न केला. 'लोकांचे जैवविविधता नोंदवही' (PBR) अंतर्गत सहभागी विद्यार्थ्यांनी मौलिक सहकार्य केले. म्हणूनच आम्ही हे सर्वेक्षणवजा प्रकल्प यशस्वीपणे पूर्ण करू शकलो.

या अभ्यासातून आम्हाला ग्रामीण जीवनव्यवहारातील मराठी व इंग्रजी भाषेतील अनेक शब्दरूपे प्राप्त झाली. जसे 'नाही' या शब्दासाठी 'नसे' हा शब्दप्रयोग तसेच त्याला इंग्रजीमध्ये No, 'होय' या शब्दासाठी ग्रामीण शब्द 'व्हय' तसेच त्यास इंग्रजीत Yes म्हणत असल्याचे निदर्शनास आले. अनेक इंग्रजी शब्द सराईतपणे ग्रामस्थ वापरताना दिसले तसेच इंग्रजी भाषेतील अनेक शब्द अपभ्रंशात्मक पद्धतीने वापरत असल्याचे दिसून आले. जसे लाईट (Light) या शब्दासाठी लाईन (Line) हा शब्द, डॉक्टर (Doctor) यासाठी डाक्टर (Dactar) नर्स (Nurse) करिता नरस (Naras) क्लॉस (Class) करिता कलास (Kalas) असे शब्दप्रयोग वापरताना दिसले.

आजच्या परिस्थितीत अनेक ग्रामीण शब्द लुप्त होण्याच्या मार्गावर आहेत. अशा परिस्थितीत आरमोरी तालुक्यातील पळसगावातील ग्रामीण जीवनव्यवहारातील मराठी-इंग्रजी शब्दांचा अभ्यास करून ग्रामीण भागात बोलल्या जाणाऱ्या शब्दसंग्रहाचा हा ठेवा भाषेच्या अभ्यासकांपर्यंत पोहचविण्याच्या दृष्टीने महत्त्वाचे आहे.

- सर्वेक्षणाचे स्थळ : — पळसगाव, ता. आरमोरी, जि. गडचिरोली
- सर्वेक्षणाचा दिनांक :— ६ जुलै २०२१
- सर्वेक्षण पद्धती :— ग्रामस्थांची मुलाखत
- सर्वेक्षणाचे स्वरूप व व्याप्ती :— ‘ग्रामीण जीवनव्यवहारात मराठी—इंग्रजी शब्दांचे उपयोजन : एक अभ्यास’

A Study of the Usage of Marathi-English Words in Everyday Rural Life (with special reference to village Palasgaon Taluka Armori, Dist- Gadchiroli) हा विषय सर्वेक्षणासाठी निवडण्यात आला या विषयाच्या अनुषंगाने महाविद्यालयाच्या भाषा विभागाने प्रथमतः महाविद्यालयाच्या कलाशाखेतील १० विद्यार्थ्यांची निवड केली. त्यांना सर्वेक्षणाची पद्धत, अभ्यासविषय व पळसगाव येथील वय वर्षे ५० वा अधिक वयोगट असलेल्या व्यक्तींची मुलाखत कशाप्रकारे घ्यायची या संदर्भात भाषाविभागात बैठक घेऊन मार्गदर्शन करण्यात आले. मुलाखत घेताना प्राध्यापक व विद्यार्थ्यांनी किमान ५० ग्रामस्थांची भेट घेण्याचे व त्यांचेकडून अपेक्षित माहिती संकलन करण्याचे ठरले. इंग्रजी विभागप्रमुख प्रा. नोमेश मेश्राम, मराठी विभागाचे प्रा. डॉ. विजय रैवतकर, इंग्रजी विभागातील प्रा. स्नेहा मोहुर्ले, प्रा. अनिल राऊत, प्रा. वैभव पडोळे यांनी विद्यार्थ्यांना सर्व सर्वेक्षणाची पद्धती तपशीलवारपणे समजावून सांगितली.

मुलाखत घेताना मुलाखतकर्त्या विद्यार्थ्यांनी आरोग्य, शिक्षण, राजकारण, कृषी, धार्मिक—सामाजिक विधी या क्षेत्रांशी निगडित मराठी व इंग्रजी शब्द ग्रामस्थांना विचारण्याचे ठरले. त्यानुसार भाषाविभागातील प्राध्यापकांनी विद्यार्थ्यांना उदाहरणादाखल उपरोक्त क्षेत्रातील काही मराठी व इंग्रजी शब्द लिहून दिले. शब्दांची निवड करताना ग्रामस्थांची बौद्धिक, शैक्षणिक व सामाजिक परिस्थिती लक्षात घेतली गेली व या परिप्रेक्ष्यातून विचार करण्यात आला.

- **सर्वेक्षणात सहभागी प्राध्यापक**

1. प्रा. नोमेश मेश्राम, इंग्रजी विभागप्रमुख
2. प्रा. डॉ. विजय रैवतकर, मराठी विभाग
3. प्रा. स्नेहा मोहुर्ले, इंग्रजी विभाग
4. प्रा. अनिल राऊत, इंग्रजी विभाग
5. प्रा. वैभव पडोळे, इंग्रजी विभाग

ग्रामीण जीवनव्यवहारात मराठी-इंग्रजी शब्दांचे उपयोजन: एक अभ्यास
(पळसगाव ता. आरमोरीच्या विशेष संदर्भात)

A Study of the Usage of Marathi-English Words in Everyday Rural Life
(With Special Reference to Palasgaon Village Taluka Armori)

संकलित माहिती

अ. क्र.	प्रमाण मराठीतील शब्द	ग्रामस्थांना माहीत असलेले व वापरत असलेले मराठी पर्यायी शब्द	प्रमाण इंग्रजी शब्द	ग्रामस्थ वापरत असलेले इंग्रजी शब्द
शैक्षणिक क्षेत्र				
१	लेखन	कलम, पाटी-पेंसिल, दौत	Pen	पेन
२	अध्ययन	अभ्यास, वाचन, वाच	Study	स्टडी, इस्टडी
३	शिक्षक	गुरूजी, मास्तर, शिक्षक	Teacher	टिचर
४	शिक्षिका	मास्तरिनबाई, बाई	Teacher	मॅडम, मॅम
५	खोडरबर	रबर	Eraser	इरेजर
६	पेंसिल छिलणे	पनामा, छिलकी	Sharpener	शार्पनर
७	वही	वही, बुक, नोटबुक, रजिस्टर	Notebook	नोटबुक, रजिस्टर
८	पुस्तकांची पिशवी	दप्तर, ओझा, पिशवी, झोच्या	Bag	बॅग
९	कपाट	आलमारी	Almirah	आलमारी
१०	बुद्धिमान	हुशार, चतूर, चलाख, अक्कल, शहाणा, हुशारी,	Clever / Talented	टॅलेंटेड, शार्प
११	मेंदू	मगज, दिमाग, भेजा, डोके	Brain	---
१२	तक्ता	तक्ता	Chart	टेबल
१३	टेबल	टेबल, मेज, डेक्स	Table	टेबल
१४	प्रतिमा	फोटो, फोटवा, फोटू, चित्र, तसवीर	Photo	फोटो
१५	हजर	उपस्थित, हाजर, हाजीर	Present/ Attend	हाजरू
१६	गणवेश	ड्रेस, डरेस, गणवेश, आंगळा, मनीला, सदरा	Uniform	ड्रेस, डरेस
१७	मुख्याध्यापक	हेडमास्तर, हेडमास्टर, हेडगुरूजी, मोठेगुरूजी, मोठामास्तर	Head Master	हेडमास्टर, हेडमास्तर
१८	राष्ट्रगीत	प्रार्थना, प्रतिज्ञा, राष्ट्रगान, राष्ट्रगीत, जन-गण-मन	Anthem	राष्ट्रगीत
१९	खेळ	खेल, खेलकूद	Games/Sports	खेळ
२०	स्पर्धा	शर्यत, पैज, रेस	Competition	काम्पेटिसन
कृषी क्षेत्र				
२१	शेतकरी	शेतकरी, कास्तकार, कृषीवल	Farmer	फार्मर
२२	शेत	वावर, शेत, रान, दंड, माळ	Farm	फार्म
२३	शेती	कास्तकारी, खेती, कृषी, शेती	Agriculture	अॅग्रीकल्चर
२४	नांगर	नांगर, हल, फास	Tiller	---

२५	बियाणे	बिजाई, बीज, बियाणे, सिड्स	Seeds	सिड्स, सिड्सचे बियाणे
२६	मजूर	कामकरी, मजूर, मानूस, राबता, गडी, नोकर, कामवाला, रोजंदार, वन्यार, वन्यारीन	labor	लेबर
२७	कोरडा	सुका, खडखडीत, कडकडीत, फडफडीत, तुडतुडीत, वाळलेला, हडकलेला, उजाड, ओसाड, कारेड, सुकट, खडखडीत, रखरखीत	Dry	---
२८	अंकुर	कोंभ, कोंब, मोड, डिरी, धुमारा, तुरा, फुटवा, फाटा, पल्लव, पोंगा, पोटीरी, पासंबा	Sprout	---
२९	कापणी	धानकापणी, कटाई, मळणी, चुरणा	Reaping	---
३०	कर	सारा, पट्टी, फाळा, धारा, खंड, खंडणी, दस्तुरी, अडत, करभार, वसुली, वसूल, शेतसारा, जमीनमहसूल	Tax	टॅक्स
३१	खाचर	खासर, छेकडा	Cart	---
३२	बंडी	बंडी, बैलबंडी, बैलगाडी, गाडा	Bullock Cart	---
३३	उष्णता	तपन, उन, गरम, गरमी, गरमागरम, कढत, काहीली, चळचळ, कोंबट, रणरण, उबदार, कोमट	Heat	हॉट, हाट, हीट
३४	बाजार	बाजार, मंडई, मंडी, हाट, हाटात, आठवडी बाजार, गुजरी, दुकानलाइन,	Market	मारकेट
३५	पीक	पिक, उत्पन्न, माल, कठान	Crop	कराप, क्रॉप
आरोग्य क्षेत्र				
३६	आरोग्य	तब्येत, प्रकृती, आरोग्य	Health	हेल्थ
३७	परिचारिका	नर्स, नर्सबाई, नरस	Nurse	नर्स, नरस
३८	वैद्य	वेदू, वैद्य, डॉक्टर, डाक्टर	Doctor	डॉक्टर, डाक्टर
३९	आरोग्यवाहिनी	अम्बुलंस	Ambulance	अम्बुलंस
४०	शस्त्रक्रीया	सिजर, अपरेसन, अप्रेशन, आप्रेशन, आपरेशन	Operation	अपरेसन, अप्रेशन, आप्रेशन, आपरेशन
४१	लस	लस, इंजक्सन, सूई, सूजी	Vaccine /Injection	इंजक्सन
४२	हिवताप	मलेरीया, थंडीताप	Malaria	मलेरीया
४३	आजार	रोग, ताप, बिमारी, बिघाड, रोगराई, व्याधी, विकार, पीडा, बाधा, ब्याद,	Disease/ Disorder	---
४४	शरीर	आंग, अंग, देह, तन, शरीर,	Body	बाडी
४५	मृतदेह	परेत, शव, प्रेत, मयत, मसन	Dead Body	डेडबाडी
४६	क्षय	टिबी	Tuberculosis	टिबी
४७	औषधालय	दवाईघर, फार्मसी	Medical Store	फार्मसी
४८	इस्पितळ	दवाखाना	Hospital	हासपीटल, हॉस्पिटल
४९	पशूवैद्य	ढोरडाक्टर, ढोरडाक्टर, पशूरोग्या डाक्टर	Veterinary Doctor	---

५०	औषधी	दवाई, औषधी, दवादारू, जडीबुटी, सायरप, गोळ्या	Medicine	---
५१	रोगी	रोगी, रुग्ण, पेसंट, बिमार, पंचर, आजारी, तापेला, रोगेला, मरेकट, बिमारू, रोगराईवाला, मरीज	Patient	पेसंट, पेशंट
५२	जीवनसत्व	विटॅमिन, मिटीयामिल, मिट्यामेल	Vitamin	विटॅमिन
५३	आरोग्यसेवक	एमपीडब्लू, मलेरीया वर्कर,	Compounder	कंपाउंडर
५४	शिविर	कॅम्प, सिबिर, शिविर,	Camp	कॅम्प
५५	रक्त	रक्त, रगत, खून	Blood	बलड
५६	हगवन	हागरी, हागी, हगी, हगवन, पोगरी, पोगळी, हाग्यारोग, नळहगी, परसाकरी	Diarrhea	---
५७	रक्तदाब	बीपी	Blood Pressure	बीपी
५८	हृदय	कलेजा, दिल, हृदय, काळीज, कलेजी,	Heart	हार्ट

राजकीय क्षेत्र

५९	पुढारी	नेता, लिडर, राजनेता, आमदार, खासदार, सरपंच, मुखिया, पाटील, पटेल, गावपाटील, मेंबर	Leader	लिडर
६०	पक्ष	पक्ष, पार्टी	Party	पार्टी
६१	आघाडी	सत्ताधारी, सरकार, म्होरका, धुरा, नेतृत्व	Lead	लिड
६२	मतदान	मतदान, वोट, वोटिंग,	Vote	वोट
६३	निवडणूक	निवडणूक, इलेक्सन, विलेक्सन, विलिक्सन, निर्वाचन, पसंती,	Election	इलेक्सन, विलेक्सन, विलिक्सन
६४	राष्ट्रपती	राष्ट्रपती	President	---
६५	पंतप्रधान	पंतप्रधान, प्रधानमंत्री, पीएम	Prime Minister	पीएम
६६	मुख्यमंत्री	सीएम, मुख्यमंत्री	Chef Minister	सीएम

घरगुती वापरातील शब्द/ इतर

६७	चढणे	यंग, सिद, वेंग, चढ	Climb	---
६८	आई	आय, माय, माता, जन्मदाती,	Mother	मदर
६९	अंकुश	ताबा, हुकमत, दाब, लगाम, नियंत्रण, निर्बंध, पाबन्दी,	Control	कंट्रोल
७०	अखेर	शेवट, अंत, समापन, समाप्ती, विसर्जन, बोळवण, विल्हेवाट, हद्द, शेंडेफळ	End	एण्ड
७१	अजाण/ अज्ञान	अज्ञ, अज्ञानी, अविद्य, कच्चा, अपरिपक्व, आचरट, आंधळा, कोरा, गावठी, गावंडा, गावरान, खेडवळ, दगड, मुर्ख, गावंढळ, गवार, अनाडी, रांगडा, मंद, रेम्याडोक्या, बिनडोक, मठ्ठ, बेअकली, बथ्थड, माठ, वेडपट, येडपट, अर्धवट, मद्दड, दगडोबा, शंखोबा, गणंग, ठोंब्या, ठोम्या, हणगोबा, गणंग, ठणठणपाळ, ठणठणगोपाल, ठसठोंबस, बैलोबा, नंदीबैल, गाढव, गधडा	Ignorant	---

७२	कशाला	कावून, कायले, कशाले, कहाले, काहाले, कहासाठी	Why	---
७३	पाऊस/सर	पाणी, पाऊस, पावूस, ढगफूटी, मूसळधार, सर, झल्ला, धार, झड, वृष्टी	Rain	---
७४	दुपट्टा	गमछा, दुपट्टा, दुपटी, रूमाल, ओढणी,	Scarf	---
७५	आडा	आढं, माळा, गच्ची, छत, सज्जा	Roof/Slab	स्लॅप,
७६	तांदूर	तांदूळ, भात, धान	Rice	राइस
७७	उबार	जास्तचा, अधिकचा	Extra	एक्स्ट्रा
७८	सुंदर	सुंदर, गोंडस, बेस, झकास, काटेबाज, देखणा, इयाक, राजस, नितस, अप्सरा, साजरा, गोजरा, बंबाट, फक्कड, पाणीदार, पल्लेदार, फाकडा	Beautiful	बिवटीफूल, हॅडसम
७९	पुन्हा	परत, अजून, पुन्यावून, आणखी	Again	---
८०	कपडे	बेलबाटम, कपडा, मांजरपाट, गोणपाट	Cloths	कलाथ
८१	फिरणारा/फिरणारी	हिंडकुरा, हिंडकुरी, भटकभवानी, फिरस्ता, चटकचांदणी, भटक्या, भटकी, नटमोगरी, भोवच्या, गावहिंड्या, गावहिंडी, सांड, आवारा	Loafer	लोफर
८२	बडबड्या	गोष्टीदलाल, बोडीझोक्या, गोष्टीहाक्या, वाच्याले फासेमांड्या, लाफाड्या, तोंडपाटील, वठाळ्या, चावळ्या, लवलव, गोष्टीबाज, भाडंकथा, लेंमडीझड, वटवट्या, बकबक्या, फेक्या, फेकेबाज, गोलगप्या, तोंडाळ्या, चरपट्या, मचमच्या, भकण्या, दंडाच्या, फुसक्या, फकाल्या, बोलबच्चन	Talkative	---
८३	नाश	बट्याबोळ, बरबादी, चकनाचूर, माती, सत्यानास, धुव्वा, नासाडी, मोडतोड, चुगडा, खेळखंडोबा, विचका, पाचोरा, मातेरे, चुथडा	Destruction	---
८४	उपद्रव्यापी	तमासगीर, उचापती,	Nuisance	---
८५	निरूपयोगी	कुचकामी, बिनकाम्या, फुकट, फोल, चिंधी, कसपट, कोळसा, गागरा, फालतू	Useless	युजलेस
८६	निपुण	वस्ताद, मास्टर, हुशार, पट्टा, मुरब्बी, दर्दी, बहदर, जाणता, सराईत, पक्का, पट्टीचा, पटाईत, गाढा, कसबी	Proficient	---
८७	गरीब	गरीब, कफल्लक, बापडा, फकण्या, भिकारचोट	Poor	पुवर
८८	हासणे	फिदीफिदी, हसणे, मस्करी	Laugh	लाफ
८९	खोटारडा	नाटकी, थापेबाज, फसवा, सोंगाड्या, दुटप्पी, नकली, लुच्चा, ढोंगी,	Feigned	---
९०	मोफत	फुकट, फुकट्या, ठणठण, एफ्सी,	Free	फ्री
९१	फाडणे	टरकावणे, दुभंगणे, चिरणे, कापणे, कातरणे	Tear	---
९२	फजिती	फजिती, फज्जा, दैना, बोच्या, तमाशा, दुर्दशा, हसे, भंबेरी, विचका	Embarrassment	---

९३	नवरा/पती	दादला, दादुला, धनी, दादल्या, दाल्ला, घरवाला, कारभारी, मालक, जोडीदार, श्रीमाण, पाटील, साहेब, कुंकवाचा धनी	Husband	हसबंड
९४	नवरी/पत्नी	जाया, दारी, दयिता, भामा, कांता, अस्तुरी, बाईल, कामिनी, घरधनीण, घरवाली, कारभारीण, मागारीण, अर्धांगीणी, सौभाग्यवती, लक्ष्मी, सहचरी, पटाची बायको, बायडी, बिबी, बेगम, जोरू, पटराणी,	Wife	वाइफ
९५	तिखट	हिरोती, बुकनी	Chilly	चिली
९६	थाप	चाट, थाप, बनवाबनवी, भूलथाप, बंडल, गुगली, अफवा, तिखटमिठ, बाता, लाफा	Bluff	---
९७	थरथरणे/घाबरणे	थरथर, लटलट, थडथडणे, हादरणे, थरकणे, थरारणे, डगमगणे, लटपटणे, लवलवणे, भेंबरेजणे, घाबरणे, गांगरणे, दांदरणे, घसपटणे, फाटली	Tremble	
९८	लफडे	झिंगाट, जुगाड,	Affair	---
९९	पहाट	झुंजरूका, झुंजरूक, झांजड, झांजर, झांजरमांजर, झुंजुंमुंजू	Dawn	---
१००	थाट	रूबाब, झोक, टामटूम, नूर, नखरा, मिजास, दिमाख, भपका, छानछोकी, ऐट, येट	Pomp	---
१०१	परांगदा	पसार, फरारी, गुंगार	Disappear	---
१०२	लोटा	गडवा, गळवा, डब्बा	Mug	मग
१०३	मुख	मुख, बह्याळ, बया, गधा, बैताळबेलना, बैताळ, बयाहेप्या, भोंगाड्या, घोंगसूड	Foolish	---
१०४	लहान	लहान, चोनक्या, बांडा, बांड्या, गिड्डा, बोंडक्या, लहानशा, छोटू	Small	स्माल
१०५	समोर	मोहरं, पुढं, सामोर, सामोरून	Front	फ्रंट
१०६	संकट येणे	मारबत खसली, डोंगा फुटला, आपत्ती, मोरघाड	Calamity	---
१०७	पराभव	हार, धुव्वा, भूईसपाट, चीत,	Defeat	---
१०८	पंचाईत	पेच, कोंडी, गोची, वांधा, कुचंबना, मारामार,	Quandary	---
१०९	वृद्ध	बुळगा, खेळमा,	Old	ओल्ड
११०	जेवण	जेव, खाव, खावाचा, खाद, खाबो,	Meal	मिल
१११	मधाचे पोळे	मोवारू, आग्या,	Hive	---
११२	मोठा	बेल्या, डगगर, वडीलधारा, ज्येष्ठ, बुजरूक	Elder	---
११३	मोहक	आकर्षक, मोहक, बंबाट, सुंदर,	Attractive	---
११४	घड्याळ	घडी, घड्याळ, वाच, हातघडी, दिवालघडी	Watch	वाच
धार्मिक / विधी				
११५	लग्न	लगन, लग्न, विवाह, शादी, जुगाड, लगनगाठ, जनमगाठ, शुभमंगल, शुभविवाह, सोयरिक, परिणय, पाणिग्रहण, लगीन, घरोबा, संबंध	Marriage / Wedding	मैरेज, मॅरीज
११६	दवूळ	देवालय, देऊळ, मंदिर, गाभारा, देवस्थान, पूजाघर, देवघर,	Temple	टेम्पल

११७	साक्षगंध	शालमुंदी, साखरपुडा, वांगाभात	Engagement	एंगेजमेंट
११८	पूजा	पूजा, पूजन, अर्चना, पूजाअर्चा, पूजापाठ	Worship	—
११९	साधू	मुनी, पूजारी, बोवा, बाबा, योगी, ऋषी, सिद्धपुरुष, साधू, भगत, जोगी, महात्मा, अवलिया, सती, हरिदास, महंत, बैरागी, गोसावी, संत, देव्हारी	Hermit/ Saint	— संत
१२०	प्रभातफेरी	प्रभातफेरी, परभातफेरी, रेली, रॅली	Rally	रेली, रॅली
१२१	दिवा	दिवा, समई, दीप, दीवनाल, खपरुंडी, कंदील	Lamp	लॅम्प

संकलित माहितीचे विश्लेषण आणि निष्कर्ष

महाविद्यालयातील भाषा विभागाच्या वतीने ग्राम पळसगाव तालुका आरमोरी येथील ग्रामवासीयांच्या ग्रामीण जीवनव्यवहारातील मराठी-इंग्रजी शब्दांचे उपयोजन : एक अभ्यास (A Study of the Usage of Marathi-English Words in Everyday Rural Life with Special Reference to Palasgaon Village Tah- Armori) हा प्रकल्प राबविण्यात आला. या अनुषंगाने ६ जुलै २०२१ ला महाविद्यालयाच्या भाषाविभागाचे प्राध्यापक व पीबीआर विद्यार्थ्यांच्या चमूने मौजा पळसगाव येथे प्रत्यक्ष मुलाखतीद्वारे ग्रामस्थांकडून वरीलप्रमाणे माहिती संकलित केली.

या माहितीकरिता प्रामुख्याने ग्रामस्थांमधील ज्येष्ठ व्यक्तींची (वयवर्षे ५० व त्यापेक्षा अधिक) निवड करण्यात आली होती. त्यांना माहिती असलेले प्रमाण मराठीतील आणि इंग्रजीतील शब्द आणि ते प्रत्येकात जीवनव्यवहारात वापरीत असलेले शब्द यांची विचारपूस करण्यात आली. त्यांच्याकडून शब्दांचे संकलन पीबीआर विद्यार्थ्यांनी केले. यात विशेषतः प्रमाण शब्दांना पर्यायी असलेले बोलीभाषेतील व ग्रामीण शब्द जे काळानुरूप लोप पावत असून त्या शब्दांचे सौंदर्य विलयास जाताना दिसून येत आहे असे शब्द शोधण्याचा वा संकलित करण्याचा प्रमुख हेतू होता.

या करिता विद्यार्थ्यांना मुलाखत घेण्याची प्रक्रिया समजावून सांगण्यात आली होती. खरे तर विविध क्षेत्रांत शब्दसमुच्चय पहायला मिळतात परंतु प्रकल्पाची मर्यादा लक्षात घेता त्यात प्रामुख्याने शैक्षणिक, धार्मिक, कृषी, आरोग्य, राजकीय आणि घरगुती वापरातील अशा क्षेत्रांतील शब्दांचे संकलन करण्याचे ठरले होते त्यानुसार पीबीआर विद्यार्थ्यांनी या क्षेत्रांच्या मर्यादीतील शब्दांची माहिती संकलित केली.

शैक्षणिक क्षेत्रातील शब्दांचा विचार करीत असताना साधारणतः ग्रामस्थांमध्ये अजूनही शिक्षकांना गुरूजी म्हणणारे किंवा या नावानेच त्यांच्याशी संवाद साधणारे अधिक मिळाले. त्यांना शिक्षक शब्दांची ओळख आहे पण नवी पिढी बोलत असल्याचे त्यांनी म्हटले आम्ही मात्र गुरूजी, मास्तरिन बाई व इंग्रजीमध्ये Master/ Head Master असे शब्द वापरीत असल्याचे त्यांनी सांगितले. शैक्षणिक क्षेत्रातील पिशवीला — झोऱ्या, दप्तर, डोके — मगज, गणवेश — मनिला, मुख्याध्यापक — मोठा मास्तर, हेडगुरूजी असे शब्द मराठीत तर इंग्रजीत Head Master (हेड मास्टर) असे शब्द समोर आले. यात मगज, झोऱ्या, मनिला, हेडगुरूजी असे शब्द लोप पावत असल्याचे दिसून आले. शिवाय मेंदू या शब्दाकरिता इंग्रजीत असणारा ब्रेन (Brain) हा शब्द त्यांना परिचित नसल्याचे दिसून आले मेंदू म्हणजे दिमाग हाच शब्द अधिक प्रचलित आहे. शैक्षणिक क्षेत्रातील ग्रामीण बोलीभाषेतील मराठी आणि इंग्रजी शब्दांतून भाषेचा वेगळा लेहजा पाहावयास मिळाला.

कृषी क्षेत्रातील विविध शब्द विशेषतः कालसुसंगत असल्याचे दिसून आले उदा. शेत या शब्दाकरिता शेत असा शब्द सराईतपणे वापरणाऱ्यांचे प्रमाण अधिक आहे. शेत या शब्दासाठीचे दंड, वावर असे शब्द कमी प्रमाणात आढळून आले तथा या

शब्दांचा उपयोग जरी अधिकांश करण्यात येत नसला तरी असे शब्द ग्रामस्थांना माहीत असून त्यांनी शब्दांचा ठेवा जपला आहे. शेतीशी संबंधित **Crop, Seeds, Tractor, Agriculture, Farming** असे इंग्रजी शब्द ग्रामस्थांना ज्ञात असून या शब्दांचे उच्चारण ग्रामीण बोलीतून केले जात असल्याचे निदर्शनास आले जसे कराप, सिडबियाने, टेक्टर, यागरीकलचर, फारमिंग असे उच्चारण दिसून आले तथा त्यांना शब्द माहित आहेत हे महत्वाचे असून इंग्रजी शब्द ग्रामस्थांपर्यंत पोहचल्याचे निदर्शनास आले.

राजकीय क्षेत्रातील शब्दांचा विचार करीत असताना साधारणतः ग्रामस्थांमध्ये राजकारण्यांना लिडर (**Leader**) म्हणणारे अधिक मिळाले. त्यांना लिडर शब्दांची ओळख आहे हा शब्ददेखील नवी पिढी बोलत असल्याचे त्यांनी म्हटले तसेच नवी पिढी लिडरला पार्टिकुलर त्याच्याच पदानेही बोलत असल्याचे सांगताना सरपंच, ग्रामसेवक, पाटील, आमदार, खासदार अशा पदानुसारी शब्दांचा प्रयोग होत असल्याचे लक्षात आले तथा त्यांनी पदानुसारी शब्दांचा प्रयोग न करता सरसकट 'लिडर' हा शब्द वापरीत असल्याचे त्यांनी सांगितले. राजकीय क्षेत्रातील सरपंच व पाटलाला — मुखिया, गावपाटील असे लुप्त पावत असलेले शब्द मराठीत दिसून आले तर इंग्रजीत **Leader** (लिडर) हा शब्द सर्वच पुढाऱ्यांसाठी समसमान अर्थाने वापरताना दिसले. समायिक शब्दांमध्ये **CM, PM** अशा इंग्रजी शब्दांचे त्यांना ज्ञान आहे. **CM, PM** या शब्दांचा फूलफॉर्म त्यांना माहीत नसून फक्त मिनिस्टर हा शब्द त्यांना माहीत असल्याचे निदर्शनास आले. इंग्रजीत असणारा प्रेसिडेंट (**President**) हा शब्द त्यांना परिचित नसल्याचे दिसून आले. तसेच **Election, Voting, Party** अशा शब्दांची त्यांना माहिती आहे व मराठीमध्ये इलेक्शन ला निवडणूक बोटींगला मतदान आणि पार्टी या शब्दाला पक्ष असे अर्थपूर्ण शब्द त्यांना बिनचुकपणे माहीत आहेत.

आरोग्य क्षेत्रातील विविध शब्द ग्रामस्थांकडून सराईतपणे वापरले जात असल्याचे दिसून आले उदा. डॉक्टर (**Doctor**) या शब्दाकरिता डॉक्टर असा शब्द मराठी व इंग्रजीमध्ये वापरणाऱ्यांचे प्रमाण अधिक आहे. नर्स (**Nurse**) या शब्दासाठीचे नरसाबाई, नरस असे शब्द जास्त प्रमाणात ग्रामस्थ वापरताना दिसून आले. **Health, Operation, Ambulance, Dead Body, Heart, Pharmacy** असे इंग्रजी शब्द ग्रामस्थांना माहीत असून त्यांचा उच्चार ते हेलथ, अपरेशन, याम्बुलंस, डेडबॉडी, हर्ट, फारमेसी या पद्धतीने करतात. आरोग्य क्षेत्राशी संबंधित मलेरिया, डायरीया, टायफाइड अशा रोगविषयक शब्दांना मराठीत पर्यायी शब्द माहीत नसल्याचे दिसून आले. हल्ली लोप पावत असलेले मराठी शब्दांमध्ये वैदू, पशूरोग्या डॉक्टर, परेत, सूजी यांचा उल्लेख विशेषतः करावा लागेल. हगवणकरिता पोगळी, पोगरी, नळहगी हे शब्द तसेच **Heart** साठी कलेजा असे मराठी व इंग्रजी शब्द ग्रामस्थांना ज्ञात आहेत.

धार्मिक विधी क्षेत्रातील शब्दांचा विचार करीत असताना साधारणतः ग्रामस्थांमध्ये लग्न या शब्दाचा प्रयोग लग्न, लग्नीन, शादी असा करणारे व म्हणणारे अधिक मिळाले. शिवाय इंग्रजी **Marriage** हा शब्द त्यांना माहिती आहे तथा या शब्दाचा उच्चारण मॅरेज असा करताना ग्रामस्थ दिसून आले. साक्षगंध हा शब्द ग्रामस्थांना माहिती असून देखील या शब्दासाठी शालमुंदी हा शब्द ग्रामीण भागात अधिकप्रमाणात प्रचलित आहे. साक्षगंध शब्द फारसा वापरला जात नसल्याचे लक्षात आले. मंदिर हा शब्द देऊळ, पूजाघर या अर्थाने जूनी पिढी वापरीत असल्याचे त्यांनी सांगितले. मंदिर या शब्दासाठीचा इंग्रजी शब्द **Temple** या शब्दाची ओळख देखील त्यांना आहे. पूजा हा शब्द पूजाअर्चा असा करीत असल्याचे आढळून आले. साधू वा पूजारी या शब्दासाठी जून्यापिढीतील लोक अजूनही भगत असा शब्दप्रयोग करीत आहेत. दिवा या शब्दासाठीचे खपरूंडी, दिवनाल असे शब्द लुप्त पावत असल्याचे दिसून आले

घरगुती क्षेत्रातील विविध शब्द विशेषतः शिवराळ शब्दांचे प्रमाण अधिक आहेत. त्यात प्रामुख्याने बया, बैताळबेलना... असे शब्द मुख या शब्दासाठी वापरताना दिसले. कशाला या शब्दासाठी झाडीबोलीतील कहाले, कायले तर तिखट या शब्दासाठी

हिरूती असा शब्द वापरल्याचे दिसून आले. हिंडकुरा, काटेबाज, बेलबाटम, भांडकथा, गोष्टीदलाल, लेंबडीझड, फकाल्या असे शब्द लुप्त होत असल्याचे दिसून आले. घरगुती वापरातील इंग्रजी शब्द Wife, Small, Big, Attractive, Watch असे इंग्रजी शब्द ग्रामस्थांना ज्ञात असल्याचे दिसून आले.

निष्कर्ष :-

१. ग्रामस्थाना प्रमाण मराठी शब्दांसाठी पर्यायी ग्रामीण शब्द अधिक प्रमाणात माहीत आहेत.
२. ग्रामस्थांनी मराठी ग्रामीण बोलीतील शब्दांचे वापर करणे सोडले नाही.
३. ग्रामस्थ वापरीत असलेल्या शब्दांतून अस्सल ग्रामीण बोलीचा, झाडीचा लेहजा प्रत्ययास येत असून त्यातून बोलीचे व शब्दांचे सौंदर्य सहज व स्वाभाविकपणे प्रकट होताना दिसून येते.
४. ग्रामस्थांच्या घरगुती वापरातील काही शब्दांत अधिकांश शिवराळ भाषेचा ओघ अधिक प्रमाणात दिसून येतो.
५. व्यवहारोपयोगी असे काही इंग्रजी शब्दांचे ज्ञान ग्रामस्थांमध्ये आहे.
६. ग्रामस्थ इंग्रजी शब्दांचे उच्चारण स्पष्ट करत नसून ग्रामीण बोलीचे उच्चारण त्यांच्या इंग्रजी शब्दांच्या उच्चरणात अधिकांश दिसून येतात.
७. ग्रामीण बोलीतील अनेक शब्दांतून झाडीप्रदेशातील अस्सल सामाजिक-सांस्कृतिक जीवनशैलीचा प्रत्यय येतो.
८. ग्रामस्थ त्यांच्या बोलीतील शब्दांतून सांस्कृतिक आणि भाषिक संवर्धन करीत आहेत.
९. आजच्या पिढीला अनेक लुप्त पावत चाललेले ग्रामीण शब्द परिचित नसून त्यांचे इंग्रजी भाषेसंबंधित ज्ञात प्रशंसनीय आहे.
१०. नवशिक्षित व तरुण पिढी ग्रामीण संस्कृतीपासून दूर जात असल्याचे दिसून आले.

सर्वेक्षणाचे छायाचित्रे







सर्वेक्षणाचे वर्तमानत्रांतून प्रकाशित झालेल्या बातम्या

जीवनव्यवहारातील मराठी, इंग्रजी शब्दांचे सर्वेक्षण

लोकशाही वार्ता / आरमोरी

स्थानिक महात्मा गांधी महाविद्यालयातील भाषा विभागातर्फे प्राचार्य डॉ. लालसिंग खालसा यांच्या मार्गदर्शनाखालील लोकांचे जैवविविधता नोंदही अंतर्गत कार्य करण्यासाठी भाषा विभागातील पीबीआर विद्यार्थी गटाच्यावतीने दत्तक ग्राम पळसगाव येथे जीवनव्यवहारातील मराठी व इंग्रजी शब्दांचे सर्वेक्षण करण्यात आले.

या सर्वेक्षणा अंतर्गत शिक्षण, कृषी, आरोग्य, राजनिती, वाहतूक, धार्मिकविधी अशा विविध क्षेत्रात वापरले जाणारे मराठी व इंग्रजी शब्दा आणि त्याचे पर्यायी शब्दांचा शोध घेण्यात आला. दिवसेंदिवस ग्रामीण भागात प्रलपित असणारे शब्द लोप पावत आहेत. त्यामुळे शब्दांच्या आणि एकूण भाषेच्या लोपत्वामुळे समाज आणि संस्कृतीचा नवीन पीढिला विसर पडत आहे.

समाजसंस्कृतीच्या जनत होण्याच्या दृष्टीने भाषिक संवर्धन होण्याची अत्यंत गरज आहे आणि त्याच हेतुने सदर सर्वेक्षण करण्यात आले. व विविध क्षेत्रात जीवनव्यवहारात वापरल्या जाणाऱ्या आणि लोप पावण्याच्या वाटेवर असणाऱ्या मराठी व इंग्रजी शब्दांचा तथा पर्यायी शब्दांचा शोध घेण्यात आला. याप्रसंगी गावातील विविध गटात मोडणाऱ्या व्यक्तींची भेट घेण्यात आली व प्रत्यक्ष मुलाखतीद्वारे त्यांच्याकडून शब्दसंग्रहाची माहिती घेण्यात आली.

सर्वेक्षणाच्यावेळी इंग्रजी विभागप्रमुख प्रा. नमेश मेश्राम, प्रा. डॉ. विजय रैवतकर, प्रा. स्नेहा मोहुले, प्रा. अनिल राऊत, प्रा. वैभव पडोळे, पीबीआरचे विद्यार्थी सारंग नखाते, युगांतर भोयर, ज्ञानदीप मोहुले, योगेंद्र बैश, अमित काळे, गोपाल घोडाम, राहुल घोडाम, देवानंद भोयर, सायली ढोरे आदी उपस्थित होते.



दैनिक लोकशाही वार्ता दि. ८ जुलै २०२१

महात्मा गांधी महाविद्यालय का उपक्रम पलसगांव में मराठी, अंग्रेजी शब्दों का सर्वेक्षण

■ आरमोरी (सं.) स्थानीय महात्मा गांधी महाविद्यालय की भाषा विभाग द्वारा प्राचार्य डा. लालसिंग खालसा के मार्गदर्शन में लोगों का जैवविविधता पंजीयन किताब (पीबीआर) अंतर्गत कार्य करने के लिए भाषा विभाग के पीबीआर छात्र गुट की ओर से दत्तक ग्राम पलसगांव में जीवन व्यवहार के मराठी व अंग्रेजी शब्दों का सर्वेक्षण किया गया। इस सर्वेक्षण अंतर्गत शिक्षा, कृषि, स्वास्थ्य, राजनितिक, यातायात, धार्मिक विधी ऐसे विभिन्न क्षेत्र में इस्तेमाल किए जानेवाले मराठी व अंग्रेजी शब्द और उनके वैकल्पिक शब्दों की खोज की गई। समाज संस्कृती की जतन होने के दृष्टी से भाषिक संवर्धन होने की काफी आवश्यकता है। उसी हेतु से उक्त सर्वेक्षण किया गया। इस अवसर पर गांव के विभिन्न गुट में आनेवाले व्यक्तीओं की भेट ली गई व प्रत्यक्ष मुलाकात द्वारा उनकी ओर से शब्दसंग्रह की जानकारी ली गई। उक्त सर्वेक्षण समय पर अंग्रेजी विभाग प्रमुख प्रा. नमेश मेश्राम, प्रा. डा. विजय रैवतकर, प्रा. स्नेहा मोहुले, प्रा. अनिल राऊत, प्रा. वैभव पडोळे, पीबीआर के छात्र सारंग नखाते, युगांतर भोयर, ज्ञानदीप मोहुले, योगेंद्र वैद्य, अमित काले, गोपाल घोडाम, राहुल घोडाम, देवानंद भोयर, सायली ढोरे उपस्थित थे।



दैनिक नवभारत दि. ८ जुलै २०२१

मराठी व इंग्रजी शब्दांचे सर्वेक्षण

महात्मा गांधी महाविद्यालयातील भाषा विभागाचा उपक्रम

लोकमत न्यूज नेटवर्क
आरमोरी : स्थानिक महात्मा गांधी कला, विज्ञान व स्व. न. पं. वाणिज्य महाविद्यालय, आरमोरी येथील भाषा विभागातर्फे प्राचार्य डॉ. लालसिंग खालसा यांच्या मार्गदर्शनाखाली लोकांचे जैवविविधता नोंदवही अंतर्गत कार्य करण्यासाठी भाषा विभागातील पी.बी.आर. विद्यार्थी गटाच्या वतीने दत्तक ग्राम पळसगाव येथे जीवनव्यवहारातील मराठी व इंग्रजी शब्दांचे सर्वेक्षण करण्यात आले.

या सर्वेक्षणांतर्गत शिक्षण, कृषी, आरोग्य, राजनीती, वाहतूक, धार्मिक विधी अशा विविध क्षेत्रात वापरले जाणारे मराठी व इंग्रजी शब्द आणि त्याच्या पर्यायी शब्दांचा शोध घेण्यात आला. दिवसेंदिवस ग्रामीण भागात प्रचलित असणारे शब्द लोप पावत आहेत. समाज संस्कृतीच्या जतन



शब्द सर्वेक्षणाचा उपक्रम राबविताना कॉलेजचे विद्यार्थी.

होण्याच्या दृष्टीने भाषिक संवर्धन होण्याची अत्यंत गरज आहे आणि त्याच हेतूने सदर सर्वेक्षण करण्यात आले व विविध क्षेत्रात जीवन व्यवहारात वापरल्या जाणाऱ्या व लोप पावण्याच्या वाटेवर असणाऱ्या मराठी व इंग्रजी शब्दांचा तथा पर्यायी शब्दांचा शोध घेण्यात आला. याप्रसंगी गावातील विविध गटात मोडणाऱ्या व्यक्तींची भेट घेण्यात आली व प्रत्यक्ष

मुलाखतीद्वारे त्यांच्याकडून शब्दसंग्रहाची माहिती घेण्यात आली.

सर्वेक्षणावेळी इंग्रजी विभागप्रमुख प्रा. नोमेश मेश्राम, प्रा. डॉ. विजय रैवतकर, प्रा. स्नेहा मोहुळे, प्रा. अनिल राऊत, प्रा. वैभव पडोळे, पीबीआरचे विद्यार्थी सारंग नखाते, युगांतर भोयर, ज्ञानदीप मोहुळे, योगेंद्र वैद्य, अमित काळे, गोपाल घोडाम, राहुल घोडाम, देवानंद भोयर, सायली ढोरे हजर होते.

दैनिक लोकमत दि. ८ जुलै २०२१

सर्वेक्षणासाठी घेण्यात येणाऱ्या मुलाखतीस प्रतिसाद देणारे ग्रामस्थ

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ग्रामीण जीवनव्यवहाराने मराठी - इंग्रजी
शब्दांचे उपभोगन : एक अभ्यास
(पळसगाव ता. आरमोरीच्या विशेष संदर्भाने)
A Study of the Usage of Marathi -
English Words in Everyday Rural Life
(With Special Reference to Palasgaon
Village Taluka Amrohi)

सर्वेक्षणासाठी घेण्यात येणाऱ्या मुलाखतीस
प्रतिसाद देणारे ग्रामस्थ
दि. ०६ जुलै २०२१ स्थळ : पळसगाव ता. आरमोरी

१. सप्पाराम विनायक म्हाते - सप्पाराम म्हाते
२. दोडकू देवकू बनकर - श. ई. बनकर
३. भाग्याबाई तात्याजी शंभरकर - भाग्याबाई
४. मीलकंड लुकराम बावळे - मीलकंड बावळे
५. ईश्वर मधु सहादे - ईश्वर मधु सहादे
६. श्रीहरी देवराव उरकुडे - श्रीहरी देवराव उरकुडे
७. दयाराम जैराम कोबळे - दयाराम कोबळे
८. रवीशंकर बाजीराव कुळे - रवीशंकर कुळे
९. भाऊराव बळीराम उरकुडे - भाऊराव उरकुडे
१०. विस्तारी मारुती विगायत - विस्तारी विगायत
११. श्रीपाद धोंडू भंडारे - श्रीपाद धोंडू भंडारे
१२. लवेश वकडू भोयर - लवेश वकडू भोयर
१३. आराम भैर्याजी गरफडे - आराम गरफडे
१४. पुंजाकर काशिनाथ म्हाते - पुंजाकर म्हाते
१५. बळकृष्ण नावगी देवाडकर - B.L. Donadkar
१६. पुरुषोत्तम भाकर भोडुळे - पुरुषोत्तम भोडुळे
१७. शारद श्रीपाद वरमडे - शारदा वरमडे

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१८. खंडलिक पुकाराम धोशम -	कुंडलिक धोशम
१९. भागिक रंभा कोले -	भागिक कोले
२०. भाटाजी धनीराम चावणे -	भाटाधवावणे
२१. पाल्थून मनिराम चवभार -	पाल्थून
२२. वनिता गोपिनाथ सलके -	वसलके
२३. कवडू केवजी सलके -	कवडू सलके
२४. रिकाराम दुकड मोहरे -	रिकाराम
२५. रंजिता धनपाळ भाते -	S.V. Materc
२६. प्रेमदास नारायण केवले -	प्रेमदास
२७. किसन काशिनाथ मने -	केमस मने
२८. योगाजी केवहराम मोघर -	योगाजी मोघर
२९. शांता किसन कोवडे -	शांता कोवडे
३०. भागोदाव तुळशीदास भाते -	भा. तु. भाते
३१. धीराम भासनी मेढाम -	धीराम मेढाम
३२. सुभा लक्ष्मण कोले -	सुभा कोले
३३. मनोहर गोमा ठोशम -	मनोहर ठोशम
३४. राजेंद्र देवाजी सरडे -	राजेंद्र
३५. भाऊराव गोमा सेलेंकर -	भा. रा. सेलेंकर
३६. जनाधन लडू हजाडे -	जनाधन हजाडे
३७. लक्ष्मण सुखदे गोधोडे -	लक्ष्मण
३८. भाऊराव भाऊराव राऊत -	भा. भा. राऊत
३९. केदार ताराचंद मेढाम -	केदार मेढाम
४०. मणंदेव शिवा मोहारे -	मणंदेव मोहारे
४१. चरणदास मेदिंदी किनायत -	चरणदास किनायत
४२. पुर्णाबाई पुरुषोत्तम कुंभे -	पुर्णाबाई कुंभे
४३. श्यामराव जैराम कांभडे -	श्यामराव कांभडे
४४. शिला राम दागा कुंभे -	शिला राम कुंभे
४५. मनोहर रामजी चौके -	मनोहर चौके

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85. दासी किसान चौक - राधा चौक

86. गोविंदा जना समाज - गोविंदा समाज

87. किर्तिदास सदाशिव पुराण - किर्तिदास सदाशिव

88. मधुदेव मुकुंदराव कोसरे - मधुदेव कोसरे

90. विठ्ठलदास वासन कोसरे - विठ्ठलदास कोसरे

सर्वेक्षणात सहभागी मुलाखतकर्ते विद्यार्थी

MAHATMA GANDHI ARTS, SCIENCE & LATE N. P. COMMERCE COLLEGE, ARMORI
Language / SOCIO-ECONOMIC SURVEY (PBR) 2020-21
DEPARTMENT OF MARATHI

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13	GURNULE PREMNATH KHUSHAL	7798691377	Premanath Gurnule
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16	KHAPRE NIKITA ANIL	8275773327	Absent
17	KODAP DEVNATH PRABHAKAR	7887302243	Absent
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19	KUMARE KARAN MADHUKAR	8459706213	Absent
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22	MADAVI UJWALA YESHWANT	9765374794	Ujwala Madavi
23	MALODE SATISH KALIDAS	7972065914	Satish Malode
24	MAMIDWAR PUNDLIK SUDHAKAR	9307956103	P. Mamidwar
25	MANDAPE AVINASH DILIP	8208412149	A. P. Mandape
26	MARAPE VISHAL DASHIRATH	7378553516	V. Marape
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28	MESHARAM RAJANI MORESHWAR	9923667531	Absent
29	MESHARAM SHAILESH DADAJI	8390142043	S.D. Mesharam
30	MOHURALE DNYANDIP PRALHAD	9359970732	P.P. Mohurale
31	MOTGHARE SHILPA NILKANTH	8767431953	Absent
32	RAUT PUJATAI DUDHARAM	9529663071	Absent
33	SATIBAWANE SAHIL RAVINDRA	8208212845	Absent
34	SATIBAWANE SAHIL RAVINDRA	9370438640	Absent
35	SHEIKH RIYAJ YUSUF	9403341227	Sheik
36	SHENDE GANESH SHRAWAN	9067390830	Shende
37	TEKAM POOJA DAULAT		Tekam

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SOCIO-ECONOMIC SURVEY (PBR) 2020-21
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10	KORAM HARSHAL PRABHU	8975552337	<i>[Signature]</i>
11	KORCHA CHANDER SAKHARAM	9421192161	<i>[Signature]</i>
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21	SHIWANKAR VAISHNAVI RAJENDRA	7887707522	<i>[Signature]</i>
22	THAKARE GAYATRI SUDHAKAR	9689826653	<i>[Signature]</i>
23	TIJARE SARANG JAYKRUSHNA	9689603407	<i>[Signature]</i>
24	TITIRAMARE VAISHNAVI DILIP	9404226615	<i>[Signature]</i>

PROF. N. N. MESHRAM

PROF. S. K. MOHURLE

PROF. VAIBHAV PADOLE

PROF. ANIL RAUT



*Biodiversity is soul for life,
Each life is important to it.*

PBR
Peoples Biodiversity Register
2018-19 to 2019-20



MANOHARBHAI SHIKSHAN PRASARAK MANDAL ARMORI'S
**MAHATMA GANDHI ARTS, SCIENCE &
LATE NASARUDDINBHAI PANJWANI COMMERCE
COLLEGE, ARMORI, Dist. Gadchiroli (M.S.) 441208**

**Re-accredited by NAAC 'A' with 3.02 CGPA
Affiliated to Gondwana University, Gadchiroli**

Study on Biodiversity

**Academic Session
2018-19 & 2019-20**



**Study Report of Ashta, Antarji, Rampuri & Palora
(Adopted Villages)**

**Prepared by
Environment Study Centre**



**Water Sample Collection for
Chemical Analysis**



Technique to measure depth of well.



Social Survey by Humanity Students



Social Survey by Humanity Students



❖ *From the Desk of Principal*

Biodiversity is the variability among living organisms from all sources including terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species, and of ecosystems. Bio-diversity in fact denotes to the whole set of life forms that exist on the earth. Rapid environmental differences typically cause mass extinction. An extinction level event is a widespread and rapid decrease in the biodiversity on the earth. Such an event is identified by a sharp change in the diversity and abundance of multicellular organism. It occurs when the rate of extinction increases with respect to rate of speciation. Ecosystem diversity or biodiversity is thus clearly not definable as there are not distinct boundaries between the ecosystems and they merge into each other. More than 99.9 percent of all species that ever lived on Earth, amounting to over five billion species, are estimated to be extinct. Estimates on the number of Earth's current species range from 10 million to 14 million, of which about 1.2 million have been documented and over 86 percent have not yet been described.

Extermination is a law of nature and as a result some species have evolved while others have died ever since life originated on earth. But this extinction has come to an alarming rate due anthropogenic activity that affects the eco-system. As human population continues to grow and per capita consumptions has grown higher, Earth's biological diversity is being demoralized at an unrestrained rate.

Since 2018-19, M.G. College is the major part of Unnat Bharat Abhiyan and we adopted five villages Ashta , Antargi, Kasvi, Palora and Rampuri as per guideline of Central Government. We plan and organized bunch of program for the development of village such as **Prashasan Aplya Dari, Socioeconomic survey, National social scheme camp and People Biodiversity register** on different aspect.

Our College is the leading educational hub in Gadchiroli District and more emphasize towards student support services and staff is devoted. This PBR project plays little bits about nature study and social awareness among the rural people.

From the Desk of Coordinator



Biodiversity is the variety and variability of life on Earth. Biodiversity is typically a measure of variation at the genetic, species, and ecosystem level. Terrestrial biodiversity is usually greater near the equator, which is the result of the warm climate and high primary productivity. Forests play a major role in conserving biodiversity. Climate of a place and the species inhabited by it are regulated by the forests. An increase of the amount of Carbon Monoxide is the most common consequence of forest depletion resulting both from cutting and burning of trees. It is this carbon dioxide which reaches the upper layer of atmosphere and gives rise to the greenhouse effect resulting in global warming. Flooding and erosion of soil also result from deforestation as roots of trees assist in keeping the soil from being washed away.

Other indirect effects include the melting of snow and ice cover over the Polar Regions and as a result sea levels have risen by as much as 100-200mm in last 100 years. The disturbed weather conditions like drought, floods, acid rain, hurricanes causing havoc to human race as well as plants and animals' species on the earth clearly indicate imbalance in ecological systems. Since climatic changes also affect the life forms that sustain, many species are under the threat of being lost with climatic changes taking a drastic shape.

In present scenario world is enclosed in technology and internet. We are using maximum natural resources for our progressive life style but in invalid way. Due to developing globalization and industrialization, air, water and land is getting trapped under pollution.

If we won't put any barrier to stop this, then we will be only responsible to provide polluted future to our next generation. According to declaration of Supreme Court environmental education has been made compulsory at university level. We articulate by gentle communication with local people and make them aware of their relation with water, forest, land and biota.

M.G. College of Armori, the Unique College in the Gondwana University preparing people's biodiversity registers on communication with local people. As a coordinator of environmental study center I am glad and much thankful to the principal Dr. L.H. Khalsa for implementing such a project work in our college for the national development.

Study on Bio-Diversity (Asta, Antarji, Rampuri & Palora

CERTIFICATE

This is to certify that as per Maharashtra University act 1994, 14(7) of Gondwana University and Biodiversity Act 2008, the project of People's Biodiversity register (PBR) has been completed by student of Second year studying in the college under the guidance of concern teacher of respective departments and submitted to college in academic session 2018-19 and 2019-20





Principal
PRINCIPAL
Dr. Lalsingh H. Khalsa
Late N. P. Commerce College
ARMORI, Dist. Gadchiroli

CERTIFICATE

This is to certify that Environment Study Center of Mahatma Gandhi Arts, Science and Late N.P. Commerce College Armori of various departments with their respective guides have successfully completed the project of people biodiversity register under the supervision of environment study center committee of the college in the academic session 2018-2019 and 2019-20.




Coordinator
Environmental Study Centre
M.G. College Armori
Head
Environment Study
Centre

ACKNOWLEDGEMENT

We the students of Mahatma Gandhi Arts, Science and Late N.P. Commerce College Armori of various department under Gondwana University, Gadchiroli studying in 2nd years B.A., B. Com and B.Sc. (2018-2020), feel very fortunate to ourselves, being a student of enforced environmental education program started by Gondwana University.

Also we are very grateful to get the chance to prepare People Biodiversity register and to study different factors of environment.

Under this project we have been divided in to fourteen departments and study various factor regarding Botany, Zoology, Chemistry, Geology, and Geography in kasvi village. We could complete this project with the great support of Principal Dr. L. H. Khalsa, Prof. S.M. Sontakke; coordinator of environment Study Centre and concerned guides of the various departments.

UNDERTAKING

We all the Guides of concerned departments have undertaken to all the necessary data collection, figures, and resources given in this PBR are best of our Knowledge and Information available with us and solemnly responsible.

1. Department of Botany
2. Department of Chemistry
3. Department of Zoology
4. Department of Geology
5. Department of Physics
6. Department of Computer Sc.
7. Department of Geography
8. Department of English
9. Department of Marathi

Kahalki

Smriti

Ph

Geology

Ph

Ph

Ph

Ph

**PEOPLE'S BIODIVERSITY REGISTER
2018-19 & 2019-20**

SR NO	DEPARTMENTS	PAGE NO.	
2018-19			
SCIENCE STREAM			
1.	Department of Botany		
2.	Department of Chemistry		
3.	Department of Zoology		
4.	Department of Geology		
5.	Department of Physics		
6.	Department of Computer Science		
7.	Department of Geography		
2019-20			
SCIENCE & HUMANITIES STREAM			
1.	Department of Botany		
2.	Department of Chemistry		
3.	Department of Zoology		
4.	Department of Geology		
5.	Department of Physics		
6.	Department of Computer Science		
7.	Department of Geography		
8	Department of English		
9	Department of Marathi		

**DEPARTMENT OF
BOTANY**



Department of Botany

People Biodiversity Register Report 2018-19

Plant Diversity in and around of Ashta and Antarji village of Armori Taluka of Gadchiroli District Maharashtra*PBR submitted by: -B. Sc. II (Department of Botany) students' group 2018-19**Under the supervision of Prof. S.T. Nagdeve and Dr. V.I. Kahalkar***Introduction**

Biodiversity is the base of life on Earth. It is essential for the functioning of ecosystems, which supply us with food and other services without which we couldn't live. Oxygen, food, fresh water, fertile soil, medicines, shelter, protection from storms and floods, stable climate and recreation – all have their source in nature and healthy ecosystems. But biodiversity gives us much more than this. We depend on plant for our security and health.

At the same time, no other feature of the Earth has been so dramatically influenced by man's activities. By changing biodiversity, we strongly affect human well-being and the well-being of every other living creature.

Extinction is a natural part of life on Earth. Over the history of the planet most of the species that ever existed, evolved and then gradually went extinct. Today, species are going extinct at an accelerated and dangerous rate, because of non-natural environmental changes caused by human activities. Some of the activities have direct effects on species and ecosystems, such as forest degradation, spread of non-native species etc. Therefore, urgent need survey and documentation of existents biodiversity.

Objective: -

1. To identify the plant diversity of Ashta and Antarji village.
2. To enlisting and documentation of vegetation.

Methodology: -

The present study is being undertaken with local people a view to explore the plant resources of Ashta and Antarji of Taluka Armori and Gadchiroli Districts. The study was carried out in the month of 22th January. Entire region explored by random survey and prepare list of plant. All the plant specimens were identified by using flora.

In the enumeration, the sequence of families has been followed after Bentham and Hookers classification System. The nomenclature has been adapted based on latest taxonomic literature and in recommendation made by International Code for Botanical Nomenclature (IUCN). Local name has been given wherever available. A short diagnostic description and flowering and fruiting months, for medicinal plants is mentioned.

Observation:

Economic aspects of the plant diversity of Ashta and Antarji :

List of the common crop plant and other import plant appended.

- **Pulses:** *Cicer arietum* (Chana, herbara), *Cajans cajan* (Tur), *Vigna mungo* (Udid), *Vigna radiata* are the pulses species cultivated in the village.
- **Cereals:** *Oryza sativa* (Dhan), *Triticum aetivum* (Gahu), *Zea mays* (Maka) is also cultivated in the village.
- **Vegetable:** *Lycopersicon esculentum* (Tomato), *Solanum melongena* (Wange), *Cucurbita maxima* (Kohala), *Cucumis sativa* (Kundru), *Abelmoschus esculentus* (Bhendi), *Luffa culindrica*, *Luffa acutangula* (Dodka), *Momardica charantia* (Karale), *Hibiscus cannabinus* (Ambadi), *Cyamopsis tetragonaloba* (Gawarsheng) are commonly grown in the village.
- **Fruit:** *Aegle marmelos* (Bel), *Limonia acidissima* (Khawat), *Ziziphus mauritiana* (Bor), *Annona squamosa* (Shitafal), *Buchanania cochinchinensis* (Char), *Embllica officinalis* (Awala), *Mangifera indica* (Amba), *Semecarpus anacardium* (Biba), *Tamarindus indica* (Chinch), *Pithecellobium dulce* (Wilaiti chinch, Chihbilai), *Psidium guajava* (Peru, Gam), *Syzygium cumini* (Jamun), *Carica papaya* (Papaya), *Diospyrous melanoxylon* (Dembhruni), *Musa paradisiaca* (Kela) are encountered.

- **Medicinal plant :** *Abrus precatorius*, *Achyranthes aspera*, *Adhatoda zeylanica*, *Aegle marmelos*, *Andrographis paniculata*, *Anogeissus latifolia*, *Asparagus racemosus*, *Azadirachta indica*, *Cassia tora*, *Celastrus paniculatus*, *Curculigo orchioides*, *Elephantopus scaber*, *Emblica officinalis*, *Gardenia resinifera*, *Helicteres isora*, *Holarrhena pubescens*, *Limonia acidissima*, *Mucuna pruriens*, *Phyllanthus amarus*, *Semecarpus anacardium*, *Terminalia arjuna*, *Terminalia bellirica*, *Tridax procumbens*, *Ventilago denticulate* are some example of medicinal plants.
- **Timber tree :** *Tectona grandis* (Sagawan), *Soyimida februfuga* (Rohan), *Chloroxylon swietenia* (Behara), *Cleistanthus collinus* (Garari), *Lannea coromandelica* (Mowai), *Pterocarpus marsupium* (Bija), *Acacia nilotica* (Babul), *Albizia lebbeck* (Chichwa), *Careya arborea* (Kumbhi), *Lagerstroemia parviflora* (Lendhi), *Mitragyna parvifolia*, *Madhuca longifolia* (Moha), *Bridelia retusa* (Kasai) etc.
- **Oil yielding plant:** *Arachis hypogea* (Bhuiseng), *Brassica* sps. (Mohari, Sarso), *Seasamum indicum* (Til), *Ricinus communis* (Erandi), *Linum usitasimum* (Jawas, Alsi),
- **Gum yielding plant :** *Acaccia leucocephala* (Hiwar), *Acaccia nilotica* (Babul), *Lannea coromandelica* (Mowai), *Sterculia urens* (Karu) etc.

List of plant species

Sr. No.	Family	Botanical Name	Local name	Habit
1	Annonaceae	Annona squamosa L.		Cultivated, shrub
2		Polyalthia longifolia (Sonner.) Thw.		Cultivated, tree
3	Menispermaceae	Cissampelos pareira L.		Wild, climber
4		Cocculus hirsutus (L.) Diels.		Wild, climber
5	Papavaraceae	Argemone mexicana L.		Wild, herb
6	Brassicaceae	Brassica juncea (L.) Czern.		Cultivated, herb
7	Cleomaceae	Cleome viscosa L.		Wild, herb
8	Capparaceae	Capparis zeylanica L.		
9	Violaceae	Hybanthus enneaspermus (L.) F. V. Muell		Wild, herb
10	Flacourtiaceae	Casearia graveolens Dalz.		
11		Flacourtia indica (Burm.f.) Merr.		
12	Polygalaceae	Polygala elongata Klein ex Wild.		Wild, herb
13		Polygala erioptera DC. Prodr.		Wild, herb
14	Elatinaceae	Bergia ammannioides Roxb. ex Roth.		Wild, herb
15	Malvaceae	Abelmoschus ficulneus (L.) Wight & Arn.		Wild, shrub
16		Abutilon indicum (L) Sweet		
17		Gossypium herbaceum L.		
18		Hibiscus lobatus (Murr.) O. Kuntze.		Wild, herb
19		Hibiscus panduraeformis Burm.f. S		
20		Hibiscus rosa-sinensis L.		
21		Hibiscus sabdariffa L.		
22		Malachra capitata (L.) L.		Wild, herb
23		Sida acuta Burm.f.		Wild, herb

24		Sida cordata (Burm.f) Borssum		Wild, herb
25		Sida cordifolia L.		Wild, herb
26		Urena lobata L.		
27	Bombacaceae	Bombax ceiba L.		
28	Batneriaceae	Byttneria herbacea Roxb.		Wild, herb
29	Sterculiaceae	Helicteres isora L.		
30		Melochia corchorifolia L.		Wild, herb
31		Steculia urens Roxb.		
32		Waltheria indica L.		Wild, herb
33	Tiliaceae	Grewia damine Gaertn.		
34		Triumfetta rhomboidea Jacq.		
35		Triumfetta rotundifolia Lam.		
36	Malpighiaceae	Aspidopterys cordata (Heyne ex Wall) A. Juss.		
37	Oxalidaceae	Biophytum sensitivum (L.) DC, Prodr.		Wild, herb
38	Rutaceae	Aegle marmelos (L.) Correa		
39		Citrus aurantifolia (Chrism) Sw.		
40		Limonia acidissima L.		
41		Murraya koenigii (L) Spreng		
42	Simaroubiaceae	Ailanthus excels Roxb.		
43	Meliaceae	Azadirachta indica A. Juss.		
44		Melia azedarach L.		
45		Soymida februfuga (Roxb.) A. Juss.		
46	Flindersiaceae	Chloroxylon swietenia DC. Prodr.		
47	Olacaceae	Olax scandens Roxb.		
48	Celastraceae	Cassine glauca (Rottb.) O. Kuntze		
49		Celastrus paniculatus Willd.		
50		Maytenus senegalensis Lam.		
51	Rhamanaceae	Ventilago denticulata Willd.		
52		Ziziphus mauritiana Lam.		

53		Ziziphus oenoplia (L.) Mill.		
54		Ziziphus rugosa Lam.		
55	Vitaceae	Ampelocissus latifolia (Roxb.) Planch.		
56		Ampelocissus ternata (Roth ex Rpem. & Scult.) DC		
57		Cayratia trifolia (L) Domin.		
58		Cissus vitiginea L.		
59	Sapindaceae	Cardiospermum helicacabum L.		
60		Dodonea viscosa (L.) Jacq.		
61		Schleichera oleosa (Lour) Oken		
62	Anacardiaceae	Buchanania cochinchinensis (Lour.) Almeida,		
63		Lannea cormandelica (Houtt.) Merr.		
64		Mangifera indica L.		
65		Semecarpus anacardium L.		
66	Fabaceae	Abrus precatorius L.		
67		Aeschynomene aspera L.		
68		Alysicarpus bupleurifolius (L.) DC. Prodr.		Wild, herb
69		Alysicarpus monilifer (L.) DC. Prodr.		Wild, herb
70		Alysicarpus vaginalis (L) DC. Prodr.		Wild, herb
71		Butea monosperma (Lam.) Taub.		
72		Cajanus cajan (L.) Millsp.		
73		Cajanus scarabaeoides (L.) du Petit-Thouars		
74		Crotalaria montana Roth.		Wild, herb
75		Crotalaria orixensis Rottl ex Willd		Wild, herb
76		Cyamopsis tetragonoloba (L) Taub.		Cultivated, herb
77		Dalbergia sissoo Graham		
78		Desmodium dichotomum (Willd) DC. Prodr		Wild, herb
79		Desmodium gangeticum (L.) DC. Prod		Wild, herb

80		Desmodium triflorum (L.) DC. Prodr.		Wild, herb
81		Glciricidia sepium Steud.		
82		Indigofera linifolia (L.f.) Retz.		Wild, herb
83		Indigofera linnaei Ali		Wild, herb
84		Lablab purpureus (L.) Sweet		
85		Lathyrus sativus L.		
86		Melilotus alba Desv.		Wild, herb
87		Mucuna purpurens (L.) DC. Prodr.		
88		Phaseolus mungo L.		
89		Pisum sativum L.		
90		Pterocarpus marsupium Roxb.		
91		Rhynchosia minima (L.) DC. Prodr.		
92		Smithia conferta Smith.		
93		Stylosanthes fruticosa (Retz.) Alston.		Wild, herb
94		Tephrosia puepurea (L.) Pers.		Wild, herb
95		Tephrosia villosa (L.) Pers.		Wild, herb
96		Teramnus labialis (L.f.) Spreng.		
97		Trigonella foenum-graecum L.		
98		Vigna unguiculata (L.) Walp.		
100		Zornia gibbosa Span.		Wild, herb
101	Caesalpinaceae	Bauhinia racemosa Lam.		
102		Cassia absus L.		Wild, herb
103		Cassia fistula L.		
104		Cassia mimosoides L.		Wild, herb
105		Cassia occidentalis L.		
106		Cassia siamea Lamk.		
107		Cassia tora L.		Wild, herb
108		Delonix regia (Boj.) Raf.		
109		Peltophorum pterocarpum (DC) Bark ex Heyne		

110		Tamarindus indica L.		
111	Mimosaceae	Acacia catechu (L.f.) Willd		
112		Acacia leucophloea (Roxb.) Willd		
113		Acacia nilotica (L.) Del.		
114		Acacia torta (Roxb.) Craib.		
115		Albizia lebbeck (L.) Willd		
116		Albizia procera (Roxb.) Benth.		
117		Leucaena leucocephala (Lamk) de Wit.		
118		Pithecellobium dulce (Roxb.) Benth.		
119	Combretaceae	Anogeissus latifolia (Roxb. ex DC.) Guil & Perr.		
120		Calycopteris floribunda Lam.		
121		Combretum albidum G. Don.		
122		Terminalia bellirica (Gaertn) Roxb.		
123		Terminalia cuneate		
124		Terminalia elliptica		
125	Myrtaceae	Eucalyptus sp.		
126		Psidium guajava L.		
127		Syzygium cumini (L) Skeels		
128	Lecythidaceae	Careya arborea Roxb.Naud.		
129	Melastomataceae	Osbeckia muralis Naud.		Wild, herb
130	Lythraceae	Ammannia baccifera L.		
131		Lagerstroemia parviflora Roxb.		
132		Rotala indica (Willd) Koehne		Wild, herb
133		Woodfordia fruticosa (L.) Kurtz.		
134	Onagraceae	Ludwigia perennis L.		Wild, herb
135	Caricaceae	Carica papaya L.		
136	Cucurbitaceae	Cucumis sativus L.		
137		Cucurbita maxima Duch. ex Lamk.		

138		Diplocyclos palmatus (L.) Jeffrey		
139		Lagenaria siceraria (Molina) Standl		
140		Luffa acutangula (L.) Roxb.		
141		Luffa cylindrica (L.) Roem.		
142		Momordica charantia L.		
143		Trichosanthes cucumerina L.,		
144	Molluginaceae	Glinus lotoides L.		Wild, herb
145		Glinus oppositifolius (L.) A. DC.		Wild, herb
146		Molugo pentaphylla L.		Wild, herb
147	Apiaceae	Coriandrum sativum L.		
148	Aliangiaceae	Alangium salvifolium (L.f.) Wangerin.		
149	Rubiaceae	Gardenia latifolia Ait.		
150		Gardenia resinifera Roth.		
151		Hedyotis corymbosa (L.) Lam.		Wild, herb
152		Ixora pavetta Andr.		
153		Spermacoce articularis L.		Wild, herb
154		Spermacoce pusilla Wall.		Wild, herb
155	Asteraceae	Ageratum conyzoides L.		Wild, herb
156		Blumea lacera (Burm.f.) DC.		Wild, herb
157		Blumea oxyodonata DC.		Wild, herb
158		Caesulia axillaris Roxb.		Wild, herb
159		Cyathocline purpurea (D.Don) O Kuntze		Wild, herb
160		Eclipta prostrata (L.) L. Mant		Wild, herb
161		Elephantopus scaber L.		Wild, herb
162		Emilia sonchifolia (L.) DC.		Wild, herb
163		Gnaphalium polycaulon Pers.		Wild, herb
164		Grangea maderaspatana (L.) Poir.		Wild, herb
165		Parthenium hysterophorus L.		Wild, herb
166		Pentanema indicum L.		Wild, herb

167		Sphaeranthus indicus L.		Wild, herb
168		Spilanthus paniculata L.		Wild, herb
169		Tridax procumbens L.		Wild, herb
170		Vernonia cinerea (L.) Less.		Wild, herb
171		Xanthium indicum L.		Wild, herb
172	Companulaceae	Wahlenbergia erecta (Roem, & Schult) Moel & Tuyn.		Wild, herb
173	Lobeliaceae	Lobelia alsinoides Lam.		Wild, herb
174	Primulaceae	Anagalis		Wild, herb
175	Sapotaceae	Madhuca longifolia (J. Koenig) Macbr.		
176	Ebenaceae	Diospyros melanoxylon Roxb.		
177	Oleaceae	Nyctanthes arbor-tristis L.		
178		Schrebera swietenoides Roxb.		
179	Apocynaceae	Catharantus roseus (L) G. Don.		
180		Holarrhena pubescens (Buch.- Ham.) Wall ex G. Don.		
181		Ichnocarpus frutescens (L.) R. Br.		
182		Nerium indicum Mill.		
183		Plumeria rubra L.		
184		Tabernaemontana divaricata (L.) R. Br.		
185		Thevetia peruviana (Pers.) Schum.		
186		Wrightia tinctoria R. Br.		
187	Asclepiadaceae	Calotropis gigantea (L) R. Br.		
188		Pergularia daemia (Forsk) Chiov.		
189		Wattakaka volubilis (L.f.) Stapf.		
190	Periplcaceae	Criptolepis buchnani Roem. & Schult.		
191		Hemidesmus indicus (L.) R.Br.		
192	Gentianaceae	Canscora decussata Schult & Schult.		
193		Canscora diffusa (Vahl) R. Br.		Wild, herb

194		Canscora heteroclita (L.) Gilg.		Wild, herb
195		Centaurium meyeri (Bunge) Druce		Wild, herb
196		Enicostema axillare (Lam.) Roynal		Wild, herb
197		Exacum pedunculatum L.		Wild, herb
198		Hoppea dichotoma Willd.		Wild, herb
199	Boraginaceae	Cordia dichotoma Forst f. Prodr.		
200		Heliotropium indicum L.		Wild, herb
201		Heliotropium supinum L.		Wild, herb
202		Trichodesma indicum (L) R. Br.		Wild, herb
203	Convolvulaceae	Evolvulus alsinoides (L) L.		Wild, herb
204		Ipomoea aquatic Fosrk.		
205		Ipomoea fistulosa Mart ex Choisy		
206		Ipomoea obscura (L) Ker-Gawl.		
207		Merremia gangetica (L) Cuf.		
208		Rivea hypocrateriformis (Desr.) Choisy		
209		Volvulopsis nummularia (L) Roberty		Wild, herb
210		Xenostegia tridentate (L) Austin & Staples		Wild, herb
211	Solanaceae	Capsicum annum L		
212		Datura metal		
213		Lycopersicon esculentum Mill		
214		Physalis minima L.		Wild, herb
215		Solanum nigrum L.		
216		Solanum melongena L.		
217	Scrophulariaceae	Limnophila aromatica (Lam.) Merr.		
218		Lindernia antipoda (L) Alston		Wild, herb
219		Lindernia ciliata (Colsm.) Pennell		Wild, herb
220		Lindernia crustacea (L) F. Muell.		Wild, herb
221		Scoparia dulcis L.		Wild, herb

222		Stemodia viscosa Roxb.		Wild, herb
223		Striga angustifolia (D. Don) Sald.		Wild, herb
224		Verbascum chinense (L) Santapau.		Wild, herb
225	Martyniaceae	Martynia annua L.		Wild, shrub
226	Acanthaceae	Adhatoda zeylanica Medic.		
227		Andrographis paniculata (Burm.f.) wall ex Nees		Wild, herb
228		Barleria cristata L.		Wild, herb
229		Blepharis maderaspatensis (L) Roth.		Wild, herb
230		Blepharis repens (Vah) Roth.		Wild, herb
231		Eranthemum purpurascens Nees in Wall		Wild, herb
232		Hemigraphis latebrosa (Heye ex Roth) Nees in DC		Wild, herb
233		Hygrophila schulli (Buch..Ham.) M.R. & S.M. Almeida		
234		Indoneesiella echioides (L.) Sreem		Wild, herb
235		Justicia glauca Rottl.		Wild, herb
236		Justicia japonica Thunb.		Wild, herb
237		Lepidagathis cristata Willd.		Wild, herb
238		Peristrophe paniculata (Forssk) Brummitt.		Wild, herb
239		Rungia pectinata (L.) Nees in DC.		Wild, herb
240		Rungia repens (L.) Nees in Wall.		Wild, herb
241	Verbenaceae	Clerodendrum serratum (L.) Moon		
242		Duranta erecta L.		
243		Gmelina arborea Roxb.		
244		Lantana camara L.		
245		Phyla nodiflora (L.) Greene		Wild, herb
246		Tectona grandis L.f.		
247		Vitex negundo L.		
248	Lamiaceae	Hyptis suaveolens (L) Poit.		

249		Leucas cephalotes (Roth) Spr.		
250		Ocimum sanctum L.		Wild, herb
251		Ocimum basilicum L.		Wild, herb
252		Orthosiphon rubicundus (D.Don) Bth.		Wild, herb
253	Nyctaginaceae	Boerhavia diffusa L.		Wild, herb
254		Bougainvillea glabra Choisy		
255	Amaranthaceae	Achyranthes aspera L.		Wild, herb
256		Aerva sanguinoleta (L.) Bl.		Wild, herb
257		Alternanthera sessile (L.) R. Br. ex DC.		Wild, herb
258		Alternanthera tenella Colla		Wild, herb
259		Celosia argentea L.		Wild, herb
260		Gomphrena serrata L.		Wild, herb
261		Trichuriella monsoniae (L.f.) Bennet		Wild, herb
262	Chenopodiaceae	Chenopodium album L.		Wild, herb
263	Polygonaceae	Persicaria barbata (L.) Hara		Wild, herb
264		Persicaria glabra (Willd) Gomez		Wild, herb
265		Polygonum plebejum R. Br.		Wild, herb
266		Rumex dentatus L.		Wild, herb
267	Loranthaceae	Dendrophthae falcata (L.f.) Etting		Parasite
268	Euphorbiaceae	Acalypha ciliata Forsk.		Wild, herb
269		Bridelia retusa (L.) Spreng		
270		Cleistanthus collinus (Roxb.) Bth ex Hook.		
271		Emblica officinalis Gaertn		
272		Euphorbia hirta L.		Wild, herb
273		Jatropha curcas L.		
274		Jatropha gossypifolia L.		
275		Phyllanthus maderaspatensis L.		Wild, herb
276		Phyllanthus urinaria L.		Wild, herb
277		Phyllanthus virgatus Forst.f.		Wild, herb
278		Ricinus communis L.		

279		Sebastiana chamaelea (L.) Muell- Arg.		Wild, herb
280	Moraceae	Ficus benghalensis L.		
281		Ficus hispida L.f.		
282		Ficus religiosa L.		
283		Ficus racemosa L.		
284		Morus alba L.		
285	Orchidaceae	Vanda tessellata (Roxb.) Hook.		Epiphyte
286	Musaceae	Musa paradisiaca L.		
287	Amaryllidaceae	Crinum viviparum (Lam.) R. Ansari & V. J. Nair		
288	Hypoxidaceae	Curculigo orchoides Gaertn.		Wild, herb
289	Taccaceae	Tacca leontopetoides (L) O. Ktze.		
290	Agavaceae	Agavea vera cruz Mill		
291		Sansevieria zeylanica (L) Willd.		
292	Dioscoreaceae	Dioscorea bulbifera L.		
293	Liliaceae	Allium sativum L.		
294		Asparagus racemosus Willd.		
295		Gloriosa superb L.		
296		Iphigenia indica (L.) A.b. Gray		Wild, herb
297		Scilla hyacinthine (Roth.) Mc Bride.		Wild, herb
298	Smilacaceae	Smilax zelyanica L.		
299	Commelinaceae	Commelina benghalensis L.		Wild, herb
300		Cyanotis cristata (L.) D. Don.		Wild, herb
301		Murdannia spirata (L.) Brueck.		Wild, herb
302		Tonningia axillaris (L.) O.Ktze.		Wild, herb
303	Arecaceae	Phoenix acaulis Roxb.		
304	Araceae	Amorphophallus sp.		Wild, herb
305		Theriophonum minutum (Willd.). Buail.		Wild, herb
306	Eriocaulaceae	Eriocaulon quinquangulare L.		Wild, herb

307	Cyperaceae	Bulbostylis barbata (Rottb.) C.B.Cl.		Wild, herb
308		Cyperus compressus L.		Wild, herb
309		Cyperus difformis L.		Wild, herb
310		Cyperus iria L.		Wild, herb
311		Cyperus tenuispica Steud.		Wild, herb
312		Cyperus rotundus L.		Wild, herb
313		Eleocharis acutangula		Wild, herb
314		Eleocharis retroflexa (Poir) Urb.		Wild, herb
315		Fimbristylis argentea (Rottb.) Vahl.		Wild, herb
316		Fimbristylis dichotoma (L.) Vahl.		Wild, herb
317		Fimbristylis miliacea (L.) Vahl.		Wild, herb
318		Fuirena ciliaris (L.) Roxb.		Wild, herb
319		Kyllinga tenuifolia Steud.		Wild, herb
320		Mariscus clarkei (T. Cooke) T. Koyama		Wild, herb
321		Pycnus sanguinolentus (Vahl.) Nees ex C. B. Cl.		Wild, herb
322		Rhynchospora wightiana (Nees) Steud.		Wild, herb
323		Schoenoplectus articulatus (L.) Palla		Wild, herb
324		Schoenoplectus lateriflorus (Gmel.) Lye		Wild, herb
325		Scleria biflora Roxb.		Wild, herb
326	Poaceae	Alloteropsis cimicina (L.) Stapf.		Wild, herb
327		Apluda mutica L.		Wild, herb
328		Aristida redacta Stapf.		Wild, herb
329		Arthraxon hispidus (Thunb.) Makino		Wild, herb
330		Bambusa arundinacea (Retz.) Willd. Sp.		Wild, herb
331		Chloris barbata Swartz.		Wild, herb
332		Chrysopogon fulvus (Spr.). Chiov.		Wild, herb
333		Coix lacryma-jobi L.		Wild, herb
334		Cynodon dactylon (L.) Pers.		Wild, herb

335		Dactyloctenium aegyptium (L.) Willd.		Wild, herb
336		Dendrocalamus strictus (Roxb.) Nees.		Wild, herb
337		Dichanthium annulatum (Forssk.) Stapf.		Wild, herb
338		Digitaria abludens (R. & S.) Veldk.		Wild, herb
339		Digitaria ciliaris (Retz.) Koel.		Wild, herb
340		Dimeria connivens Hack.		Wild, herb
341		Echinochloa colona (L.) Link.		Wild, herb
342		Eleusine indica (L.) Gaertn.		Wild, herb
343		Eragrostiella bifaria (Vahl.) Bor.		Wild, herb
344		Eragrostis japonica (Thunb.) Trin.		Wild, herb
345		Eragrostis riparia (Willd.) Nees.		Wild, herb
346		Eragrostis tenella (L.) P. Beauv.		Wild, herb
347		Eragrostis unioides (Retz.) Nees ex Steud.		Wild, herb
348		Heteropogon contortus (L.) P. Beauv.		
349		Ischaemum indicum (Houtt.) Merr.		
350		Iseilema laxum Hack. in DC.		
351		Microchloa indica (L.f.) P. Beauv.		
352		Oryza rufipogon Griff.		
353		Paspalum scrobiculatum L.		
354		Saccharum spontaneum L.		
355		Sacciolepis indica (L.) A. Chase		
356		Setaria pumila (Poir) R. & S. Syst.		
357		Zea mays L.		
358		Vetiveria zizanioides (L.) Nash.		

Morphology and Uses of Medicinal Plant: -

24 medicinal plants are described alphabetically with their botanical name, family, local name and uses.

- **Botanical Name: - Abrus precatorius**



Family: - Fabaceae

Local Name: - Gunj

Part Use: - Root, leaves and seeds.

Perennial twiners. Leaves abruptly pinnate, thickened and hairy at base; leaflets 10- 20 pairs, opposite. Flowers crowded in many flowered racemes. Petal's pink or white with pink tinge. Pods oblong, with a sharp deflexed beak. Seeds globose, red or white with a black spot.

Local uses: - The root and leaves are astringent, sweet, emetic, diuretic. They are also useful in cough. The seeds are acrid, bitter, purgative and toxic.

- **Botanical Name: - Achyranthes aspera**



Family: - Amaranthaceae

Local Name: - Kutri

Part use: - Whole plant

Erect perennial herbs; branches 4- angled; stem stiff. Leaves ovate, acute at apex. Flowers whitish green or purplish, in elongated terminal spike; bracteole with a spine, falling with fruiting perianth. Utricles enclosed in hardened Perianth.

Local uses: - The plant is acrid, bitter. It is useful in cough, vomiting, inflammation and dropsy.

- **Botanical Name :** - *Adhatoda zeylanica* Medic.



Family: - Acanthaceae

Local Name : - Adulsa

Part uses: - Leaves

Large shrubs; stem terete glabrous. Leaves opposite, elliptic-lanceolate, glabrous; petioles 1–2.5 cm long. Flowers in short, dense, axillary, pedunculate spikes. Calyx divided near to the base; sepals' oblong-lanceolate, acute. Corolla white with pinkish tinge in the throat, limb 2-lipped. Filaments hairy at base. Capsules bluntly pointed. Seeds orbicular-oblong, glabrous.

. **Local uses:** - Leaves are used in cough and asthma.

- **Botanical Name :** - *Aegle marmelos*



Family: - Rutaceae

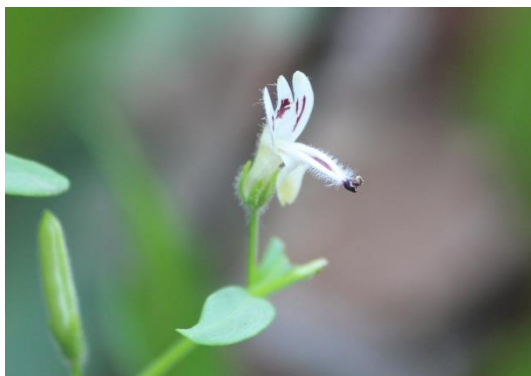
Local Name : - Bel

Part uses: - Root, leaves, fruit.

Evergreen tall tree, stout thorns. Leaves usually 3-foliolate; leaflets ovate-elliptic. Flowers bisexual, greenish- white, scented in axillary. Stamens numerous; filaments distincts. Ovary ovoid- oblong. Fruits globose, pericarp hard, woody, yellow or orange colored.

Local uses: -The roots are sweet, bitter and useful in diarrhea, dysentery. The leaves are astringent, laxative and are useful in diabetes and asthma. The unripe fruits are bitter, acrid and are useful in diarrhea, dysentery.

- **Botanical Name: - *Andrographis paniculata***



Family: - Acanthaceae

Local Name: - Bhuineem

Part use: - Whole Plant

Annual herbs. Leaves linear- lanceolate, entire, acute, base tapering. Flowers distant, in lax terminal and axillary racemes or panicles, Corolla 2- lipped, glandular- pubescent outside, white with pink or purplish- violet marking. Capsule linear, acute at both ends. Seeds many, rugose.

- **Local uses:** -The plant is bitter, acrid, laxative. It is useful in typhoid and cough.

- **Botanical Name : - *Anogeissus latifolia***



Family: - Combrataceae

Local Name :- Dhawada

Part uses: - Bark

Deciduous trees with smooth bark, off in thin flakes and leaving roundish scars on the stems. Leaves alternate or subopposite, elliptic- oblong, apex obtuse. Flowers sessile in dense heads. Calyx pubescent. Petals absent. Stamens 10, exserted. Fruit wings with a long beak, crowded in heads.

Local uses: -The bark is astringent, acrid, urinary astringent. It is useful in cough and vata, wound, ulcer, diarrhea and diabetes.

- **Botanical Name :- *Asparagus racemosus* Willd,**



Family: - Liliaceae

Local Name :- Shatavari, Marbat

Part use: - Tuberous root.

Scandent extensive shrubs, with prickly branches; root tuberous. Leaves reduced to spines, linear- subulate, straight or recurved. acicular. Raceme's axillary. Flowers on filiform jointed pedicels. Perianth white. Stamens 6. Fruit fleshy, globose. Seed solitary.

Local uses: -The root is bitter, sweet, cooling, nervine, tonic, diuretic. They are useful in nervous disorder and diarrhea.

- **Botanical Name: - *Azadirachta indica***



Family: - Meliaceae

Local Name: -Kadu Nimb, Neem.

Part use :- Leaves and root

A large tree. Leaves crowded at the end of the branches; leaflets 9-13 pairs, serrate. Flowers in axillary panicles. Stamens 10; staminal tube glabrous, shorter than petals. Drupes ellipsoid, 1-seeded.

Local uses: - The leaves and root extract is given in leprosy and leucoderma. The leaves extract is also use in snake-bite and skin diseases.

- **Botanical Name: - Cassia tora**



Family: - Caesalpinaceae

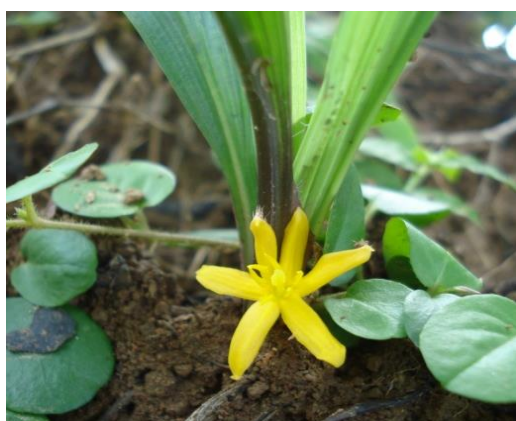
Local Name: - Tarota

Part use :- Whole plant

Annual herb. Leaflets 3 pairs, gland between each of the 2 lowest pairs of leaflets, obovate-oblong. Flowers in subsessile axillary pairs. Petals yellow sub equal. Stamens 10; staminodes present. Pods subterete, linear, glabrous. Seeds and numerous, brown-smooth.

Local uses :- The plant extract is used to cure psoriasis.

- **Botanical Name: - Curculigo orchioides**



Family: - Hypoxidaceae

Local Name: - Kali

Part use :- Root

Perennial herbs, with elongated fleshy root fiber. Leaves radical, sessile or short petiole, linear-lanceolate, plicate. Flowers scape very short, the flowers appearing almost at the ground level, few flowers, yellow, in raceme. Upper male, lower bisexual. Stamens 6. stigma 3. capsule hairy. Seeds black, beaked.

Local uses: - The roots are sweet, cooling, diuretic, tonic and are use in skin-diseases, asthma.

- **Botanical Name: - Celastrus paniculatus**



Family: - Celastraceae

Local Name: - Malkangoni

Part use: - Leaves and Seed.

Unarmed scandent shrub; branches covered with lenticular warts. Leaves alternates, serrate in upper half, entire in lower half. Flowers often unisexual, in terminal panicles. Petals creamy-white. Capsule globose, greenish- yellow, 3-valve. Seeds brown, ovoid.

Local uses: - The leaves are emmenagogue and leaf sap is a good antidote for opium poisoning. The seeds are acrid, bitter, stimulant.

- **Botanical Name: - Elephantopus scaber**



Family: - Asteraceae

Local Name: - Ran tambhaku

Part use: - Root

Erect herb; stem hairy, dichotomous branched near the top. Leaves radical, forming rosette on ground, serrate- dentate, hairy on both surfaces. Heads homogamous, purple usually clustered at the end of branches, surrounded by 3- large foliaceous bracts. Achenes ribbed, hairy.

Local uses: -The root decoction is specific for piles and haemorrhoids.

•**Botanical Name: - Emblica officinalis**



Family: - Euphorbiaceae

Local Name: - Awala

Part uses: - Fruit

Small tree with white- grey bark. Leaves pinnate, closely set along branchlets, distichous. Flowers in axillary fascicles. Fruit fleshy, globose, succulent, with 6 obscure, vertical furrows. Seeds 6, trigonous.

Local uses: - The fruit are given to cure diabetes, heart disorder and diarrhea.

•**Botanical Name :- Gardenia resinifera**



Family: - Rubiaceae

Local Name :- Dikamali.

Part use: - Resin (gum)

Small tree; young bud resinous. Leaves elliptic- oblong, glabrous, thinly coriaceous, shining, shortly acuminate, short petiole. Flowers solitary, axillary, fragrant, white turning yellow. Calyx pubescent. Fruit ellipsoid, smooth, with persistent calyx. Seeds numerous, small, flat, brown.

Local uses: - The resin is bitter, digestive. It is useful in vata and cough, intestinal worms.

- **Botanical Name: - *Helicteres isora* L.**



Family: - Combretaceae

Local Name: - Atai, Muralsengh

Part use: - Fruit

Erect shrubs; branchlets rough. Leaves broadly elliptic, slightly obliquely cordate at base, shortly acuminate at apex, scabrous with stellate hairs mixed with simple hairs on the upper surface, main nerves 3-5, arising from the base. Flowers axillary, solitary or in clusters. Calyx tubular, 2-lipped, stellate pubescent outside. Petals red, unequal. Staminal tube slightly bent on one side at the tip, exserted; stamens 10. Follicle linear, twisted together. Seeds many, angular, wrinkled, black.

Local uses: -Fruits are astringent, acrid, demulcent. It is useful in diarrhea and dysentery.

- **Botanical Name :- *Holarrhena pubescens***



Family: - Apocynaceae

Local Name :-Kuda.

Part use: - Bark, Seed and Leaves.

Large shrubs or small trees. Leaves broadly elliptic- ovate, entire. Flowers white scented, in terminal corymbose cyme. Stamens free, included. Follicle green, cylindric with white spots. Seeds tipped with deciduous comose of brown hairs.

Local uses: - The bark and seeds are bitter, astringent, acrid, digestive and tonic. They are useful in amoebic dysentery, diarrhea and dysentery. Leaves are used in ulcer and dysentery.

- **Botanical Name :- *Limonia acidissima***



Family: - Ruataceae

Local Name :- Khair

Part use :- Bar, leaves and fruit.

Tree with sharp straight spines. Leaves imparipinnate; petiole & rachis flat, narrowly winged, leaflets opposite. Flowers in lateral and terminal, lax panicles, reddish in bud, turning to pale-yellow, bisexual. Petals 5. Ovary globose; style short. Fruits globose, woody, unilocular. Seeds numerous.

Local uses: - The bark is aromatic and used for pitta. The leaves are aromatic and useful in diarrhea, vomiting, cough. The ripe fruit is used for diarrhea, dysentery, vomiting and stomachic.

- **Botanical Name : - *Morinda citrifolia***



Family: - Rubiaceae

Local Name : - Ali,

Part use: - Fruit & leaves.

Tree; branches obtusely 4-angled, smooth, vertically fissured. Leaves opposite, decussate, broadly elliptic-lanceolate, tapering at base, acute or acuminate at apex, young leaves tomentose on both sides; stipule connate, broad. Membranous. Flowers in axillary, peduncled

cluster. Corolla white, funnel shaped; mouth hairy. Stamens 5. Anthers slightly exserted. Fruits irregularly globose, smooth.

Local uses: -Fruit juice in cancer medicine & tonic. The leaves are digestive febrifuge, tonic, gastropathy, diarrhea etc. Well known ayurvedic medicine 'noni' prepared from this plant.

- **Botanical Name : - Mucuna pruriens**



Family: - Fabaceae

Local Name : - Khajkhujali

Part use: - Root, leaves and hairs.

Extensive twiners. Leaves 3- foliolate; leaflets rhomboid- ovate. Flowers purple many. in dense pendulose racemes. Pods 5-6 cm long, curved on both ends, clothed with brown bristly. Seeds 4-6, dark brown.

Local uses: - The root is bitter, stimulant, diuretic. It is use for vata. The leaves are anthelmintic, tonic and it is use in ulcer. The seeds are laxative useful in sterility. The hairs are vermifuge.

- **Botanical Name :- Phyllanthus amarus**

Family: - Euphorbiaceae

Local Name: - Buiawala

Part use: - Root

Erect, annual herb; branches teret, glabrous. Leaves distichus, elliptic-oblong, rounded at both ends, entire, green above glaucous beneath, subsessile. Petiole absent or very short. Flowers small in leaf axillary, 1-2 together, greenish. Stamens 3; exserted, filament connate. Style 3, bifid at apex. Capsule dry, dehiscent, globose, depressed at apex. Seed 3-gonous with 5-7 with longitudinal ribs.

Local uses: -Root use to cure jaundice.

- **Botanical Name :- *Semecarpus anacardium***



Family: - Anacardiaceae

Local Name: - Biba

Part use: - Fruit and seed

Small tree. Leaves simple, obovate- oblong, rounded at apex, coriaceous, glabrous above, gray- tomentose beneath. Flowers small, polygamous in terminal panicles. Petals 5-6. Stamens 5-6, imperfects in female flowers. Ovary subglobose, densely pilose; 3- style. Drupes smooth and shining, black when ripe

Local uses: - Fruit is use in cough, piles and liver tonic. The seed oil is anthelmintic.

- **Botanical Name :- *Spilanthus paniculata***



Family: - Asteraceae

Local Name: - Akalkara

Part use: - Flowers

Annual herb. Leaves opposite, ovate- oblong, narrowed at base into short petiole, acute. Head discoid, solitary or subpaniculate. Marginal florets uniseriate, female, with yellow corolla. Central florets numerous, bisexual with yellow corolla. Achenes obvoid or truncate with ciliate margins. Pappus absent.

Local uses: -Flowers uses to relivestoothache and mosquito larvicide.

- **Botanical Name: -Terminalia arjuna**

Family: - Combrataceae

Local Name: - Arjun

Part use: - Bark

Tree with smooth, white bark, flaking off into large flat pieces. Leaves subopposite; petiole with 1 or 2 prominent glands at the top immediately below the leaves. Flowers sessile in short axillary spike or terminal panicles. Stamens 10, much exserted. Drupes 5-angled, woody, glabrous, dark brown with 5 hard projecting wings.

Local uses: - The bark is astringent, sweet, caediotonic, antidysenteric & tonic. It is useful in fracture, ulcer, asthma etc.

- **Botanical Name: -Terminalia bellirca**



Family: - Combrataceae

Local Name: - Behada

Part use: - Fruit

Large tree, bark ash-coloured. Leaves crowded at the end of branches, coriaceous, obtuse or rounded at apex, glabrous, without glands at base. Flower in axillary and terminal simple or branched spike. Drupe ellipsoid or subglobose, softly tomentose.

Local uses: - The fruit is given various diseases like cough, fever and indigestion. The fruit also use in Triphala Churna.

- **Botanical Name :-Tridax procumbens**



Family: - Asteraceae

Local Name: - Kambermodi

Part use: - Whole plant

Procumbent herbs. Leaves ovate- elliptic. Heads heterogamous, on retrorsely hirsute peduncle. Marginal florets 4- 8 white or yellow with ligule. Central florets many, with yellow corolla. Achenes densely silky black. Pappus many aristate bristles.

Local uses: -Freshplant juice is applied for to cure cuts and wounds.

- **Botanical Name: - Ventilago denticulata**

Family: - Rhamanaceae

Local Name: - Rakatpapali

Part use: - Bark

Large straggling shrubs. Leaves ovate to elliptic. Flowers greenish yellow in axillary fascicles. Fruits greenish- yellow, winged with prominent midrib, rounded at apex and minutely bifid style remains, cupular persistent calyx at base.

Local uses: - The bark is bitter, astringent and is useful in cough, leprosy, skin diseases.

- **Edible Plant: -**

The major food of the local people is Rice and Wheat. In addition to this farmer and labour collect various plants from the forest, barren land and field boundaries for edible purpose. Such as *Holarrhena pubescens* (Kuda), *Alternanthera sessilis* (Patoor bhaji),

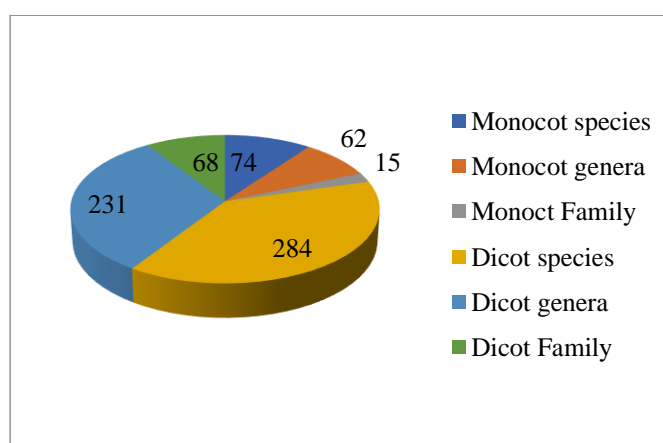
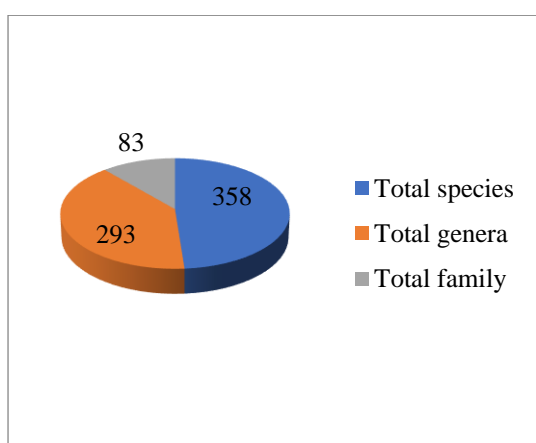
Chenopodium album (Math), *Cassia tora* (Tarota) etc. They use these plants for themselves and sell in market.

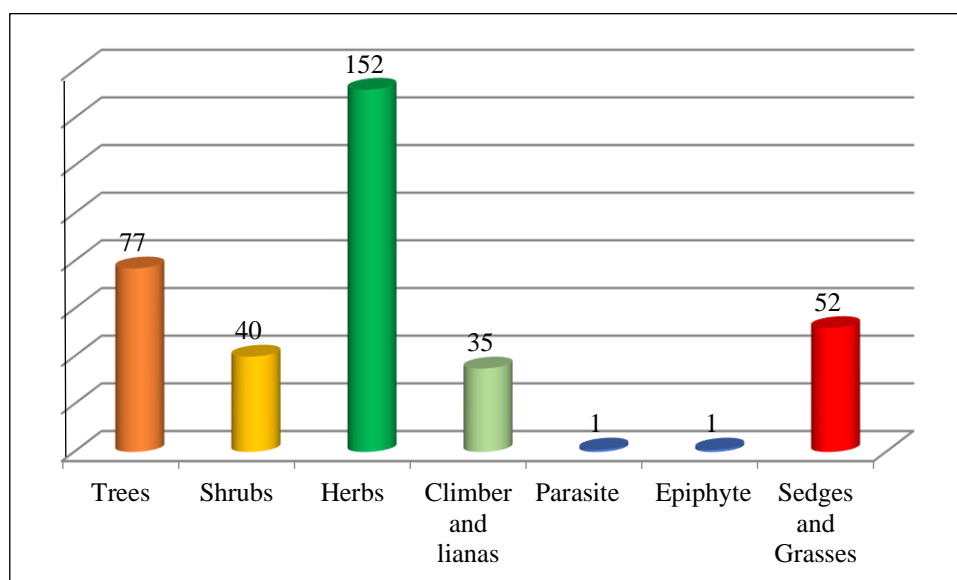
Result and Conclusion:

The present study reveals the presence of 358 species of angiosperm belonging to 293 genera and 83 families out of which 284 species in 231 genera and 68 families belonging to dicot and 74 species in 62 genera and 15 families belong to monocot. All recorded 358 species in recent study categorized into tree (77), climber and lianas (35), shrubs (40), herbs (152) and parasite (1) and epiphyte (1).

The present study provides information on 26 medicinal plant species by uses local people in various diseases like skin disease, cough, fever, asthma, tonic, snake-bite, intestinal worm, dysentery, Jaundice. Some plants are used as a food and vegetable in particular season. As these peoples are use these plants but do not conserve. There is an urgent need to create awareness among them for conservation of medicinal plant earlier than they are entirely vanished from the area.

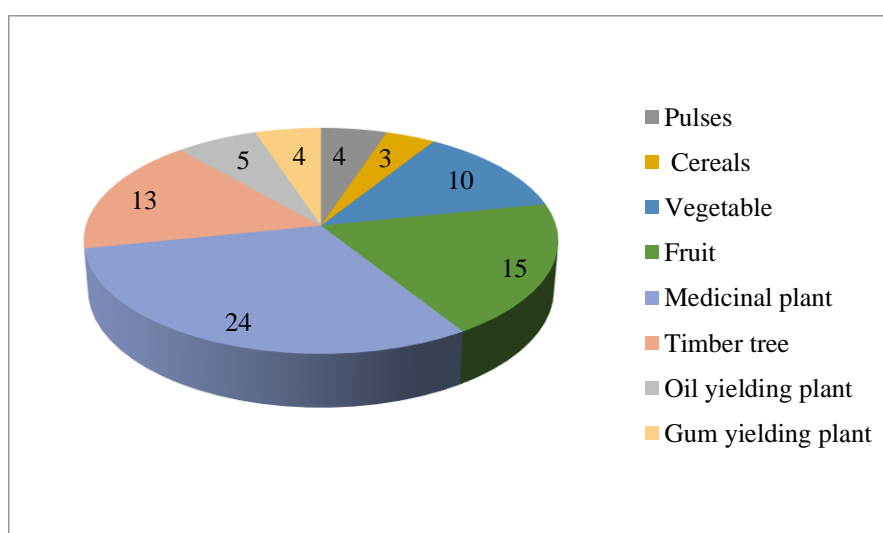
Floristic spectrum of Angiospermum in Ashta and Antarji area is shown in following pie-diagram.





Life forms

Economical Important Plant



Recommendation:

1. Awareness program and workshop organized for the local people and work on the forest conservation strategies.
2. The exotic species like *Parthenium*, *Lantana camera* etc. eradicate from area.



Collection and observation of plant



Botany PBR Group



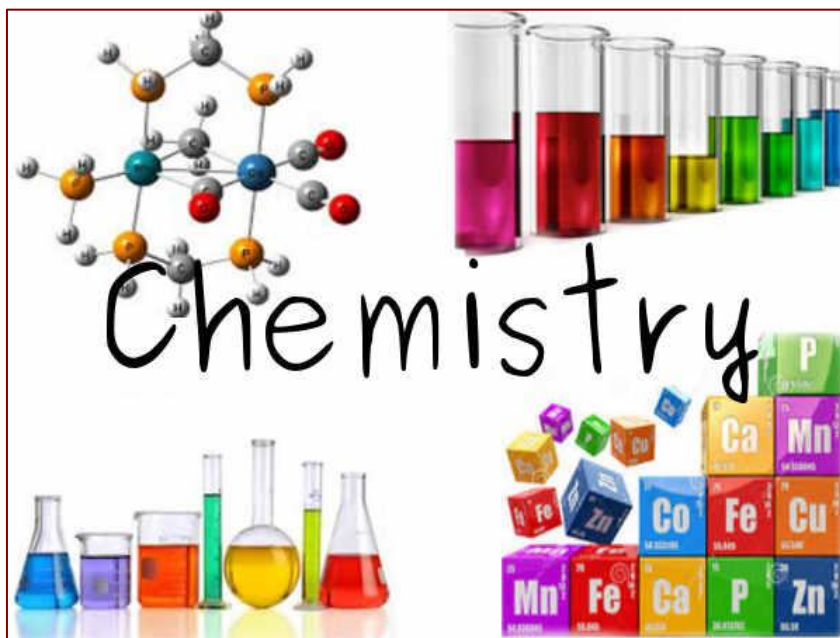
Teacher guidance during field study







DEPARTMENT OF CHEMISTRY



Department of Chemistry**Chemistry PBR Report 2018-19****Physico-Chemical analysis of water and soil of Ashta and Antarji village of Armori tehsil, Gadchiroli district Maharashtra***PBR submitted by: -B. Sc. II (Department of Chemistry) students group 2018-19**Under the supervision of Prof. S.M. Sontakke and Prof. G.P. Juare*

1.	Name of study area	Ashta and Antarji
2.	Date of collection of sample	17/01/2018
3.	Date of completion of analysis	25/03/2018
4.	Name of village	Ashta and Antarji
5.	Name of Gram panchayat	Kasvi
6.	Pincode of study area	441208
7.	Tahsil	Armori
8.	District	Gadchiroli
9.	State	Maharashtra

❖ STUDY AREA: ASHTA & ANTARJI- Geographical View

Gadchiroli, emerged as a district on 26 Aug 1982 having area about 14412 sq. Km. Geographically Armori tahasil is towards northern west side of Gadchiroli. And Ashta is 7Km and Antarji village is 5 Km from Armori to the east. River Gadhavi is flowing northern south direction which meets to the Vainganga river at Awalgaon.

Altitude range of Ashta and Antarji village is 20°32'6'' north and longitudinal range is 80°00'8'' east.

There are two lake and Gadhavi River about 100 meters away from the village. Borewell, dugwell and recently water treatment plant is set up on the river which provides drinking water for the people of Ashta and Antarji.

Map of Antarji Village



Map Of Ashta Village



❖ **METHODOLOGY**

The complete PBR project consists of two parts.

1. Survey of Ashta and Antarji village using questionnaires and peoples attitude about water quality they used, misused, water recharging, shortage of water, and their role in conservation of water.

2. To study various parameters of water by using water sampling kit and titration method. In this connection total 5 parameters were evaluated like TDS, Total Hardness, P^H, Chlorine, and fluoride. Total 14 samples were collected from the different location of Ashta and Antarji village by four group of students and parameters were analyzed which are listed in table 1 and table 2.

Peoples Biodiversity Register of Ashta Village

(7 km. from Armori)

Villager Name: - House No. 26/2, (Land 3 Acre.)

Questionnaire

Q. 1 -What are various sources of water in Ashta area (village)?

Ans.: - Dug well, bore well, pond and river.

Q.2 - In rainy season, whether chlorination of drinking water is carried out by Gram panchayat or not?

Ans.: - Yes, Chlorination is done by Gram Panchayat in drinking water.

Q.3 -What is difference between pure water & impure water in your sense?

Ans.: - pure water is clean, Impure water is more dirty and turbid.

Q.4 - Generally well water quality is good in comparison with Bore well water. What is your Experience?

Ans.: - As per my opinion Bore well water is good in comparison with Dug well.

Q.5 - Do you know, we get important minerals like calcium and fluoride from water?

Ans.: - we don't have any idea about this.

Q.6 -Do you feel water scarcity in summer season?

Ans.: - yes, it is for farming, drinking water is sufficient.

Q.7 -Do you think we the people are responsible for the water scarcity?

Ans.: - Yes

Q.8 -Water scarcity arises due to improper management and improper recharging of water. What is your opinion?

Ans.: - No, we don't have any idea

Q.9 -Whether water resources in your area is sufficient for irrigation point of view?

Ans.: - Yes, canal water is available.

Q.10 -We can differentiate between soft water & hard water due to chemical activity.

Water which gives more scum (salt) it is called hard water if less scum (salt) is formed it is called soft water. Do you aware about it?

Ans.: - No

Q.11 -What type of insecticide & pesticide you are using for agriculture purpose.

Ans.: - Mithen, shambhu, rogor etc.

12 -Due to washing of cloth, pollution of lake takes place. Do you aware about it?

Ans.: - Yes

Q.13 -In rainy season, do you drink water after chlorination or boiling?

Ans.: - Yes, by chlorination.

Q.14 -Which method you applying for cold water in summer season.

Ans.: - Water store in matka (tub) made from soil. .

Q.15 -What type of method you are applying for water purification?

Ans.: - by filtration.

Q.16 -What type of ayurvedic medicine (Jadibuti) you were practicing earlier?

Ans.: - Extract of Garadi, Extract of Kadunimb use as insecticide as well as pesticide.

Q.17 -What are the solution for water scarcity in summer season.

Ans.: - Bandhara should be built in order to remove water scarcity.

Q.18 -What is the method for the removal of salt from water?

Ans.: - Alum is use.

Q.19 - Is there any effect of impure water on the production of crop.

Ans.: - we don't have any idea.

Group No. 02

A) Physico-chemical Analysis of Borewell Water (Ashta)

	<i>Chloride</i>	<i>Hardness</i>	<i>pH</i>	<i>TDS</i>	<i>Fluoride</i>
Hand pump 01	Nil	260	5.95	430	0.5
Hand pump 02	Nil	128	4.99	515	0.5
Hand pump 03	Nil	114	3.84	473	0.5
Hand pump 04	Nil	112	4.46	308	0.5
Hand pump 05	Nill	60	3.67	216	0.5
Hand pump 06	Nill	168	4.18	143	0.5
Hand pump 07	Nill	216	3.72	104	0.5

B) Physico-chemical Analysis of Wells Water (Ashta)

	<i>Chloride</i>	<i>Hardness</i>	<i>pH</i>	<i>TDS</i>	<i>Fluoride</i>
Dw-01	Nil	260	4.94	446	0.5
Dw-02	Nil	140	5.20	643	0.5
Dw-03	Nil	40	5.54	219	0.5
Dw-04	Nil	60	3.84	570	0.5

DISCUSSION

1. Hand Pump Water (Borewell) of Ashta Village

Borewell water sampling and analysis as per location given in the table. We have selected seven locations of handpump some are private and some are public boerwell.

- The concentration chloride is negligible in all the borewell sample of Ashta village. In such case there is possibility of water borne diseases in rainy season.
- Hardness of all handpump water samples varies from 60 ppm to 260 ppm. all the sample are soft with respect to hardness
- Concentration of fluoride is constant (0.5 ppm) in all most all the sample of handpump.
- Few sample of kasvi village handpump are acidic in nature HP-07,HP-03 HP-05.
- TDS of the entire handpump water sample are in the range of standard specification (IS-10500).

2. Dugwell water of Ashta village

- There are four wells in Ashta village as per location given in table. There is no chlorine percentage in all well water.
- Concentration of fluoride is constant (0.5 ppm) in all well water.
- Hardness of well water sample varies from 40 to 260 almost all in the range of standard specification (IS-10500) the nature of water is soft in all well water.
- pH of all well water is in the range std. specification except (Dw-04) which is found to be acidic in nature.
- TDS of all water water varies from 219 to 643 i.e. well water Dw-02 and Dw-04 are above the range of standard range of specification (more than500).

❖ Conclusion

1. From survey of Ashta village regarding awareness of water quality and use of it for the drinking purpose about 80% people does not have any idea about water parameter and purification of water for drinking purpose.
2. Nearly 50% people are aware about boiling of water gives pure water and importance chlorination in rainy season.
3. Regular awareness camp by the college in Ashta village with the help of student, the percentage awareness of people with respect to water quality use increasing.

4. From chemical analysis percentage of chloride and fluoride is constant through analysis.
5. Some handpump samples namely HP-07, HP-03, HP-05, are acidic in nature.

❖ Recommendation

1. Handpump namely HP-07, HP-03, HP-05 and Dw-4 are banned for use.
2. Peoples are advice to use treated water for drinking water.

Group No.3 Soil Sample Analysis

Department of chemistry, Peoples biodiversity register group (PBR) visited Ashta village on 17 January, 2019 for the collection of soil samples. Total 18 samples were collected from Ashta village by adopting standard procedure for collection of soil sample and analysed parameter in collaboration with Government Agriculture College, Gadchiroli. Students of chemistry PBR group learn all techniques and procedure regarding soil parameter analysis and analyzed the entire sample with them. The results obtained are given below.

Observation Table: -

Sr. No.	P ^H of Soil	Dissolved salt in water	Total Organic carbon (Nitrogen%)	Available phosphorus	Available Potassium
1.	7.3	0.51	0.92	54.94	470
2.	7.3	0.61	0.84	81.10	430
3	7.3	0.27	0.86	47.09	591
4	7.6	0.51	0.84	81.10	484
5	7.1	0.53	0.93	81.10	417
6	7.0	0.46	0.83	52.32	349
7	7.7	0.26	0.69	81.10	470
8	7.2	0.37	0.62	28.78	403
9	7.6	0.63	0.78	54.94	524
10	7.2	0.36	0.78	41.86	390
11	7.2	0.44	0.69	52.32	349
12	7.5	0.28	0.68	54.94	484
13	7.6	0.48	0.69	47.09	524
14	7.3	0.48	0.50	62.78	430
15	7.6	0.39	0.62	57.55	484
16	8.1	0.43	0.47	41.86	486
17	7.4	0.46	0.50	60.17	349
18	7.3	0.33	0.60	52.32	376

Conclusion: -

1. All the soil sample of Ashta village with respect to P^H are in the range of standard (6-8) except sample number 16
2. Percentage of dissolved salt in water is in good agreement with standard specification (0.18-0.63)
3. Percentage of organic carbon content in the soil indicates the percentage of nitrogen in the soil. Deficiency of nitrogen is responsible for improper growth of plant and becomes Yellowish in color.
4. In Ashta 58 % soil sample contain excess nitrogen where as 42% soil Sample is borderline of standard specification.
5. Total phosphorus content in the soil is responsible for proper growth of micro-organism and reduces effect of excess nitrogen. In Ashta 20.8% soil sample possess excess phosphorus in the soil whereas 79.2% are within borderline of standard specification.
6. Percentage of Potassium in soil is good for excellent growth of plants and freshness. The entire soil sample contains excess potassium.

Recommendation: -

1. Peoples of Ashta village are advice to use less chemical fertilizer or calculated quantity of Fertilizer.
2. Ashta soil sample content excess nitrogen and potassium therefore fertilizers should content less quantity of these two factors.
3. People advice to use compost or manure to increase the percentage of microorganism in the Soil.
4. Vermicomposting is also alternative solution to increase the quality of soil.

Field Photography

- Visit To soil Chemistry Laboratory in Government Agriculture college, Gadchiroli



- Collection of soil sample from Ashta village and collection of water sample from Antarji village



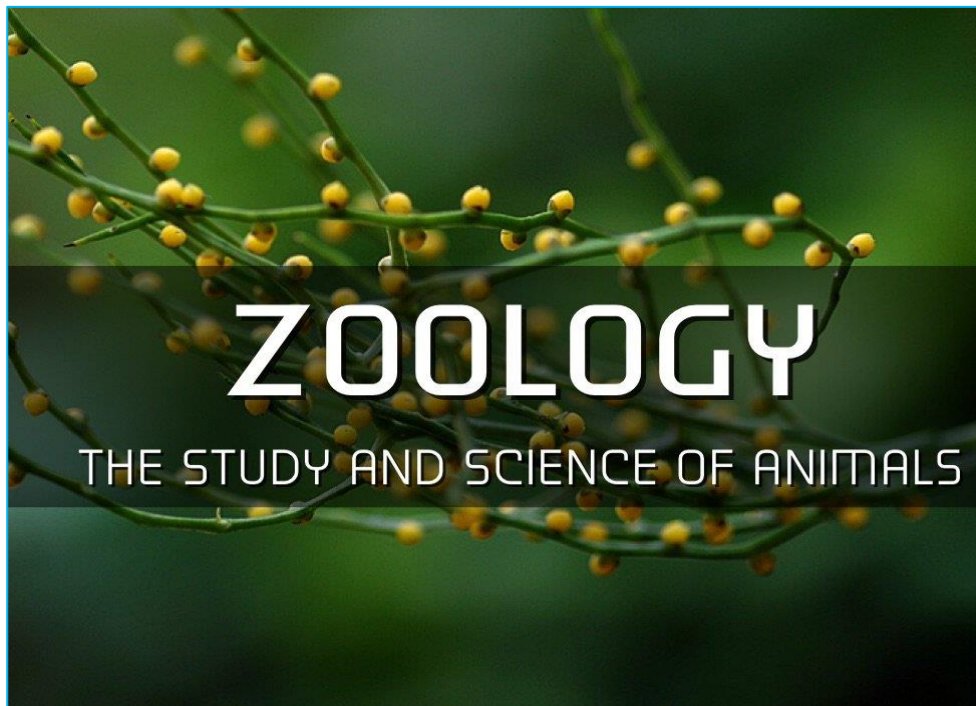
प्रमाणित - 12/02/19



आष्टा व अंतरजी येथे माती, पाणी परीक्षण

आरमोरी : येथील महात्मा गांधी महाविद्यालयातील रसायनशास्त्र विभागाच्या वतीने वीएससी द्वितीय वर्षाच्या विद्यार्थ्यांनी पर्यावरण अभ्यास समितीतर्फे आष्टा व अंतरजी येथे माती व पाण्याचे परीक्षण करण्यात आले. रसायनशास्त्र विभागाच्या विद्यार्थ्यांनी गावातील पाण्याचे तसेच शेतातील मातीचे नमुने गोळा केले. आष्टा गावातून ८ तर अंतरजी गावातून ५ नमुने गोळा करून प्रयोगशाळेत पाठविण्यात आले. याप्रसंगी रसायनशास्त्र विभागप्रमुख प्रा. गंगाधर जुआरे, प्रा. सतीश सोनवळे, प्रयोगशाळा तंत्रज्ञ लक्ष्मण निमजे, प्रा. ज्योत्सना डहाळे तसेच ३५ विद्यार्थी उपस्थित होते.

DEPARTMENT OF
ZOOLOGY



Department Of Zoology

Peoples Biodiversity Register Report Entitled

Insect Diversity in and Around Antarji and Ashta Villages of Armori Tahsil, Dist-Gadchiroli (M.S.)

PBR submitted by B. Sc. II (Department of Zoology) students' group 2018-19

Under the supervision of Dr. J.N. Papadkar and Dr. R.N. Chavhan

Introduction: -

The diversity of insects was studied in the Antarji and Ashta villages of tahsil Armori from **22/1/2019 – 2/2/2019**. The list of species collected from the Antarji and Ashta villages of tahsil Armori is given in the table. The insect diversity was found to be very high in the month of **January 2019**.

A detailed study of the diversity of insect in **two** villages includes **Silverfish, Springtails, Mayflies, Dragonflies, Crickets, Grasshoppers, Earwigs, True bugs, Lacewings, Beetles, True flies, Butterflies, Moths, Bees, ants and wasps** belonging to 16 families and **12** orders. The Study of insect diversity indicated the fact that their population was governed by biotic and abiotic factors.

Insect Classification

The following table shows the traditional classification of the common taxa of village insects. In total, there are about 12 living insect orders. The exact number changes over time as new evidence on evolutionary relationships come to light. The majority of people will recognize many of these orders, at least by their common names. Others, such as the Hemiptera, may not be so familiar, but this order includes the aphids, which are known to all.

In the present investigation on Antarji and Ashta villages of tahsil Armori **16** different species belonging to 16 families and **12** orders was recorded. They are tabulated.

Classification table

Sub-Class	Order	Common name
Apterygota: Wingless primitive insects	<i>Thysanura</i>	Silverfish - more common in damp sheds than in the garden, medium sized, flattened, silvery scaled.
	<i>Collembola</i>	Springtails - The most common insect in soil, small, possess a jumping organ, some taxonomists do not include these with the insecta.
Pterygota: Winged insects Division Exopterygota: Wings develop externally, and the young (nymphs) look like small, wingless adults.	<i>Ephemeroptera</i>	Mayflies - Mainly aquatic, found near rivers and ponds, large wings, three "tails", large compound eyes.
	<i>Odonata</i>	Dragonflies - acrobatic aerial predators, and very large, grasping "raptorial" jaws to capture prey.
	<i>Orthoptera</i>	Crickets and grasshoppers - often found in larger gardens where grass and native trees are allowed to go a little wild, feeds on plants.
	<i>Dermaptera</i>	Earwigs - found under rocks in most gardens, elongate and dorso-ventrally flattened.
	<i>Hemiptera</i>	True bugs - feed on plant sap, using their specialised piercing, sucking mouthparts, can be large.
Pterygota: winged insects Division Endopterygota: The larvae look very different to the adults, and undergo metamorphosis in a pupa where the wings develop internally.	<i>Neuroptera</i>	Lacewings - common predators of other insects, including aphids, relatively large wings
	<i>Coleoptera</i>	Beetles - the most diverse group of organisms on Earth, some are important predators of garden pests
	<i>Diptera</i>	True flies - recognised by having just one pair wings, the second pair are modified into halteres, which act as balancing organs.
	<i>Lepidoptera</i>	Butterflies and moths - the most easily recognised garden insects, herbivorous larvae (caterpillars) feed on plants, adult feed on nectar through a long proboscis
	<i>Hymenoptera</i>	Bees, ants and wasps - critically important pollinators in every garden, many small wasps are parasitic, others induce galls on plants. Some show very complex social behaviors.

PBR Group of Zoology Department- Visit date: - 22/1/2019 – 2/2/2019



Study on Bio-Diversity (Asta, Antarji, Rampuri & Palora



Silverfish (*Lepisma saccharina*)



Springtails



Mayflies



Dragonflies



Crickets



Grasshopper



Earwing



True bug

Plate no. 2. Observation of Some insect fauna from Ashta and Antarji Villages



Lacewing



Beetle



True flies



Butterfly



Moth



Honey Bee



Ants



Wasp

Plate no. 3. Observed insect fauna of the Ashta and Antarji village



Baboolwood borer



Baboolwood borer



Aphids



Thrips

Details classification of the observed insects' fauna of Ashta and Antarji.

Kingdom:	Animalia	Kingdom:	Animalia	
Phylum:	Arthropoda	Phylum:	Arthropoda	
Subphylum:	Hexapoda	Subphylum:	Hexapoda	
Class:	Insect	Class:	Entognatha	
Subclass:	Apterygota	Subclass:	Collembola	
Order:	Zygentoma	<i>Allacma fusca</i>		
Family:	Lepismatidae			
Genus:	<i>Lepisma</i>			
Species:	<i>L. saccharina</i>			
Kingdom:	Animalia	Kingdom:	Animalia	
Phylum:	Arthropoda	Phylum:	Arthropoda	
Class:	Insecta	Class:	Insecta	
Subclass:	Pterygota	Order:	Odonata	
Order:	Ephemeroptera	Suborder:	Anisoptera	
Family:	Heptageniidae	Family:	Libellulidae	
Genus:	<i>Rhithrogena</i>	Genus:	<i>Sympetrum</i>	
	Species: <i>R. germanica</i>	Species:	<i>S. flaveolum</i>	

Kingdom:	Animalia
Phylum:	Euarthropoda
Class:	Insecta
Order:	Orthoptera
Suborder:	Ensifera
Family:	Gryllidae
Genus:	<i>Gryllus</i>
Species:	<i>G. campestris</i>

Kingdom:	Animalia
Phylum:	Arthropoda
Class:	Insecta
Order:	Orthoptera
Suborder:	Caelifera
Family:	Acrididae
Genus:	<i>Schistocerca</i>
Species:	<i>S. americana</i>

Kingdom:	Animalia
Phylum:	Arthropoda
Class:	Insecta
Order:	Dermaptera
Family:	Forficulidae
Genus:	<i>Forficula</i>
Species:	<i>F. auricularia</i>

Kingdom:	Animalia
Phylum:	Euarthropoda
Class:	Insecta
Order:	Neuroptera
Family:	Chrysopidae
Genus:	<i>Chrysopa</i>
Species:	<i>C. perla</i>

Kingdom:	Animalia
Phylum:	Arthropoda
Class:	Insecta
Order:	Hemiptera
Family:	Acanthosomatidae
Genus:	<i>Acanthosoma</i>
Species:	<i>A. haemorrhoidale</i>

Kingdom:	Animalia
Phylum:	Arthropoda
Class:	Insecta
Order:	Coleoptera
Suborder:	Adephaga
Family:	Carabidae
Genus:	<i>Amblytelus</i>

Kingdom:	Animalia
Phylum:	Arthropoda
Class:	Insecta
Order:	Diptera
Family:	Syrphidae
Subfamily:	Syrphinae
Tribe:	Syrphini
Genus:	<i>Syrphus</i>
Species:	<i>S. ribesii</i>

Kingdom:	Animalia
Phylum:	Arthropoda
Class:	Insecta
Order:	Lepidoptera
Family:	Papilionidae
Genus:	<i>Papilio</i>
Species:	<i>P. machaon</i>

Kingdom:	Animalia	Kingdom:	Animalia
Phylum:	Euarthropoda	Phylum:	Euarthropoda
Class:	Insecta	Class:	Insecta
Order:	Lepidoptera	Order:	Hymenoptera
Family:	Saturniidae	Family:	Apidae
Genus:	<i>Opodiphthera</i>	Subfamily:	Apinae
Species:	<i>O. eucalypti</i>	Genus:	<i>Apis indica</i>

Kingdom:	Animalia	Kingdom:	Animalia
Phylum:	Arthropoda	Phylum:	Arthropoda
Class:	Insecta	Class:	Insecta
Order:	Hymenoptera	Order:	Hymenoptera
Family:	Formicidae	Suborder:	Apocrita
Subfamily:	Formicinae	Family:	Vespidae
Genus:	<i>Formica</i>	Genus:	<i>Vespula</i>
Species:	<i>F. rufa</i>	Species:	<i>V. germanica</i>

Conclusion: -

Among all describe species few animal species declining in number. In total, there are about 12 living insect orders. The exact number changes over time as new evidence on evolutionary relationships come to light. The majority of people will recognize many of these orders, at least by their common names. Others, such as the Hemiptera, may not be so familiar, but this order includes the aphids, which are known to all.

In the present investigation on *Antarji and Ashta* villages of Tahsil Armori **16** different species belonging to 16 families and **12** orders was recorded.

The total number of animals (16 species) suggests a good healthy condition in the study area. The village surrounding area support rich animal diversity the diversity in this area is not very much influenced by anthropogenic activities in the surrounding area but the increasing anthropogenic are of great concern considering the future existence of these species. By considering these facts, the animals are the bio- monitors of healthy and diversified condition of the area there is a need for awareness in these village communities towards conservation of such diverse fauna.

DEPARTMENT OF GEOLOGY



*Department of Geology**PBR Study Report on***A Study of Shallow Aquifer with Reference to Lithological Characteristics and Water Table in Ashta & Antarji Village of Armori Taluka of Gadchiroli District Maharashtra**

PBR submitted by: -B. Sc. II (Department of Geology) students' group 2018-19

Under the supervision of Prof. Dr. C. P. Dorlikar and Prof. P. S. Ganvir

Introduction: -

Groundwater is gradually moving towards priority in the requirement list of any human settlement. Basically, groundwater exists in two reserves, first is deep aquifers from where only bore wells can gather water, and second is shallow aquifers where dug wells can access. Most of the rural population depends on shallow water aquifers, as dug wells are comparatively easy and cheap to build but at the same time they may lose potentiality on water table depilation. Parent rock of any soil profile also known as bed rock act as shallow water aquifer in any groundwater regime.

Day by day humans are probing new groundwater resources and exploiting them without any pre-balanced estimate, because of which availability of fresh water groundwater is becoming a challenge, especially in summers. Growing population and their demands are creating unavoidable circumstances, which needs an urgent review. Following study is just a tangential view of some observations done regarding groundwater availability in predetermined location for the fulfillment of Peoples Biodiversity Register by second year graduate students of Geology.

Present study is a general approach of shallow water aquifer in Ashta & Antarji village of Armori taluka of Gadchiroli district. In this study following issues were covered with a peripheral view;

- Geology and Geomorphology of the study area.
- Fresh water accessibility in the study area.
- Water utilization pattern of the settlements in the study area.
- Water Table level of the study area.
- Identification of lithological units acquiring shallow water aquifer.

Some Basic Concepts

Types of Ground Water

Groundwater is the most essential requirement for all flora and fauna including human beings. It has various use like in irrigation, industries and most important for domestic purposes. The water which occurs beneath the earth's surface is called groundwater or sub-surface water or underground water. Most of the groundwater is derived from one of the following.

- **Meteoric water**

Meteoric water is derived from the atmospheres. It constitutes the great body of atmospheric, surface and sub-surface water which has accumulated during geologic time. Meteoric water originates in the atmosphere, falls as precipitation (rain) and becomes groundwater by infiltration.

- **Connate water**

The opening or pore space of materials that have built up on ocean floors by sedimentation, were originally filled with sea water. Many important sedimentary rocks are limestone, sandstone and gravels that are deposited and consolidated under water. Some of these sediments are uplifted above sea level along with its water content. Groundwater of this region is called connate water. Sometimes connate water is referred to as 'fossil water'.

- **Juvenile water**

Juvenile water is new water that has never been part of the hydrosphere. It is further classified to origin as- magmatic water, volcanic water and cosmic water. Magmatic water is the water driven out of magma during its crystallization. It is the water derived from magma at shallow depth. Volcanic water is ejected during volcanism and cosmic water is from out of earth atmosphere and never had been a part of hydrosphere.

Types of Groundwater Reserves

Subsurface rock which can accumulate groundwater is known as groundwater reserve. The name for a rock or soil which contains or transmits water and thus is a source of groundwater is referred to as aquifers. 'aqua' means water and 'fer' means to yield.

Therefore, an aquifer is an underground zone or layer which is the source of water. It may be underground zone of gravel, sandstone. Limestone is a good example of aquifer.

- **Unconfined Aquifer**

An unconfined aquifer is one in which water table varies in undulating form and in slope, depending on area of recharge and discharge, pumping from well and permeability, contour map and profile of the water table can be prepared from elevation of water in well that tap the aquifer to determine the quantities of water available and their distribution and movement.

- **Confined Aquifer**

Confined aquifers are also known as artesian or pressure aquifers. Groundwater here is confined under pressure greater than atmospheric by overlying relatively impermeable strata. Water enters a confined aquifer in an area where the confining bed rises to the surface. The aquifer becomes unconfined. A region supplying water to a confined aquifer is known as recharge area.

- **Aquiclude**

A rock body which may be porous enough to hold some quantity of water but which by virtue of its other properties does not allow easy and quick good flow of water is called Aquiclude. It is a particularly impermeable rock mass. Clay is the best example.

- **Aquifuge**

It is an absolutely impermeable formation neither containing nor transmitting water. Areas having such formations cannot provide a chance of groundwater storage, which increases dependability on other sources.

- **Aquitard**

A saturated but permeable stratum that allow groundwater movement but does not yield water freely to well, on contrary they may transmit appreciable water to form adjacent aquifer. This new aquifer can be utilized as a active resource for groundwater with systematic management.

Hydrological properties of rocks

- **Porosity**

Porosity is the property of a rock to contain interstitial pore spaces and is expressed as percentage of the void volume in given volume of rock. Following are some porosity range for some common material.

MATERIAL	n (%)	MATERIAL	n (%)
UNCONSOLIDATED		CONSOLIDATED	
CLAY	45 - 60	SANDSTONE	5 - 20
SILT	35 - 50	LIMESTONE	4 - 20
SAND AND GRAVEL	25 - 40	SHALE	0 - 10
GLACIAL TILL	10 - 25	IGNEOUS AND METAMORPHIC ROCK	0 - 10
		VESICULAR BASALT	5 - 40

- **Permeability**

It is measure of a fluid to flow through a medium. If the material permits rapid movement of the ground water, then it is called as an aquifer. The rate of flow of water through small tubes varies directly as to the hydraulic gradient. Following are some common examples.

EXTREMELY PERMEABLE	>10	Coarse sandstone, limestone and fissured crystalline rocks, pebbles, gravels.
SEMI - PERMEABLE	10 – 0.1	Fined grained sands, loams, slightly jointed crystalline rocks.
IMPERMEABLE	< 0.1	Clays, marls, compact igneous rocks.

- **Hydraulic Conductivity**

In groundwater geology or hydrology, the quantitative measurement of flow or water is generally expressed by the term Hydraulic Conductivity rather than permeability.

The hydraulic conductivity K , may be defined as the flow velocity per unit hydraulic gradient. It is expressed as meters / second

- **Hydraulic Gradient**

The difference in hydraulic head at two points divided by the length is often called as hydraulic gradient. This relationship is of fundamental importance in groundwater studies. Here, Q represent discharge and is expressed as discharge per unit time such as cubic meters per day or gallons per minute. K , as usual, is the hydraulic conductivity and indicates the quantity of water that will flow through a unit cross-sectional area per unit time under a unit hydraulic gradient, at a specified temperature. The value of K ranges from 0.5 m/day to 200 m/day or even more.

Types of Wells

The most common device used by men for tapping groundwater is the well. The 'well' is a vertical opening or shaft excavated into the zone of saturation. Wells serve as reservoirs into which groundwater moves and from which it can be pumped to the surface. The amount of water that a well will yield depends chiefly on the permeability of the aquifer, thickness of the aquifer and diameter of the well.

- **Dug wells** - Dug wells are excavated by means of picks and shovels and their diameter is usually more than one meter. These wells seldom exceed a depth of 20 meters.
- **Driven wells** - The wells in the unconsolidated materials may be constructed by driving a pipe at the end of which there is a drive point. The diameter of such wells seldom exceeds 7.0 centimeters.
- **Bored wells** - The bored wells are constructed in the unconsolidated materials by means of hand or power augers.
- **Jetted wells** - These wells are excavated in the loose earth materials by the force of the jet of water which is produced by pumping water through hollow drill rods.

- **Drilled wells** - The water from consolidated aquifers is extracted by drilling deep wells. These wells are generally constructed by hydraulic rotary drill methods. The drilled wells may attain a depth of 70 meters or more.

Water Usage of Ashta & Antarji Village

Survey of Ashta & Antarji village with special reference to cropping pattern, water utilization and type of irrigation is done to understand water usage pattern.

- Paddy is the chief crop in the study area, which requires a prominent source of water for irrigation.
- Maximum number of farmers takes single crop a year, except few who takes twice a year.
- Basically, there is canal irrigation and dug & bore wells irrigation, of them dug & bore are quite common in fields.
- Gadhavi river towards eastern side of Ashta & Antarji is the major source of water for agriculture purpose.
- In villages very few dug wells were observed in respect to population, government made bore wells having hand pump installed are chief source for domestic use.

Form above observation it is sure that agricultural practice is the major source of income. Individual land belongings is less hence micro water arrangement of irrigation is done by every individual. Such separate arrangements cause mismanaged use of water resource.

Geology and Geomorphology of Ashta & Antarji Village: -

During PBR visit before studying the Aquifer basic information regarding geology and geomorphology is must be understood. Various traverses were taken along and across study area to develop a grid of approximately 100 m. These lines passes through many benchmarks like nalas associated with Gadhavi river. In a preliminary observation following it was observed that, the study area is covered with red to yellow soil somewhere with pockets of grey soil, showing bedrock variation. Red color may be due to ferruginous content leached out from bed rock due to weathering. Prominently reddish sandstone is observed in the area. Sandstone is a very good aquifer as its porosity and permeability is quite fare. Ferruginous cementing material is responsible for red colour.

Geomorphological setup of the area is quite stable with Gadhvai river along eastern side of the study area. Some micro flood plains are observed along the sides of Gadhavi river. There are evidences of soil erosion from the agricultural fields along the river side. Study area is planer in nature without any undulations.

WELL INVENTORY DATA SHEET 1

1. Village: **Antarj**
2. Taluka: **Armori**
3. District: **Gadchiroli**
4. Toposheet No: Quadrant:
6. Altitude: **165 metres** (M.S.L.) 7. Date: **23 – 01 – 19** 8. Time: **11.00 am**
9. Location: **20° 49' N & 80° 09' E**
10. Owner's Name (In full): **Gram Panchayat**
11. Address:
12. Type of well: **Dug Well** 13. Height of Parapet: **0.4 m.**
14. Diameter of well top: **3 m.** 15. Bottom: _____
16. Depth of well: **11 m.** 17. Dimension of the Bore: _____
18. Dug cum bore well: _____ 19. Depth of lining: _____m
20. Nature of lining: _____ 21. Condition of lining: _____
22. S W L Summer /winter: **06 m.** 23. Draw Down Summer/Winter:
24. Use of water: **For Domestic** 25. Quality of water: **Fresh**
26. Geological Formation: **Sandstone**
27. Trajectory: _____
28. Rate: _____
29. Duration of pumping summer/ winter:
30. Quality pumped Summer/Winter: _____ 30-A. Kilt/day: _____
31. Prime mover: _____ Make: _____
32. H.P _____ 32-A R.P.M _____ 32-B Drive _____ 32-C Pump-Type _____
33. Section of the well/lithology: **Sandstone**
34. Log of bore-hole: _____
35. Fluctuation of water table? Post Monsoon (Oct): _____
- Late Monsoon (June): _____
36. Any other remark: _____
37. Temperature: _____ 38. Conductivity: _____ 39. PH: _____
- 39-A D.O: _____
40. Date: **23 – 01 – 19** 41. Reporter:
42. Name of the student: B.Sc. II yr Students.

WELL INVENTORY DATA SHEET 2

1. Village: **Ashta**
2. Taluka: **Armori**
3. District: **Gadchiroli**
4. Toposheet No: Quadrant:
6. Altitude: **165 metres** (M.S.L.) 7. Date: **23 – 01 – 19** 8. Time: **11.00 am**
9. Location: **20° 50' N & 80° 01' E**
10. Ownership: **Private**
11. Address:
12. Type of well: **Dug Well** 13. Height of Parapet: **0.5 m.**
14. Diameter of well top: **2.5 m.** 15. Bottom: _____
16. Depth of well: **15 m.** 17. Dimension of the Bore: _____
18. Dug cum bore well: _____ 19. Depth of lining: _____m
20. Nature of lining: _____ 21. Condition of lining: _____
22. S W L Summer /winter: **6.2 m.** 23. Draw Down Summer/Winter:
24. Use of water: **For Domestic** 25. Quality of water: **Fresh**
26. Geological Formation: **Sandstone**
27. Trajectory: _____
28. Rate: _____
29. Duration of pumping summer/ winter:
30. Quality pumped Summer/Winter: _____ 30-A. Kilt/day: _____
31. Prime mover: _____ Make: _____
32. H.P _____ 32-A R.P.M _____ 32-B Drive _____ 32-C Pump-Type _____
33. Section of the well/lithology: **Sandstone**
34. Log of bore-hole: _____
35. Fluctuation of water table? Post Monsoon (Oct): _____
- Late Monsoon (June): _____
36. Any other remark: _____
37. Temperature: _____ 38. Conductivity: _____ 39. PH: _____
- 39-A D.O: _____
40. Date: **23 – 01 – 19** 41. Reporter:
42. Name of the student: B.Sc. II yr Students.

WELL INVENTORY DATA SHEET 3

1. Village: **Astha**
2. Taluka: **Armori**
3. District: **Gadchiroli**
4. Toposheet No: Quadrant:
6. Altitude: **165 metres** (M.S.L.) 7. Date: **23 – 01 – 19** 8. Time: **11.00 am**
9. Location: **20° 50' N & 80° 01' E**
10. Ownership: **Private**
11. Address:
12. Type of well: **Dug Well** 13. Height of Parapet: **01 m.**
14. Diameter of well top: **4 m.** 15. Bottom: _____
16. Depth of well: **16 m.** 17. Dimension of the Bore: _____
18. Dug cum bore well: _____ 19. Depth of lining: _____m
20. Nature of lining: _____ 21. Condition of lining: _____
22. S W L Summer /winter: **7.2 m.** 23. Draw Down Summer/Winter:
24. Use of water: **For Domestic** 25. Quality of water: **Fresh**
26. Geological Formation: **Sandstone**
27. Trajectory: _____
28. Rate: _____
29. Duration of pumping summer/ winter:
30. Quality pumped Summer/Winter: _____ 30-A. Kilt/day: _____
31. Prime mover: _____ Make: _____
32. H.P _____ 32-A R.P.M _____ 32-B Drive _____ 32-C pump-Type _____
33. Section of the well/lithology: **Sandstone**
34. Log of bore-hole: _____
35. Fluctuation of water table? Post Monsoon (Oct): _____
- Late Monsoon (June): _____
36. Any other remark: _____
37. Temperature: _____ 38. Conductivity: _____ 39. PH: _____
- 39-A D.O: _____
40. Date: **23 – 01 – 19** 41. Reporter:
42. Name of the student: B.Sc. II yr Students.

Conclusion:

Ashta & Antarji villages are major producers of paddy crops with the help of irrigation done by various means including bore & dug wells, canal and most efficient one is Gadhavi river to eastern side of them. During survey following conclusions were drawn;

- Sandstone is the major rock type in the study area.
- Same act as a bedrock and shallow water aquifer in the study area.
- Majority of population depends upon groundwater but the pressure lessens due to the presence of Gadhavi river towards eastern side of study area.
- Many agricultural fields are irrigated with the water from Gadhavi river.
- Same river may be an influent stream for study area which recharges the groundwater level.
- Average static water level (SWL) is 6.46 m.
- Water table level is fare and enough but in summer may increase dependability on deep water aquifer.

Recommendation:

On the basis of observation following recommendation are given to villagers of Ashta & Antarj for the futuristic management of water resource;

- Increasing population pressure and moderate SWL signifies the increasing pressure on deep water aquifer. It is recommended to exploit shallow water aquifer wisely to decrease the pressure on deep water aquifer.
- Mismanaged and individual irrigation practices were observed which may lead to resource loss. It is recommended to make group irrigation arrangements to optimize water usage.
- Gadhavi river act as a recharger hence it is suggested to enhance the recharge points along the river by identifying recharge points and constructing relevant structures along them to increase recharge rate, which will ultimately improve shallow water aquifer.

FIELD PICTURES



Dr. C. P. Dorlikar and P. S. Ganvir teaching the technique to measure depth of well.



Dr. C. P. Dorlikar and P. S. Ganvir discussing Lithological units exposed in well.



P.B.R. team at Antarji



P.B.R. team at Ashta

News of Ashta & Antarji visit for PBR 2018-19

देशीयता - 11/02/19.

भूगर्भशास्त्र विभागातर्फे भूजल सर्वेक्षण



गावातील शासकीय योजनेतील विहिरी तसेच देवराव वाटगुरे, देवाजी वाटगुरे व रुषी भेंडारे, अंतरजी येथील देवाजी निकोडे यांच्या विहिरी विषयक भूगर्भशास्त्रीय दृष्टीकोणातून भूजल अभ्यास केला.

तालुका प्रतिनिधी / ११ फेब्रुवारी

आरमोरी : स्थानीक महात्मा गांधी महाविद्यालयांतर्गत भूगर्भशास्त्र विभागातर्फे प्राचार्य डॉ. लालसिंग खालसा यांच्या मार्गदर्शनाखाली बी.एस्सी भाग २ च्या विद्यार्थ्यांनी पर्यावरण समिती विभागाद्वारे लोकांचे जैवविविधता नोंदवही अंतर्गत आष्टा व अंतरजी या गावाचे भूजल सर्वेक्षण केले.

भूजल सर्वेक्षण, भूजल मापन, भूजल प्रवाह व दिशादर्शक नकाशा तयार करून आष्टा या

विद्यार्थ्यांनी प्रात्यक्षिकाद्वारे माहिती जाणून घेतली.

या सर्वेक्षणाप्रसंगी भूगर्भशास्त्र विभाग प्रमुख प्रा. डॉ. चंद्रकांत डोर्लीकर, प्रा. प्रियदर्शन गणवीर, प्रयोग शाळा तंत्रज्ञ जितेंद्र बोदेले, प्रा. अश्विनी गोटेफोडे, प्रा. सपना कांबळे, प्रा. मिनाक्षी चोपकार, प्रा. नंदनवार यांनी प्रात्यक्षिकाद्वारे मार्गदर्शन केले. या एक दिवसीय अभ्यास दौऱ्याकरीता आष्टा व अंतरजी येथील ग्रामस्थांनी व ४० विद्यार्थ्यांनी सहकार्य केले.

THIRD SEMESTER BACHELOR OF SCIENCE (B.Sc.) (CBCS PATTERN) *Ashti and Antarji*
 Subject Name: GEOLOGY *8.01.2019- 30.1.2019*
 College Name: MAHATMA GANDHI ARTS, COMMERCE & SCIENCE COLLEGE

PBR LIST

Sr	Student Name	Mobile Number	Signature
1	CHHABINA SURESH KARANKAR	8275415223	C. Karankar
2	CHITRALEKHA PRALHAD THENGARI	9763289089	Chitragani
3	DAMINI BHUPENDRA NAKTODE	9623140592	Damini Nakte
4	DIKSHA SHISHUPAL SHENDE	8411079082	D.S. Shende
5	DIMPAL SANTOSH BURADE	9067331481	Dimpal Burade
6	GOURI BHAGWAN PENDAM	7769057030	G. Pendam
7	KAJAL MORESHWAR BAGADE	9765546495	Kajal Bagade
8	KIRAN TIKARAM BHIOYAR	9607216532	Kiran
9	KOMAL YADAV BHARRE	9673203218	Komal
10	LINA PANDHARI MISAR	9011817613	Lina
11	MALINI RAVI CHICHGHARE	9822886171	Malini Chichghare
12	MAMATA BHAGWAN SAHARE	9623373944	Mamata Sahare
13	MANJIRI DATTATRAYA BARAPATRE	7888265617	Manjiri Barapatre
14	NANDA YASHWANT THAKARE	9552833669	N. Thakare
15	NISHA RAMDAS THAKRE	9422871193	Nisha Thakare
16	POOJA TARACHAND GANVIR	7066285245	Pooja Ganvir
17	PORNIMA PUNDALIK CHOUDHARI	9373376409	Pornima
18	PUJA ASHOK DONADKAR	7776812537	Puja
19	PUJA RAJENDRA JUARE	9405719384	Puja
20	RAVINA VASANT KALBANDHE	97378686568	R. Kalbandhe
21	RITU SURESH PILARE	8412921161	Ritu
22	ROHINI PANDHARI KOKODE	9420659183	Rohini Kokode
23	RUPALI GIRIDHAR KHOBRADE	9168056487	Rupali Khobrade
24	RUTUJA RAJKUMAR MANE	8999130955	Rutuja Mane
25	SAHIL MEHAMUD PATEL		Sahil Patel
26	SAYALI RAMESH GADHAWA	7875894874	Sayali
27	BHUSHAN BALKRUSHNA RAUT	9168162599	Bhushan Raut

**DEPARTMENT OF
PHYSICS**



Department of

Physics

*Department of Physics
PBR Survey Report on*

Use of Electrical Appliances in Household at Antarji Village
PBR submitted by: -B. Sc. II (Department of Physics) students group 2018-19

Under the supervision of Prof. Dr. R.M. Thombre HOD, Physics

Introduction:

Electricity and Electrical Appliances has played an important role in the development of human civilization. Numerous electrical appliances have made human life easy. Currently, lighting accounts for approximately 30 % of total residential electricity used followed by refrigerators, fans, electric water heaters, and TVs. Approximately 4 % of total residential electricity used is for standby power the apparently small amount of power that many modern appliances consume when they are not actively turned on. A modern electrical appliance consumes less electricity as compare to old ones which ultimately results into low carbon emission helping the environment conservation. The Department of Physics conducted survey at village *Antarji*.

The objective of this project was to carry out a survey on use of electrical appliances in household at village *Antarjii*. Twenty-two (22) students participated in this survey. Information of 39 families was collected. The survey was carried out using questionnaire based personal interviews in households.

Observations and Analysis:

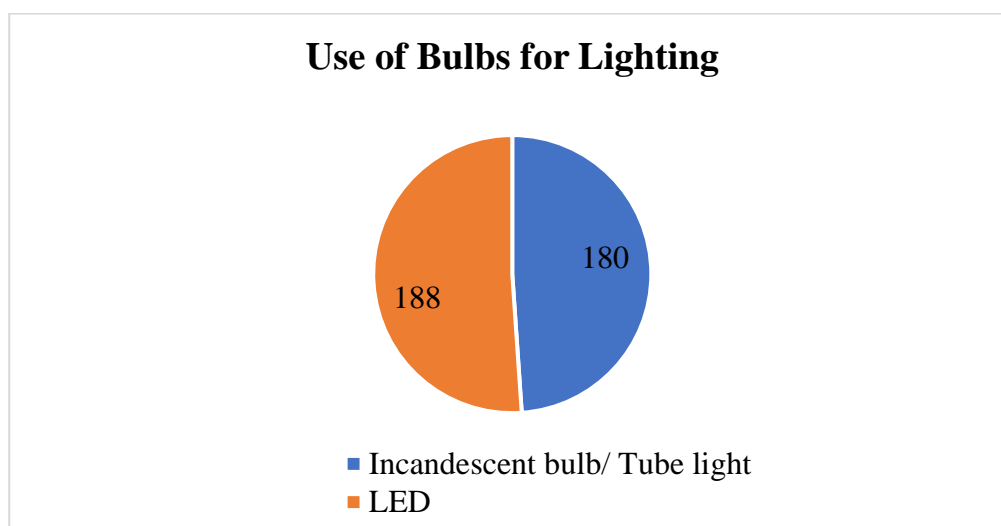
The brief analysis of the major results is presented in the following report. The tables with detailed results are included in appendices.

1. Number of Families without Electricity:

From the survey a very striking fact is observed that 03 household – 7.6 % of the village still do not have electrification in their houses.

2. Use of Conventional Bulbs and LED Bulbs:

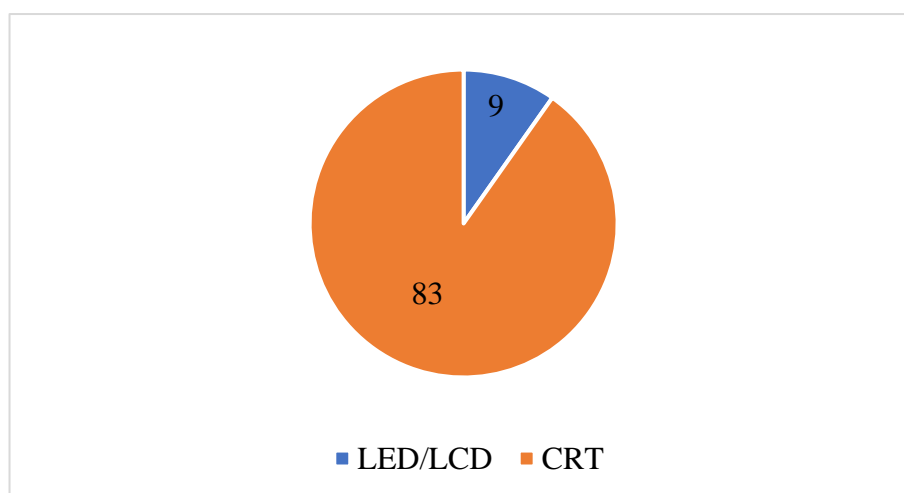
The data on lighting was collected on the type of light bulbs per household. The number of conventional bulbs/ tube light and LED bulbs used in these families are as bellow:



It is observed that (51) 62.5 % household use LED bulb whereas (29) 37.5 % household still use conventional bulbs for lighting purpose.

3. Use of Television:

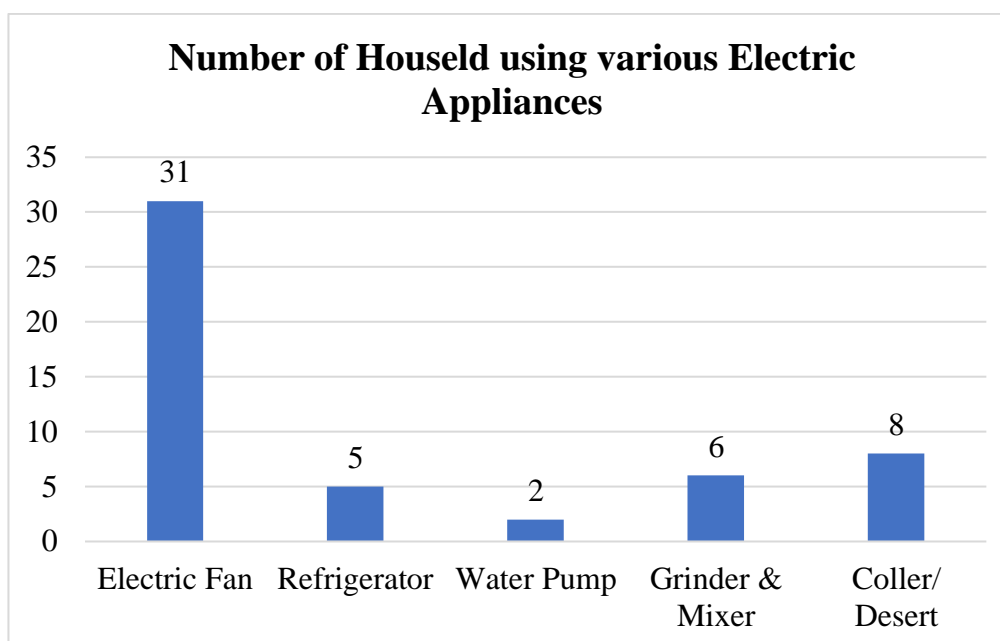
Out of 43 families 26 families has television set. The distribution of CRT and LED TV sets is as bellow:



Most of the families i.e. (21)80.7 % families use CRT TV sets which consumes more electricity whereas very few families i.e., 05(19.2 %) families use LED/LCD TV sets.

4. Electric Fan, Refrigerator, Electrical Water Pump, Other Appliances:

Data on use of other electric appliances was also collected. It is found that 31 families i.e., 17 (43.5%) do not have electric fans; many families are using old table and ceiling fans. Only 05 families (3.59%) have refrigerator. Six (06) families have electric water pump. Three (03) household have Grinder and Mixer whereas 04 household have cooler/ Desert.



Other than electric appliances some questions were asked about electric consumption and monthly electric bill. Since many families are using few electric appliances, their monthly electric consumption is less but few families complained about more electric bill. The cause of more electric consumption in these families is found to be inappropriate earthing and old electric appliances.

Conclusion:

In this era where electricity and electrical appliances are very important for the survival of human being and government putting its efforts to make every household electrified, 7.6% of households are lack of electrification in village *Antarji*. Moreover, since 30% of electricity in household is use for lighting purpose, modern lighting technologies should be adopted. However, it is found that 37.5% household is using conventional lighting sources resulting into more consumption of electricity. Very few other electrical appliances

are being used in household and some of these are made up of old technologies. In some household, inappropriate earthlings are found.

Recommendations:

1. The concerning authorities should take steps to make 100 % electrification in the village.
2. Use of LED bulbs should be promoted.
3. Awareness camp on proper use of electric appliances and proper earthlings should be conducted.

Annexure:

Mahatma Gandhi Arts, Science & Late N. P. Commerce College, Armori, Dist. Gadchiroli
Department of Physics
Peoples Biodiversity Register (PBR)
Survey Data (Adopted Village Kasvi)
Session 2017-18

Sr. No.	Name of Head of Family	Information of Electrical Instrument in Household Use						Daily Electrical Consumption	Monthly Electrical Bill	Signature
		Bulb/Tub light	Television	Fan	Fridge	Electrical Motor	Others Instrument			
1	chondraprabha churande churande	Bulb-01	—	—	—	—	—		100/-	चंद्रप्रभा चुरांडे
2	Kisan Guenule	Bulb-3	CRT-1	3-3	—	—	—		250/-	सि. अ. गुणुले
3	Manik kodap	LED-2	CRT-1	5-1	—	—	—		200/-	मनिका कोडाप
4	Divakar Sudam Guenule	Bulb-1 LED-1	—	—	—	—	—		250/-	DD Guenule
5	visay Lingayat	LED-3	CRT-01	5-1	—	—	—		400/-	विशाल लिंगायत
6	Vinayak Sukaji Pusam	Bulb-3	CRT-01	5-1	—	—	—		200/-	विनोद सुकाजी पुसाम
7	sukhdev lingayat	Bulb-2	CRT-01	5-1	—	—	—		700/-	सुखदेव लिंगायत
8	Sakuntal Guenule	Bulb-3	CRT-01	5-1	—	—	—		400/-	शांतिगुणी गुणुले

1) Ankush Guenule - *[Signature]*
2) Nalrik khume - *[Signature]*

Mahatma Gandhi Arts, Science & Late N. P. Commerce College, Armori, Dist. Gadchiroli

Department of Physics

Peoples Biodiversity Register (PBR)

Survey Data (Adopted Village Kasvi)
Session 2017-18

Sr. No.	Name of Head of Family	Information of Electrical Instrument in Household Use						Daily Electrical Consumption	Monthly Electrical Bill	Signature
		Bulb/ Tub light	Television	Fan	Fridge	Electrical Motor	Others Instrument			
9.	गोविंदा बामरे	LED-01	Video-com-01	T-01	-	-	-		800-1000	गोविंदा बामरे
10.	मिबाबाई कानते	LED-02	Video-com-01	S-01	-	-	-		400-500	मिबाबाई कानते
11.	अमेडा श्रीराम कांदोर	LED-02 60 watt-02	Box TV-01	T-02	-	-	-		400-500	अमेडा श्रीराम कांदोर
12.	मचिंद्र दिगोरे	Tub-1 LED-1	-	T-01 C-01	-	-	-		180-300	मचिंद्र दिगोरे
13.	साईनाथ दिगोरे	Tub-1 LED-02	Box TV-01	T-02	-	-	-		800-1000	साईनाथ दिगोरे
14.	सूर्यमान मडावी	LED-03	-	T-01	-	-	Mixture-01		200-300	सूर्यमान मडावी
15.	मनीराम कुमारे	Tub-02 60 watt-01	-	T-02	-	-	-		180-500	मनीराम कुमारे
16.	गोविंदा मडावी	LED-03	Box TV-01	-	-	-	-		30-50	गोविंदा मडावी

कु. तोरणाई भुखे - BB

कु. राजल शमरेके - Shmreke

Questionnaire filled by the students



Department of Physics
Environment study

Sr. No.	Name of student	subject.	Grade
1.	✓ Mr. Ankush Moreswar Gaurkar	cls	A
2.	✓ Ku. Gurnashmi Narendra Bhoyar	-11-	A
3.	✓ Ku. Kajal Zomraj Ramteke	-11-	A
4.	✓ Mr. Nastik Shamrao Khune	-11-	A
5.	✓ Ku. Priti Ravindranath Haldar	-11-	A
6.	✓ Ku. Sadaf Moh. Wali Sheikh	-11-	A
7.	✓ Mr. Sanket Umesh Gajpure	-11-	A
8.	✓ Ku. sheeba Anjum Abdulkalam Sheikh	-11-	A
9.	✓ Ku. Suchita Suresh Khobragade	-11-	A
10.	✓ Ku. Suman Bholaram Dodani	-11-	A
11.	✓ Ku. Tornatai Someshwar Bhurase	-11-	A
12.	✓ Mr. Mohd. Faizan R. Ahmad	-11-	A
13.	✓ Mr. Jayant Pradhan	-11-	A
14.	✓ Mr. Ankush Thakkar	-11-	A
15.	✓ Mr. Ratandip Sakhare	-11-	A

Date: 11/4/2018

Submitted by
(Signature)

Dr. C. D. Mungmode

Department of Physics**PBR Survey Report on****Use of Electrical Appliances in Household at Aashta**

PBR submitted by: -B. Sc. II (Department of Physics) students group 2018-19

Under the supervision of Prof. S.B. Gedam and Prof. Dr. C.D. Mungmode

Introduction:

Electricity and Electrical Appliances has played an important role in the development of human civilization. Numerous electrical appliances have made human life easy. Currently, lighting accounts for approximately 30 % of total residential electricity used followed by refrigerators, fans, electric water heaters, and TVs. Approximately 4 % of total residential electricity used is for standby power the apparently small amount of power that many modern appliances consume when they are not actively turned on. Modern electrical appliances consume less electricity as compare to old ones which ultimately results into low carbon emission helping the environment conservation. The Department of Physics conducted survey at adopted village *Aashta*

The objective of this project was to carry out a survey on use of electrical appliances in household at adopted village *Aashta*. Fifteen (15) students participated in this survey. Information of 128 families was collected. The survey was carried out using questionnaire based personal interviews in households.

Observations and Analysis:

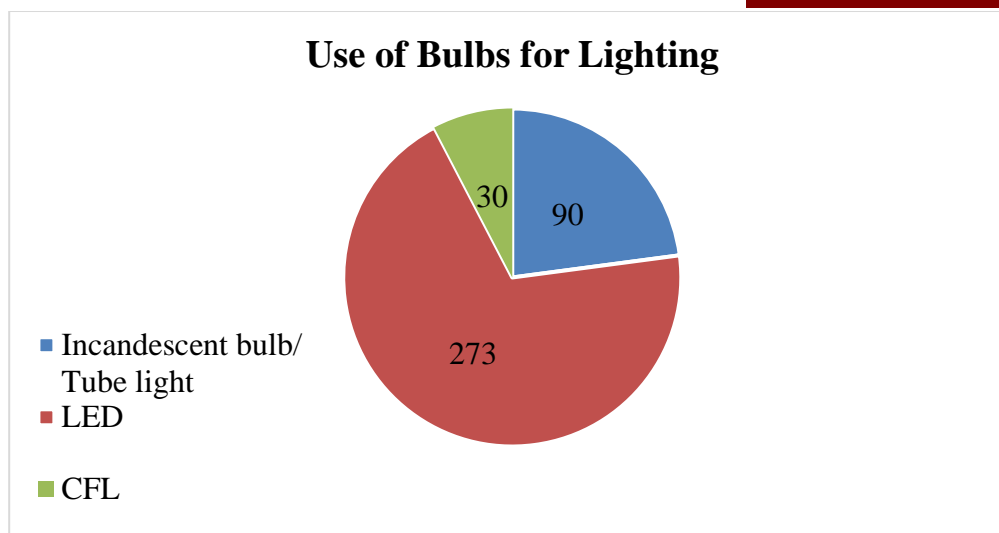
The brief analysis of the major results is presented in the following report. The tables with detailed results are included in appendices.

1. Number of Families without Electricity:

From the survey a very striking fact is observed that 04 household (03.13%) of the village still do not have electrification in their houses.

2. Use of Conventional Bulbs and LED Bulbs:

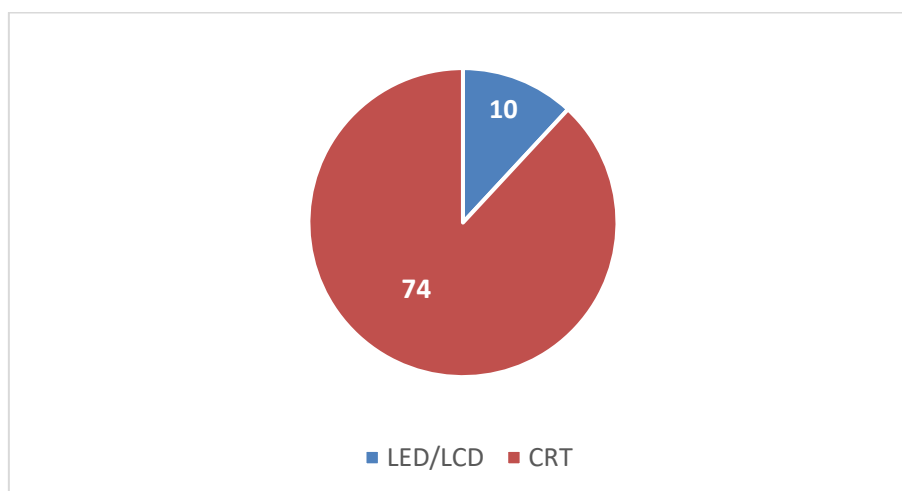
The data on lighting was collected on the type of light bulbs per household. The number of conventional bulbs/ tube light and LED/CFL bulbs used in these families is as bellow:



It is observed that 69.46 % household use LED bulb, 07.63% use CFL whereas 22.90 % household still use conventional bulbs for lighting purpose.

3. Use of Television:

Out of 128 families 84 families has television set. The distribution of CRT and LED/LCD TV sets is as bellow:

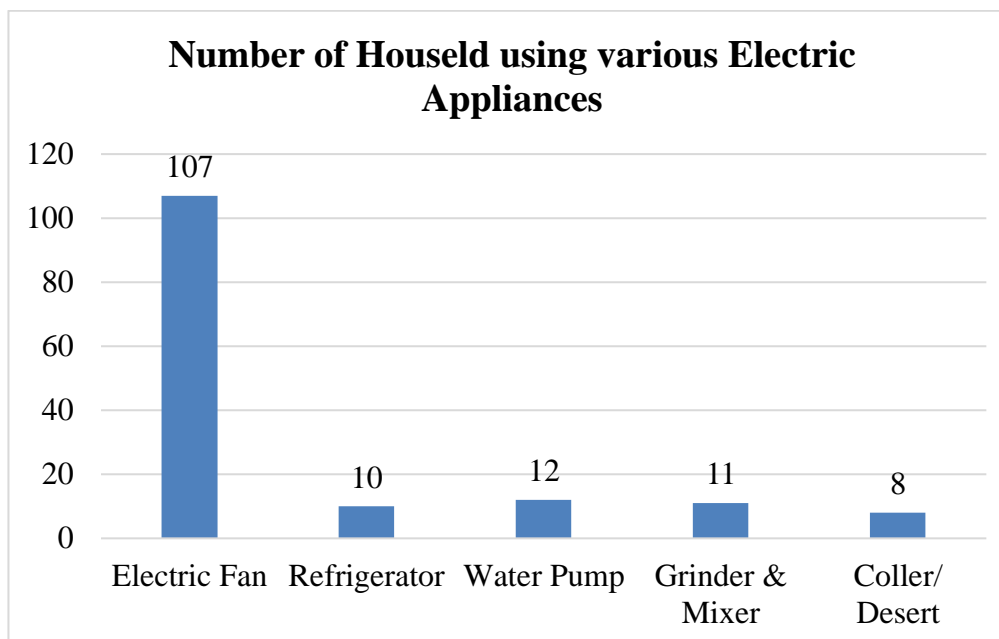


Most of the families i.e. 88.09 % families use CRT TV sets which consumes more electricity whereas very few families i.e. 11.91 % families use LED/LCD TV sets.

4. Electric Fan, Refrigerator, Electrical Water Pump, Other Appliances:

Data on use of other electric appliances was also collected. It is found that 21 families i.e. 16.40 % do not have electric fans; many families (83.60 %) are using old table and ceiling fans. Only 10 families (07.81 %) have refrigerator. Twelve (12) families have electric

water pump. Eleven (11) household have Grinder and Mixer whereas 13 household have Cooler/ Desert.



Other than electric appliances some questions were asked about electric consumption and monthly electric bill. Since many families are using few electric appliances, their monthly electric consumption is less but few families complained about more electric bill. The cause of more electric consumption in these families is found to be inappropriate earthing and old electric appliances.

Conclusion:

In this era where electricity and electrical appliances are very important for the survival of human being and government putting its efforts to make every household electrified, 03.13 % of households are away from electrification in village *Aashta*. Moreover, since 30% of electricity in household is use for lighting purpose, modern lighting technologies are being adopted. It is found that only 07.63 % household are using conventional lighting sources resulting into more consumption of electricity. Very few other electrical appliances are being used in household and some of these are made up of old technologies. In some household, inappropriate earthlings are found.

Recommendations:

1. The concerning authorities should take steps to make 100 % electrification in the village.
2. Use of LED bulbs should be promoted.
3. Awareness camp on proper use of electric appliances and proper earthlings should be conducted.

Mahatma Gandhi Arts, Science & Late N. P. Commerce College, Armori Dist. Gadchiroli

Department of Physics
People's Biodiversity Registrar (PBR)
Survey Data (Adopted Village Ashta)
Session 2018-19

Sr. No.	Name of Head of Family	Information of Electrical Instrument in Household use						Daily Electrical Consumption	Monthly average electrical bill	Signature
		Bulb/ Tube light	Television	Fan	Fridge	Electrical Motor	Other Instrument			
1)	Laxmibai Wadhav.	02-4	01 CRT	-	-	-	-	2	200	लक्ष्मीबाई वाडव.
2)	Rupesh Bhandare.	LED-02 C-01	CRT-01	T-1	-	-	cooler-1 mixer-1		100	रुपेश
3)	Rumaji Bawane	LED-04	LED-1	C-1	-	-	-		300	रुमाजी बावणे
4)	Kalidas Gayakwad.	LED-03	CRT-1	-	-	1	-		800	कलदास गायकवाड
5)	Shrutaba L. Gayakwad.	LED-02	-	-	-	-	cooler-1		500	श्रुताबा ल. गायकवाड
6)	Azwind Dhongade.	4-04 40 watt	LED-01	C-1	-	-	-		4000	अजिंद धोंगडे
7)	Suresh Dhongade.	4-02	-	C-1	-	-	-		250	सुरेश धोंगडे
8)	Gajanan Gauthre.	4-02 LED-02	LED-01	T-1	-	-	cooler-1		500	गजानन गावठरे
9)	Shrawan Mandale	4-02	-	C-1	-	-	-		150	श्रावण मांडले
10)	Tarabai Gurnule.	C-02	-	C-1	-	-	-		200	तारबाई गुर्नुले

1) Nandini Odam - FN. 2) Komal Gurnule - कमल 3) Ankita Bhojkar - अंकिता

Mahatma Gandhi Arts, Science & Late N. P. Commerce College, Armori Dist. Gadchiroli

Department of Physics
People's Biodiversity Registrar (PBR)
Survey Data (Adopted Village Ashta)
Session 2018-19

Sr. No.	Name of Head of Family	Information of Electrical Instrument in Household use						Daily Electrical Consumption	Monthly average electrical bill	Signature
		Bulb/ Tube light	Television	Fan	Fridge	Electrical Motor	Other Instrument			
1)	Sukhadev Shende.	0-4-4 40 watt	0-1 CRT	T-1	-	-	-		150	सुखदेव शेंडे
2)	Mahipal Gurnule.	04-LED 20 watt	01 CRT	T-1	-	-	-		400	S.M. Gurnule
3)	Ratiram motaji Gurnule.	8-LED 20 watt	01 CRT	C-2	-	-	cooler-1		400	रातिराम मोताजी गुर्नुले
4)	Pivakar Gurnule.	2-LED 14	01 CRT	C-1 T-1	-	-	-		300	पिवकर गुर्नुले
5)	Khushtal Gurnule.	3-C1 14 watt	01 CRT	C-1 T-2	1	-	-		500	खुशतल गुर्नुले
6)	Satish Gurnule.	4-C1 14 watt	01 CRT	C-2	1	1	Mixce-1		1000	सातish गुर्नुले
7)	Ramthau Gurnule	4-2	01 CRT	T-1	-	-	-		200	रामठाव गुर्नुले
8)	Khatuji Mandale.	LED-4	-	C-1	-	-	-		150	खातुजी मांडले
9)	Ahandrao Mandale	LED-3	01 CRT	T-1	-	-	-		150	अहंदाव मांडले
10)	Parusao Sakharam Male	LED-1 4-1	01 CRT	T-1	-	1	-		400	परुसाव साखराम मांडले

1) Nandini Odam - FN. 2) Komal Gurnule - कमल 3) Ankita Bhojkar - अंकिता

THIRD SEMESTER BACHELOR OF SCIENCE (B.Sc.) (CBCS PATTERN)
Subject Name: PHYSICS
College Name: MAHATMA GANDHI ARTS, COMMERCE & SCIENCE COLLEGE

PBR LIST

Sr	Student Name	Mobile Number	Signature
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3	ASHWINI HEMRAJ BHURLE		
4	HIMANI NARAYAN DHANDEKAR		
5	KOMAL MORESHWAR GURUNULE	9503145619	<i>Komal</i>
6	NAINA PRAKASH ZARKAR		
7	NANDINI VINOD GEDAM	9823369002	<i>NV</i>
8	NIKITA PURUSHOTTAM GEDAM		
9	NISHA DHANANJAY GULADE	8275946300	<i>Nisha</i>
10	RAJASHRI PUNDLIK SORTE	8956802408	<i>Rajashri</i>
11	RUPALI RAMESH BORKAR		
12	SHRIYA RAJU MESHRAM		
13	TOMESHWARI GAJANAN FAPANWADE		
14	VISHAKHA SUBHASH SAWARKAR		
15	ANKUSH ASHOK KUMARE		
16	AVINASH BHOJRAJ WATGULE		
17	BHAIRAV ARUN DEVIKAR		
18	GANESH SHYAMSUNDAR AWARI	9075988215	<i>Bhagi</i>
19	GAURAV ASHOK RAISHIDAM	9552083128	<i>Gaurav</i>
20	GIRISH DIGAMBAR BHAIJANKAR	8280908734	<i>Girish</i>
21	JIVIL LAXMAN MENDHE	7972250228	<i>Jivil</i>
22	KUMARE KAILAS INDARSAY		
23	MAHESH RAMESH MESHRAM	7875621336	<i>Mahesh</i>
24	PARAG SUBHAN KUMARE		
25	PRANAY DIPAK MASHAKHETRI		
26	PUSAM AMIT JANARDHAN		
27	RAKATSINGE TUSHAR PANDURANG	7038393849	<i>Rakatsinge</i>
28	ROSHAN VIJAY SORTI		

28	CHANDRAMANI HIRANYAKASHYAPUKE	9420964143	<i>Chandramani</i>
29	CHIHAGAN BHASKAR BODANE	8411845329	<i>Chihagan</i>
30	DARSHAN RUPAMSHAHA KOKODE	8888638335	<i>Darshan</i>
31	KALPAK MUNESHWAR BAGMARE		<i>Kalpak</i>
32	KETAN SHANKARRAO GHOSE	9923681771	
33	MESHRAM ANKIT AMARDEEP	7028298251	<i>Ankit</i>
34	NIKHIL PRAKASH DORLIKAR	9511664018	<i>Nikhil</i>
35	PARAG SURESH DONADKAR		<i>Parag</i>

DEPARTMENT OF COMPUTER SCIENCE



*Department of Computer Science**PBR Survey Report- 2018-19 on***Use of Internet Banking & Android Mobile Application Survey of Ashta and
Antarji Village**

PBR submitted by B. Sc. II (Department of Computer Science) students 2018-19

Under the supervision of: -Prof. S. D. Chute, Head of the Computer Science

Introduction: -

The Ashta and Antarji that village's economy is basically agrarian. In spite of economic development, agriculture is the backbone of the village economy. Apart from those who are directly involved in the agrarian sector, a very few numbers of the population of those village's is also engaged in agro-based activity. Use of advanced technology like android mobile phone and computer or laptop is the need of present scenario but villages in India lack of these things. Government of India start new program like Startup India, Standup India and Digital India on this background we try to survey on this topic.

Unlike smart city, villages as well as farmer of India should be smart in respect of internet banking and banking application of android mobile. In a fluctuating environment, banks are diversifying their role in the agriculture sector in order to get revenue from their significant contribution to agriculture. Some of the new roles that banks have adopted are Marketing, Training and Consultancy, insurance and financing for infrastructure via private-public participation. The development of information technology has an enormous effect on development of more flexible payments methods and more-user friendly banking services. Internet banking involves, consumer using the Internet to access their bank account and to undertake banking transactions in mobile banking at home.

Aim of the study: -Banking has been always a highly intensive activity that relies heavily on information technology (IT) to acquire and deliver the information to all relevant users. IT is not only critical in the processing information; it provides a way for the banks to differentiate their products and service in the market. The mobile,

cellphone or smartphone is not just used for whatsapps, Facebook or Angry Birds; it can be used in a multitude of ways from land information like 7/12 abstract and various government schemes for farmer.

Study area: Ashta and Antarji, Tah- Armori, District- Gadchiroli (M.S.)

Ashta and Antarji villages are part of our college for Unnat Bharat Abhiyan hence these are selected for study and survey in use of internet banking & android mobile application. Ashta and Antarji villages are located in Armori Tehsil of Gadchiroli district in Maharashtra, India.

It is situated 7.6km away from sub-district headquarter Armori and 43.6km away from district headquarter Gadchiroli. The total geographical area of village is **290.48 hectares**. The total population of village is **951** and total houses are **243**.

Particulars	Total	Male	Female
Total No. of Houses	243	-	-
Population	951	476	475
Child (0-6)	106	56	50
Schedule Caste	61	30	31
Schedule Tribe	60	30	30
Literacy	77.63 %	87.38 %	68.00 %
Total Workers	641	328	313
Main Worker	485	-	-
Marginal Worker	156	80	76

Materials and Methods: -

Students of B.Sc. II Computer Science study the use of internet banking & android mobile application survey of that village's Ashta and Antarji a questionnaire was prepared in respect to use of internet banking & android mobile by computer science department. There are 243 families in the village out of which 56 Families selected for the study by PBR groups of Computer Science. Photograph of the families with PBR students was taken with help of mobile and high megapixel canon camera.

Results and Discussion: -

Total No Of Home	Bank Account	Nationalized Bank Account	State Level Bank	Private Bank	No. of Android Mobile	Simple Mobile	Mobile Application	Bank	Total No of Used Social	Total No Of Used Internet Banking
56	56	23	33	00	40	32	4		20	2

Total 56 Home Survey of those village's Ashta and Antarji was undertaken in various aspects such as Bank holder like Nationalized Bank, State Level Bank, Private Bank etc. Used of Internet Banking, android mobile, banking application on mobile etc.

In survey it is observed that all the family belonging to survey have bank account in National Bank as well as co-operative sector Bank.

In altogether, 70% people have android mobile phone while remaining 30% people have simple mobile phone for communication purpose.

One of the remarkable observations is that 7% used mobile bank application and 3% used internet banking but 36% people used social site like Facebook or WhatsApp etc.

In agricultural sector, farmers in rural areas faced major problems because of illiteracy. They cannot take the advantage of internet to access the information related to farming.

The information represented in icons will help the farmers to take the important decisions. Also, there will be additional benefit to farmer as there is speech-based interaction in Indian language with icons.

Conclusion: -

In survey, it is observed that specific families are not aware about android mobile application and internet banking even those people having such android mobile phone.

The Krishi-Mitra website gives the whole information regarding crops, Weather status and also user can get the expert advice in Marathi and in English languages. Krishi-Mitra application can be used as smart system which will be more sophisticatedly working for benefit of the user.

A user can be made aware about current weather statistics and new information regarding to crops, seeds, fertilizer etc. just on single click of a button. People can even

consult with experts if needed. This application can be very much helpful even if one could not read the information on the device by native language support provided in it.

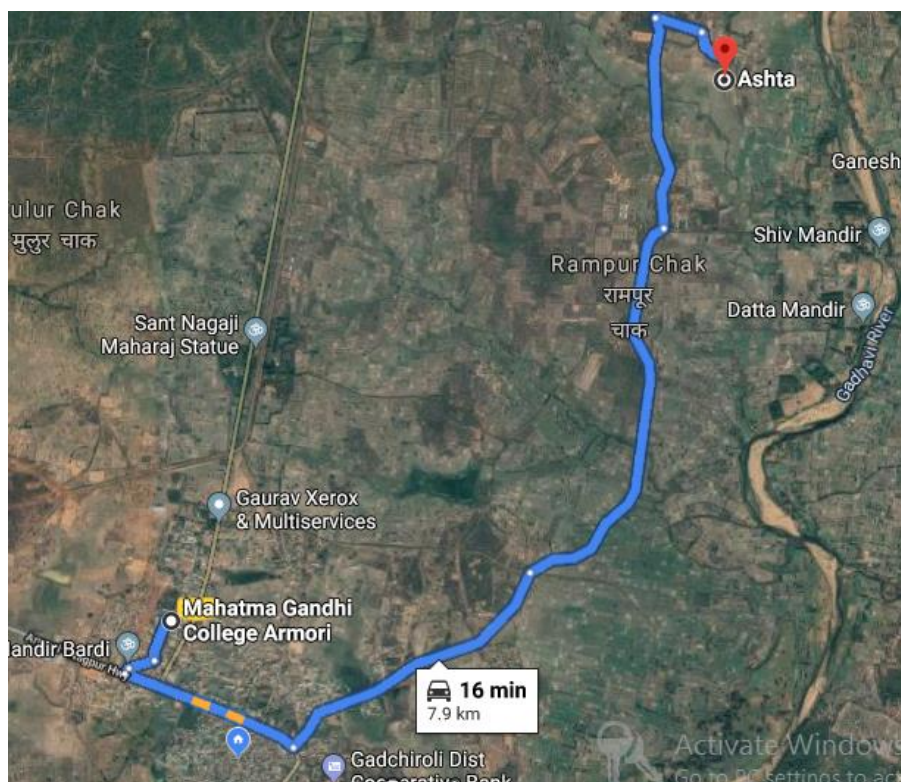
This model will be a great enhancement to currently using techniques. In this way Krishi-Mitra expert system for farmers reaches towards the implementation. Hence, difficulties faced by farmers in farming are overcome and resolved. Future scope for this system will be more native language support and dynamic query resolution. Also, downloading various data and information provided by experts will be possible through the application.

Government of India focusing much more on use of advanced technology but instead of people partnership it is useless.

Recommendation: -

Farmers should develop a technically up-to-date use of internet banking & android mobile application with agriculture. They should aware about the dynamic agro-based sector having and producing means of production and consumer goods.

Way of Ashta and Antarji Villages



Field Photography

Students of B.Sc. Computer science taking interview with villager



List of Student Participate in PBR

Sr. No.	Name of Student
1	AMIT BHAURAO DONADKAR
2	DAMINI DAULAT BANTE
3	JAYASHREE VITTHAL DEOTALE
4	RIYA HASAN DHARANI
5	ROHAN DIWAKAR KASTURE
6	SAYALI MANOJ UKE
7	SHIWANI PRABHAKAR KOLHEKAR
8	VIKRANT SANTOSH PATRE
9	VISHAL GANESH JAWANJALKAR
10	ZESHAN RIYAZ SHIKH
11	AMARNATH SHIVKUMAR ZILPE
12	ASHWINI CHANDU MESHRAM
13	ASHWINI RAMESH THAKARE
14	GAYATRI GYANDEV MOTGHARE
15	KARISHMA KISHOR SHENDE
16	KHUSHBU ASHOK GADHADE
17	KOMAL ASHOK PARSUTKAR
18	KRUNAL NARESH NIRANJANE
19	LEENA PURNACHANDRA NAKADE
20	MRUGANAYANI RAMESH MOHINKAR
21	NEHA DILIP DHORE
22	PAWAN SHESHRAO DESHMUKH
23	YUVRAJ DNYANESHWAR KAMBLI

DEPARTMENT OF GEOGRAPHY



Department of Geography

People's Biodiversity Register 2018-19

Agricultural and Socio-economic Survey of Ashta Village

Introduction

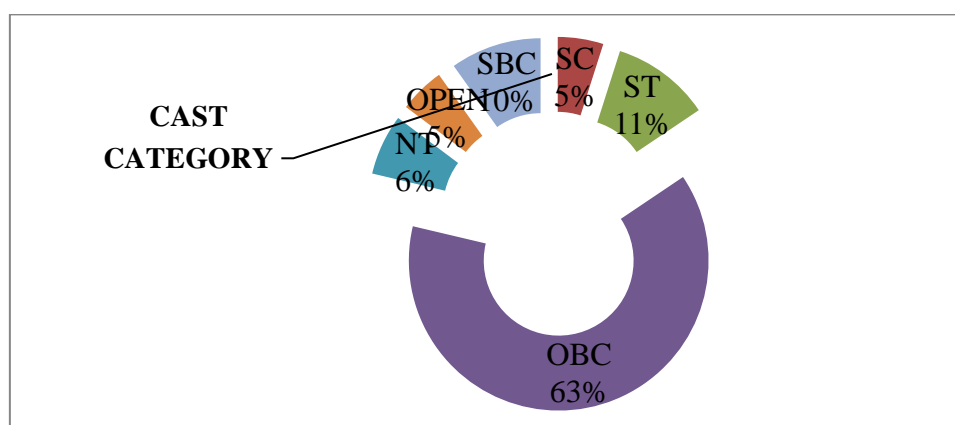
Mahatma Gandhi Arts, Science and Late N.P. Commerce College Armori, the eminent institution in the field of education implementing people's biodiversity register in various villages of Armori tehsil since last twelve years. College has adopted five villages namely Kasvi, Ashta, Antarji, Rampuri and Palora in order to survey and to study local biodiversity of these villages. In the academic session 2018-19, department of Geography conducted survey in Ashta and Antarji with the help of B.A. second year student on agriculture and socio-economic theme, their finding is outline in the following report.

A) Social Background of Ashta Village: -

1. Caste wise database :-

Total	SC	ST	OBC	NT	Open	SBC
122	06	13	77	08	06	12

Caste wise analysis of Ashta village shows that there is maximum family (77) belong to other backward class (OBC) while minimum number is related with open and schedule caste (only six family each) Remaining caste figure is shown in above table.



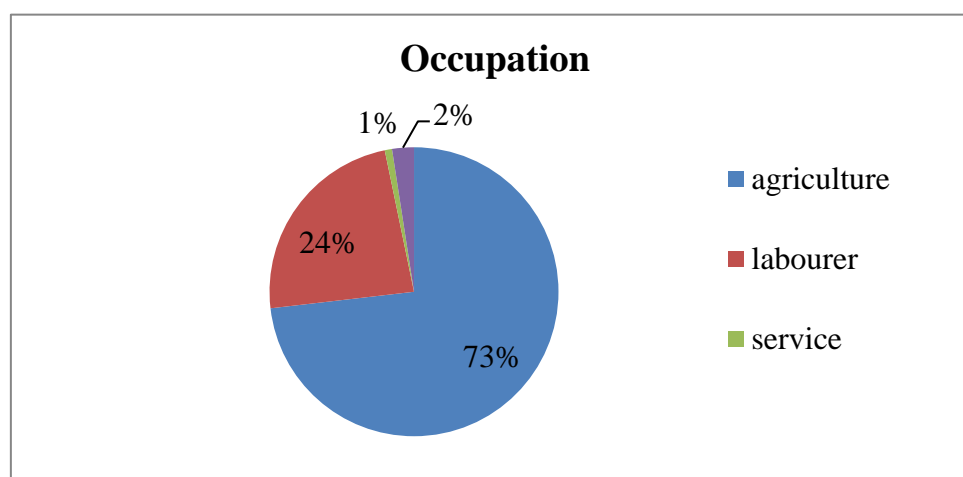
2. Religious Information

Total	Hindu	Buddhist	Muslim	sikh	other
122	118	04	--	--	--

In Ashta village, 118 families belong to Hindu Religion whereas only four families belong to Buddhist community. Other religious minorities are absent.

3. Occupations of Family Head: -

Sr. No.	Farmer	Labor	Service	Others
Statistic	90	29	01	02



In Ashta village agricultural farming and laborer are the basic and traditional occupation of about 90 families (73.17%) people whereas 29 families (23.57%) are engaged as labors in agriculture. Remaining peoples are working in service and business sector.

4. Toilet Facilities.

Total No. of Family	Facility Available	No availability
122	101	21

In Aashta Village out of 123 families only 101 have toilet facility i.e., 82.78% while 21 families (17.21%) do not. (Lack this facility)

5. Type of Home.

Sr. No.	Kachha Home	Pakka Home
122	84	38

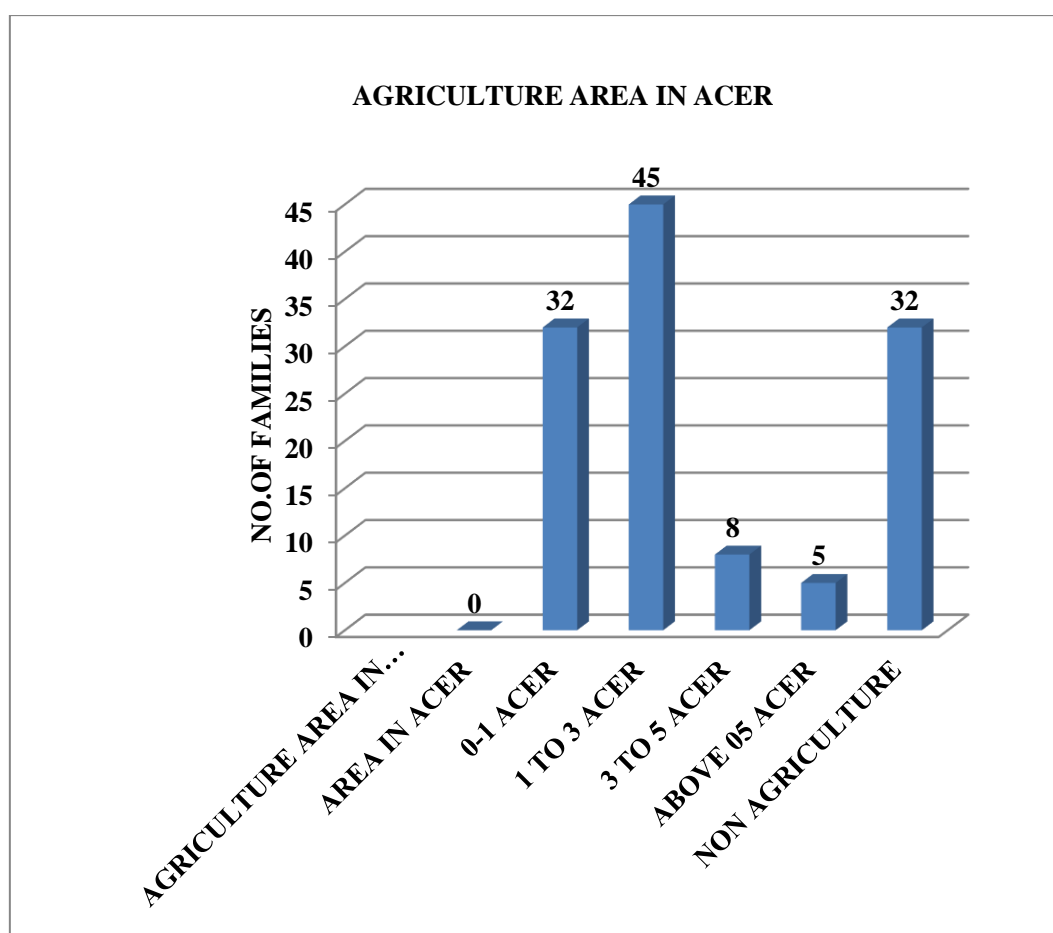
Out of total houses in the Aashta village only 38 houses i.e. (31.14%) are of pakka house type While 84 is (68.85%) of Kachha house type.

B) Agro-economics Status of Ashta Village: -

I) Land Distribution in Ashta (Acre) :-

Total	0-1acre	1-3acre	3-5 acre	More than 5acre	No Lands
122	32	45	08	05	32

In Ashta village 90 families has agriculture land out of 123 family survey whereas 32 families do not have agriculture land. Survey implies Out of 90 families 32 families carry it in 0-1 acre, 45 in 1-3 acre 08 in 3-5 acre and 05 families has more than 5-acre land.



II) Type of Land Cultivation:-

Total family	Irrigated land	Non-irrigated land	Both type	Others
122	35	46	09	32

It is observed that out of 122 family, 35 families (38.88%) doing irrigated land cultivation whereas 46 farmers (51.11%) have non-irrigated type of land due to lack of water availability facility.

III) Crop Productions as per Season: -

Kharip season	Total family	Rice	Pulses (Tur)	Others
		89	01	--
Rabi Season	Total family	Rice	Vegetable	Others
		05	07	02

-In Ashta 89 farmers cultivating paddy crop in Kharip season which start from June to September while only 5 farmers taking paddy crop in Rabi season, 7 farmer's taking vegetable crop and two are another category.

IV) Area under Kharip crop season: -

Sr. No.	Crop	Area in acre
1.	Rice	126 acres
2.	Pulses (Tur)	1 acre
Total	--	127acre

Within survey it is observed that maximum area is covered under paddy crop i.e. rice 126 acre (99%) while few area (1%) is occupied by pulses.

V) Area under Rabbi crop season: -

Sr. No.	Crop	Area in Acre
1.	Rice	06
2.	Pulses (Tur)	05
3.	Vegetable	03
4.	Others	05
Total	-	19

In Rabi season 6-acre area under rice crop, 5-acre area having pulses, 3-acre area under vegetable crop while 5-acre area is under another crop.

VI) Domestic animal database: -

Sr. No.	Cows	Buffalo	Goat	Sheep	Hen	Bullock cart
Total	44	--	40	--	86	33

-In present day farmers view regarding domestic animal caring is decreasing due to various reasons. It is surprising to note that buffalo is going to extinct from ashta village. Number of Cows, Goat, Hens and bullock cart is shown in the table.

VII) Agriculture Expenses (Kharip Crop):-

Sr. No.	Agri. expenses on various head	Land area in acre			
		0-1(32)	1-3(45)	3-5(08)	More than 5acre (05)
1	Cultivation	53900	1055200	109000	57000
2	Labor expenses	33800	25600100	62500	78000
3	Sowing	21920	149300	27600	28000
4	Insecticides	17000	82800	39800	96700
5	Fertilizers	24700	185900	56000	124200
6	Crop cutting	23430	229800	82600	136900
	Total	174750	1959100	1120900	520800

In the survey it is observed that expenses on agriculture are more than that of yearly income getting from farming. In Kharip season farmers in 0–1-acre land area spends (5400) rupees, land area spends (43535) rupees, 3-5 land area spend (140112) rupees and more than 5acre land area spend (104160) rupees averagely.

VIII) Agriculture Expenses (Rabbi Crop):-

Sr. No.	Agri. expenses on various head	Land area in acre			
		0-1(19)	1-3(11)	3-5	More than 5acre
1	Cultivation	21200	6000	--	--
2	Labor expenses	18000	7500	--	--
3	Sowing	19400	5000	--	--
4	Insecticides	9500	11500	--	--
5	Fertilizers	8480	11000	--	--
6	Crop cutting	9000	7000	--	--
	Total	85580	48000	--	--

In Rabbi Season, very few farmers doing agriculture farming due to lack of irrigation facility and expenses are less as compared to kharip season.

IX) Expenditure on Fertilizers: - (Kharip)

Land area in acre	Organic Fertilizer	Chemical Fertilizer	Total
0-1	1060	7480	8540
1-3	3350	16450	19800
3-5	10400	30900	41300
More than 5	4000	41000	45000
	18810	95830	114640

In Ashta, villagers spend more money on purchasing chemical fertilizers rather than organic fertilizers. Above table shows amount spent by various category land holder.

XI) Expenditure on Fertilizer: - (Rabbi)

Land area in acre	Organic Fertilizer	Chemical Fertilizer	Total
0-1	6000	9000	15000
1-3	8500	8000	16500
3-5	--	5000	5000
More than 5	--		
	14500	22000	36500

In Rabbi Season people are mostly dependent on chemical fertilizer than that of organic fertilizer due to which degradation of soil takes place and farmers facing problem of various diseases on crop which results in low yield.

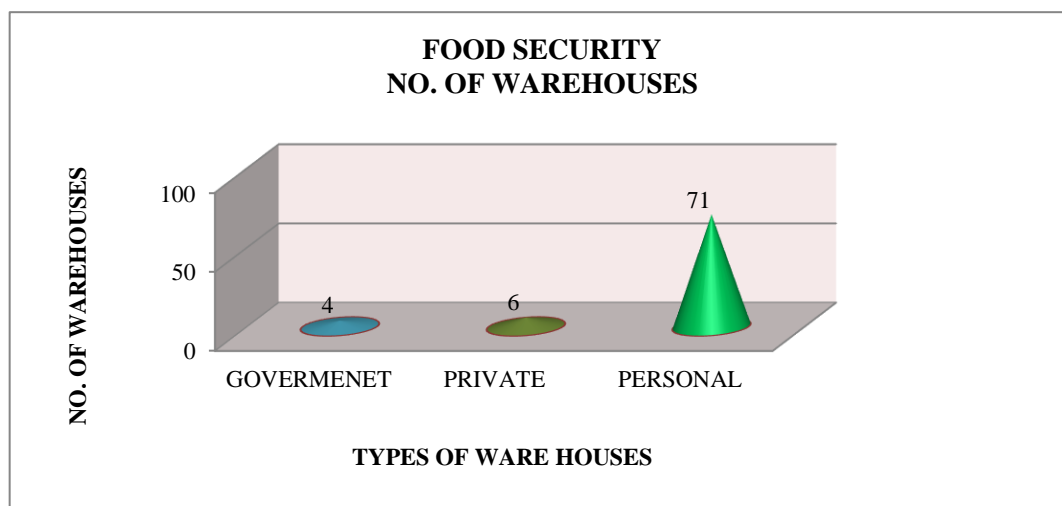
XII) Irrigation Equipment: -

Some of the farmers utilizing irrigation facility available by government like Etiadoh Dam Project water for agriculture farming which include 5 farmers from 0-1 area land holder, 12 farmer from 1-3 area land holder and one farmer from 3-5 area land holder. 13 farmers are using lake water for agriculture, 10 farmers are using river water and only three farmers are utilizing dug well and bore well water for agriculture farming in Ashta.

Sr. No.	Irrigation Equipment	0-1	1-3	3-5	More than 5 acres
1	Dug well	02	--	--	--
2	Dam (Kalva)	05	12	01	--
3	Bore well	--	01	--	--
4	Lake water	06	07	--	--
5	River water	--	04	06	--
6	Thibak sinchan	--	--	--	--
7	Tushar sinchan	01	--	--	--

XIII) Food Security: -

In Ashta village maximum farmers stored their food grain in personal cart, very few i.e., 4 farmers (4.93%) stored their food grain in government Warehouses and remaining 7.40% farmers stored food grain in private sector warehouses.



XIV) Crop Loan data base :-(Kharip Season)

Sr. No.	Loan providing agent	Land area in acre				Total
		0-1	1-3	3-5	More than5	
1	Govt. Bank	--	98000	20000	40000	158000
2	Co-operative Bank	-	5000	--	--	5000
3	Private firm (Savkar)	--	--	--	--	--
4	Others	--	--	--	10000	10000

-In respect with loan facility availed by the farmers as crop loan in Kharip season highest figure is goes to government bank in all states except 0-1acre land acquiring farmers. Co-operative bank also becomes basic supporter to the farmers.

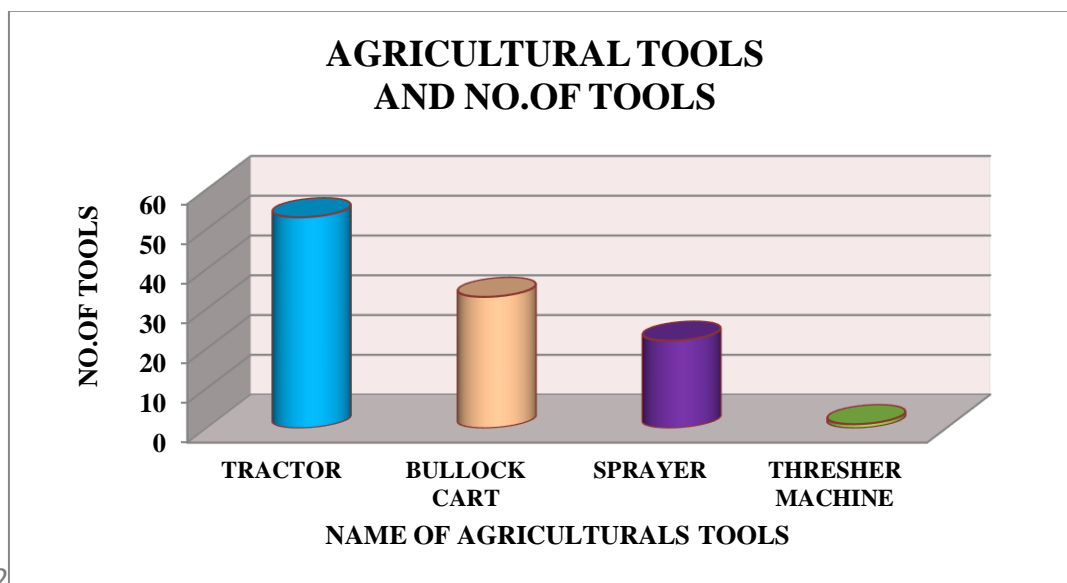
XV) Crop Loan data base :-(Rabbi Season)

Sr. No.	Loan providing agent	Land area in acre				Total
		0-1	1-3	3-5	More than5	
1	Govt. Bank	--	30000	--	20000	50000
2	Co-operative Bank	--	20000	--	--	20000
3	Private firm (Savkar)	--	--	--	--	--
4	Others	--	--	--	--	--

In Ashta village with respect to 14 farmers seek loan from Government Bank who belong to 1–3-acre area in highest number (30000) as compared with more than 5-acre land holder.

XVI) Use of Modern Equipment's: -

Sr. No.	Agriculture equipment	Number
1	Tractors	53
2	Bullock cart	33
3	Spraying Instrument	22
4	Thresher	01
5	Others	--



XVII) Food grain Sales market and Valuation: -

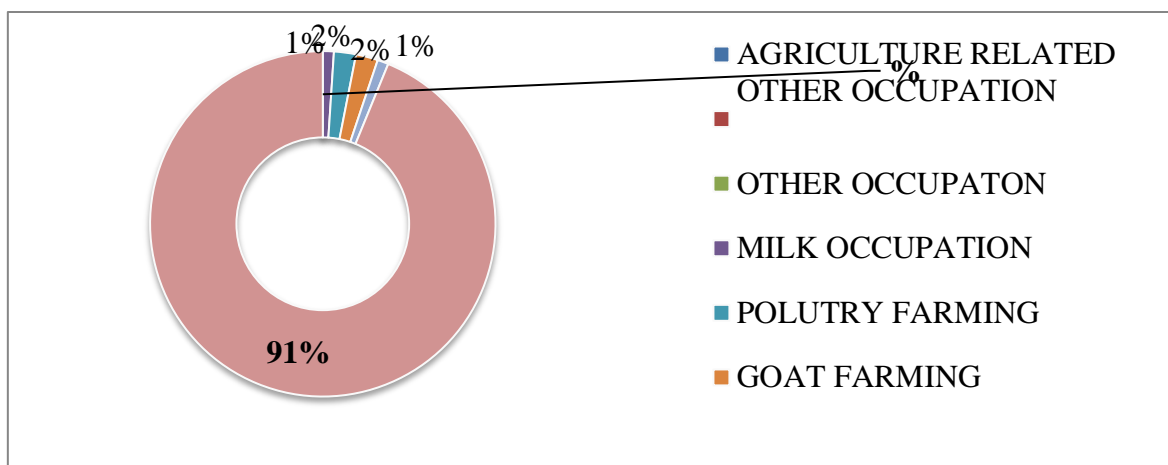
Sr. No.	Sales Market	Food Grain (Quintal)	Valuation (Rupees)
1	Govt. Sector	2052 (Quintals)	399500
2	Private Sector	280 (Quintals)	79020
3	Others	--	--

From the survey it is found that maximum farmers believe on government sector and sales their food grain in government sector (2052 quintals) than that of private sector (280 quintals)

XVIII) Agro based Supplementary Business:

Sr. No.	Business type	Total figure
1	Dairy products	01
2	Poultry farming	02
3	Goat farming	02
4	Pig farming	--
5	Fish farming	01
6	Reshim Business	--
7	Agro based Labor	91

-In Ashta village maximum people engaged in agro based laborer as compared to other agro based business, two are engage in goat farming as well as poultry farming (2.21%), one each engage in dairy product and fish farming. (1.12%)



XIX) Irrigation Farming: -

Sr.No.	Farming type	0-1	1-3	3-5	more than 5	Total income
1	Fruit farming	-	-	-	-	-
2	Vegetable farming	06	16	01	-	191000
3	Flower farming	-	-	-	-	-
4	Others	02	04	-	01	11900

In survey it is observed that maximum farmers (25.55%) are engaged in vegetable farming as nearby market Armori is available to them as compared to others.

Conclusion: -

From the Survey of Ashta Village students collected information through Questioners on Agriculture and Socio-economic theme. Through this Survey students collected information about 122 families in Ashta village and final conclusion were decided as follows.

1) Agriculture is the backbone of Indian economy and 73.78% people engaged in agriculture farming as well as 23.77% people engage in agro based labor on daily wages.

2) Presently 17% people do not have toilet facility, 26.22% people belong to BPL category, 38.88% peoples doing non-irrigated farming which only dependent on natural raining.

3) Agriculture audit shows that as compared to investment output is less therefore it is difficult to maintain needs of their family in such low income. There is urgent need of agro based small scale industries in the nearby area of adopted villages.

4) Peoples of Ashta spending more money on chemical fertilizer as compared to organic fertilizer as well as insecticide and pesticide.

5) Very few people are engaging in agriculture based small business like 2.21% people in goat and poultry farming, 1.12% people in fish farming, 25.55% people in vegetable farming, 1.11% in dairy products and negligence towards care of domestic animals are the basic reason for underdevelopment of people of Ashta village.





People Biodiversity Register Survey (socio- agro-economic Survey) (B.A.II) at
Antarji Village – (11/01/2019)

NEWS PAPER CUTTING

भूगोल विभागाचे सामाजिक व आर्थिक सर्वेक्षण

आरमोरी : स्थानिक महात्मा गांधी महाविद्यालयांतर्गत भूगोल विभागातर्फे प्राचार्य डॉ. लालसिंग खालसा यांच्या मार्गदर्शनाखाली बी.ए. भाग २ व ३ च्या विद्यार्थ्यांनी पर्यावरण समिती विभागाद्वारे लोकांचे जैवविविधता नोंदवही अंतर्गत आष्टा व अंतरजी या गावाचे सामाजिक तसेच आर्थिक सर्वेक्षण केले.

सामाजिक व आर्थिक

सर्वेक्षणांतर्गत सामाजिक घटक व कृषी आधारित घटकांचा अभ्यास प्रश्नावलीच्या माध्यमाने विद्यार्थ्यांनी माहिती भरून घेतली. यामध्ये सामाजिक व कुटुंबविषयक माहिती, जात, धर्म, व्यवसाय, पुरुष व स्त्रीयांचे प्रमाण, साक्षरता, कृषी आधारित उद्योग, जोडव्यवसाय, पिकपद्धती, शेतीवरील खर्च, उत्पादन, नफा-तोटा, जलसिंचन, पिक प्रारूप, पिकांची तीव्रता, शेतकऱ्यांचे उत्पन्न इ. घटकांचा अभ्यास केला. हे सर्वेक्षण भूगोल विभागप्रमुख प्रा. पराग मेश्राम व प्रा. डॉ. विजय गोरडे यांच्या मार्गदर्शनाखाली करण्यात आले.

Punyanagri – 07/02/2019

Deshonnati – 09/02/2019

भूगोल विभागाचे सामाजिक व आर्थिक सर्वेक्षण

आरमोरी : येथील महात्मा गांधी महाविद्यालयाच्या भूगोल विभागातर्फे प्राचार्य डॉ. लालसिंग खालसा यांच्या मार्गदर्शनाखाली बी.ए. भाग २ व ३ च्या विद्यार्थ्यांनी पर्यावरण समिती विभागाद्वारे लोकांचे जैवविविधता नोंदवही अंतर्गत आष्टा व अंतरजी या गावाचे सामाजिक व आर्थिक सर्वेक्षण केले.

सामाजिक व आर्थिक सर्वेक्षणांतर्गत सामाजिक घटक व कृषी आधारित घटकांचा



अभ्यास प्रश्नावलीच्या माध्यमाने विद्यार्थ्यांनी माहिती भरून घेतली. यामध्ये सामाजिक व कुटुंबविषयक

माहिती, जात, धर्म, व्यवसाय, पुरुष व स्त्रियांचे प्रमाण, साक्षरता, कृषा आधारित उद्योग, जोडव्यवसाय,

पिकपद्धती, शेतीवरील खर्च, उत्पादन, नफा-तोटा, जलसिंचन, पिक प्रारूप, पिकांची तीव्रता, शेतकऱ्यांचे उत्पन्न आदी घटकांचा अभ्यास केला. सदर सर्वेक्षण भूगोल विभागप्रमुख प्रा. पराग मेश्राम, प्रा. डॉ. विजय गोरडे यांच्या मार्गदर्शनात करण्यात आली. विद्यार्थ्यांनी गावामध्ये प्रत्येक घरी जाऊन माहिती गोळा केली. त्याचे विश्लेषण करून अहवाल तयार केला. सर्वेक्षणात ८० विद्यार्थ्यांनी सहभाग घेतला.

DEPARTMENT OF GEOGRAPHY



Department of Geography

People's Biodiversity Register 2018-19

Agricultural and Socio-economic Survey of Antarji Village

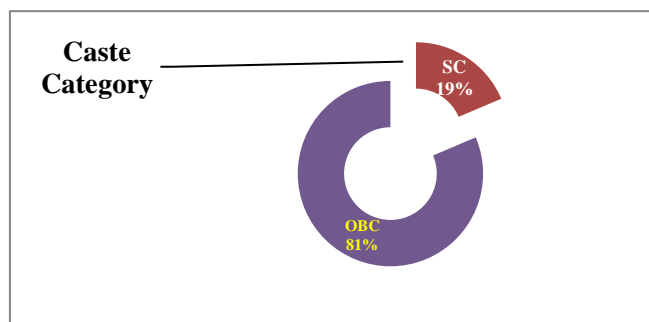
Mahatma Gandhi Arts, Science and Late N.P. Commerce College Armori, the eminent institution in the field of education implementing people's biodiversity register in various villages of Armori tehsil since last twelve years. College has adopted five villages namely Kasvi, Ashta, Antarji, Rampuri and Palora in order to survey and to study local biodiversity of these villages. In the academic session 2018-19, department of Geography conducted survey in Ashta and Antarji with the help of B.A. second year student on agriculture and socio-economic theme, their finding are outline in the following report.

A) Social Background of Antarji Village: -

1) Caste wise database :-

Total	SC	ST	OBC	NT	Open	SBC
43	08	--	35	--	--	--

Caste wise analysis of Antarji village shows that there is maximum family (35) belong to other backward class (OBC) while minimum number is related with schedule caste (only eight family) Remaining caste figure is not available in the village.



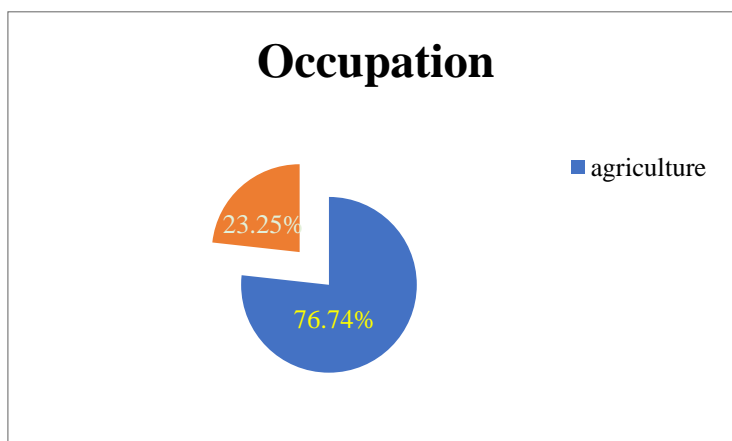
2) Religious Information

Total	Hindu	Buddhist	Muslim	sikh	other
43	37	06	--	--	--

In Ashta village, 37 families belong to Hindu Religion whereas only six families belong to Buddhist community. Other religious minorities are absent.

3) Occupations of Family Head: -

Sr. No.	Farmer	Labor	Service	Others
Statistic	33	10	--	--



In Antarji village agricultural farming and laborer are the basic and traditional occupation of about 33 families (76.74%) people whereas 10 families (23.25%) are engaged as labors in agriculture. Nobody is working in service and business sector.

4) Toilet Facilities.

Total No. of Family	Facility Available	No availability
43	38	05

In Antarji Village out of 43 families only 38 have toilet facility while 05 families do not. (Lack this facility)

5) Type of Home.

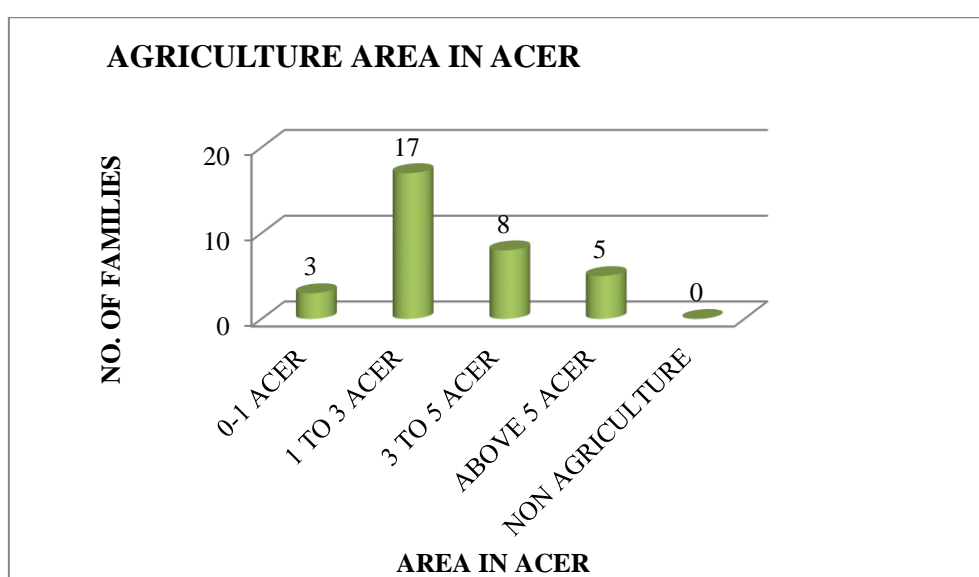
Sr. No.	Kachha Home	Pakka Home
43	17	26

Out of total houses in the Antarji village only 26 houses (60.46%) are of pakka house type While 17 (39.53%) is of Kachha house type.

B) Agro-economics Status of Antarji Village: -**1) Land Area in Acre :-**

Total	0-1acre	1-3acre	3-5 acre	More than 5acre	No Land
43	03	17	08	05	10

In Antarji village 33 families has agriculture land out of 43 family whereas 10 families do not have agriculture land. Survey implies Out of 33 families 03 families carry it in 0-1 acre, 17 in 1-3 acre 08 in 3-5 acre and 05 families has more than 5-acre land.

**2) Type of Land Cultivation:-**

Total family	Irrigated land	Non-irrigated land	Both type	Others
43	10	21	02	10

It is observed that out of 43 family, 10 families (23.25%) doing irrigated land cultivation whereas 21 farmers (48.83%) have non-irrigated type of land due to lack of water availability facility.

3) Crop Productions as per Season: -

Kharip season	Total family	Rice	Pulses (Tur)	Others
		24	--	--
Rabi Season	Total family	Rice	Vegetable	Others
		05	02	02

In Antarji 24 farmers doing paddy crop production in Kharip season which start from June to September while only 5 farmers taking paddy crop in Rabi season, 02 farmers vegetable crop and two are another category.

4) Area under Kharip crop season: -

Sr. No.	Crop	Area in acre
1.	Rice	39 acres
2.	Pulses (Tur)	1 acre
Total	--	40acre

Within survey it is observed that maximum area is covered under paddy crop i.e., rice 39 acre (99%) while few areas (1%) is occupied by pulses.

5) Area under Rabi crop season: -

Sr. No.	Crop	Area in Acre
1.	Rice	03
2.	Pulses (Tur)	--
3.	Vegetable	--
4.	Others	--
total	-	03

In Rabi season only 03-acre area under rice crop whereas nobody is doing agriculture farming.

6) Domestic animal database: -

Sr. No.	Cows	Buffalo	Goat	Sheep	Hen	Bullock cart
Total	16	02	13	--	24	19

In present day farmers view regarding domestic animal caring is decreasing due to various reasons. It is surprising to note that only two buffalo is caring by Antarji villager. Number of Cows, Goat, Hens and bullock cart is shown in the table.

7) Agriculture Expenses (Kharip Crop):-

Sr. No.	Agri. expenses on various head	Land area in acre			
		0-1(3)	1-3(17)	3-5(08)	More than 5acre (05)
1	Cultivation	4700	71000	55000	79000
2	Labor expenses	2100	85240	32000	31000
3	Sowing	2800	27000	19000	40000
4	Insecticides	2400	37000	21000	26000
5	Fertilizers	5090	48000	45000	25000
6	Crop cutting	3420	72000	33000	51000
	Total	20510	340240	205000	252000

In the survey it is observed that expenses on agriculture are more than that of yearly income getting from farming. In Kharip season farmers in 0–1-acre land area spends (6837) rupees, 1-3 land area spend (20014) rupees, 3-5 land area spend (25625) rupees and more than 5acre land area spend (50400) rupees averagely.

8) Agriculture Expenses (Rabbi Crop):-

Sr. No.	Agri. expenses on various head	Land area in acre			
		0-1(02)	1-3(01)	3-5	More than 5acre
1	Cultivation	5500	5500	--	--
2	Labor expenses	4500	6240	--	--
3	Sowing	3000	200	--	--
4	Insecticides	2700	--	--	--
5	Fertilizers	2000	--	--	--
6	Crop cutting	5000	--	--	--
	Total	22700	12440	--	--

In Rabbi Season, very few farmers doing agriculture farming due to lack of irrigation facility and expenses are less as compared to kharip season.

9) **Expenditure on Fertilizers: - (Kharip)**

Land area in acre	Organic Fertilizer	Chemical Fertilizer	Total
0-1(03)	--	148000	148000
1-3(17)	11000	510000	521000
3-5(08)	50000	200000	250000
More than 5(05)	20000	200000	220000
	81000	1058000	1139000

In Antarji, villagers spend more money on purchasing chemical fertilizers rather than organic fertilizers. Above table shows amount spent by various category land holder. It is interesting to note that small land holder does not spend money on organic fertilizer and spends more money on chemical fertilizer as compared to more land holder in order to get more crop yield but then degrading land fertility.

10) **Expenditure on Fertilizer :-(Rabbi)**

Land area in acre	Organic Fertilizer	Chemical Fertilizer	Total
0-1	5200	61000	66200
1-3	--	--	--
3-5	--	--	--
More than 5	--		
	5200	61000	66200

In Rabbi Season people are mostly dependent on chemical fertilizer than that of organic fertilizer due to which degradation of soil takes place and farmers facing problem of various diseases on crop which results in low yield.

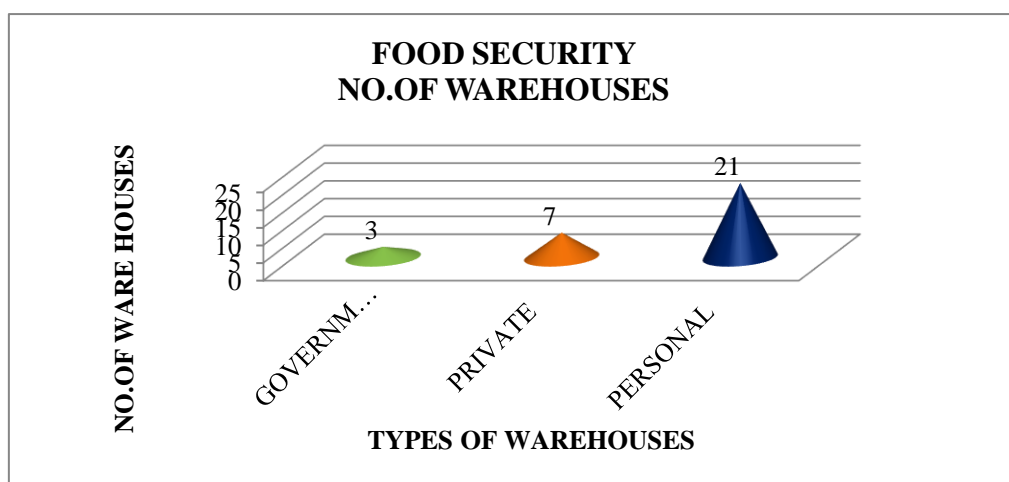
11) **Irrigation Equipment: -**

Some of the farmers utilizing irrigation facility available by government like Etiadoh Dam Project water for agriculture farming which include 2 farmers from 0-1 area land holder, 12 farmer from 1-3 area land holder and no farmers from 3-5 area land holder. Only one farmer is using lake water for agriculture, nobody is using river water and only two farmers are utilizing dug well and bore well water for agriculture farming in Antarji.

Sr. No.	Irrigation Equipment	0-1	1-3	3-5	More than 5 acre
1	Dug well	02	--	--	--
2	Dam (Kalva)	02	12	--	02
3	Bore well	--	--	--	--
4	Lake water	01	--	--	--
5	River water	--	--	--	--
6	Thibak sinchan	--	--	--	--
7	Tushar sinchan	--	--	--	--

12) Food Security: -

In Antarji village maximum farmers (63.62%) stored their food grain in personal cart, very few i.e. 3 farmers (9.1%) stored their food grain in government Warehouses and remaining (21%) farmers stored food grain in private sector warehouses.



13) Crop Loan data base:-(Kharip Season)

Sr. No.	Loan providing agent	Land area in acre				Total
		0-1	1-3	3-5	More than 5	
1	Govt. Bank	--	--	--	40000	158000
2	Co-operative Bank	-	--	--	--	--
3	Private firm (Savkar)	--	--	--	--	--
4	Others	--	--	--	--	--

.In respect with loan facility availed by the farmers as crop loan in Kharip season highest figure is goes to government bank in all stages except 0-1acre land acquiring farmers. Co-operative bank also becomes basic supporter to the farmers.

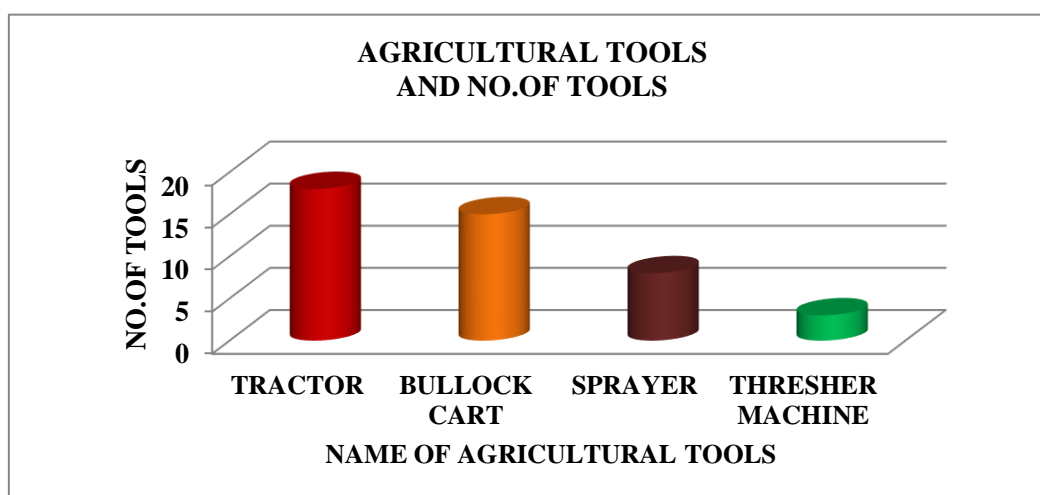
14) Crop Loan data base :-(Rabi Season)

Sr. No.	Loan providing agent	Land area in acre				Total
		0-1	1-3	3-5	More than5	
1	Govt. Bank	--	5000	--	--	5000
2	Co-operative Bank	--	--	--	--	--
3	Private firm (Savkar)	--	--	--	--	--
4	Others	--	--	--	--	--

In Antarji village with respect to loan availed by two farmers from Government Bank who belong to 1–3-acre area in highest number as compared with other land holder.

15) Use of Modern Equipment's: -

Sr. No.	Agriculture equipment	Number
1	Tractors	18
2	Bullock cart	15
3	Spraying Instrument	08
4	Thresher	03
5	Others	



16) Food grain Sales market and Valuation: -

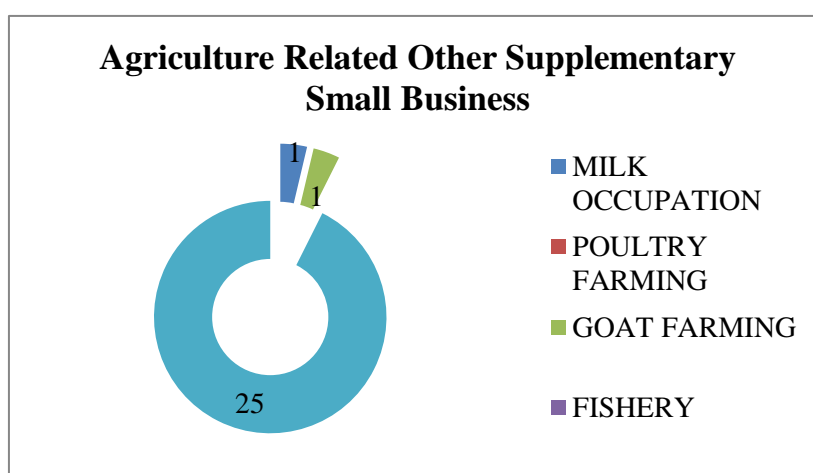
Sr. No.	Sales Market	Food Grain (Quintal)	Valuation (Rupees)
1	Govt. Sector	85 (Quintals)	114000
2	Private Sector	304 (Quintals)	423000
3	Others	--	--

From the survey it is found that in Antarji 25% farmers believe on government sector and sales their food grain in government sector (85 quintals) and 75% farmers sales their food grain in private sector (304 quintals)

17) Agro based Supplementary Business:

Sr. No.	Business type	Total figure
1	Dairy products	01
2	Poultry farming	--
3	Goat farming	01
4	Pig farming	--
5	Fish farming	--
6	Reshim Business	--
7	Agro based Labor	25

In Antarji village maximum people (58.13%) engaged in agro based laborer as compared to other agro based business, one is engaged in goat farming (2.32%) and other one is engaged in dairy product.



18) Various Farming Modes: -

Sr. No.	Farming type	0-1	1-3	3-5	more than 5	Total income
1	Fruit farming	--	--	--	--	-
2	Vegetable farming	--	02	--	--	43000
3	Flower farming	--	--	--	--	--
4	Others	--	--	-	--	--

In survey it is observed that maximum farmers (6.06%) are engaged in vegetable farming as nearby market Armori is available to them as compared to others.

Conclusion: -

Survey of Antarji Village students collected information through Questioners on Agriculture and Socio-economic theme. Through this Survey students collected information about 43 families in Antarji village and final conclusion were decided as follows.

- 1) Agriculture is the backbone of Indian economy and 73.78% people engaged in agriculture farming as well as 23.77% people engage in agro based labor on daily wages.
- 2) Presently 17% people do not have toilet facility, 26.22% people belong to BPL category, 38.88% peoples doing non-irrigated farming which only dependent on natural raining.
- 3) Agriculture audit shows that as compared to investment output is less therefore it is difficult maintain needs of their family in such low income. There is urgent need of agro based small scale industries in the nearby area of adopted villages.
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- 5) Very few people are engage in agriculture based small business like 2.21% people in goat and poultry farming, 1.12% people in fish farming, 25.55% people in vegetable farming, 1.11% in dairy products and negligence towards care of domestic animals are the basic reason for underdevelopment of people of Ashta village.



People Biodiversity Register Survey (socio- agro-economic Survey) (B.A.II) at Antarji Village – (11/01/2019)

NEWS PAPER CUTTING

Deshonnati – 09/02/2019

भूगोल विभागाचे सामाजिक व आर्थिक सर्वेक्षण

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सामाजिक व आर्थिक
सर्वेक्षणांतर्गत सामाजिक घटक व कृषी आधारित घटकांचा अभ्यास प्रश्नावलीच्या माध्यमाने विद्यार्थ्यांनी माहिती भरून घेतली. यामध्ये सामाजिक व कुटुंबविषयक माहिती, जात, धर्म, व्यवसाय, पुरुष व स्त्रीयांचे प्रमाण, साक्षरता, कृषी आधारित उद्योग, जोडव्यवसाय, पिकपद्धती, शेतीवरील खर्च, उत्पादन, नफा-तोटा, जलसिंचन, पिक प्रारूप, पिकांची तीव्रता, शेतकऱ्यांचे उत्पन्न इ. घटकांचा अभ्यास केला. हे सर्वेक्षण भूगोल विभागप्रमुख प्रा. पराग मेश्राम व प्रा. डॉ. विजय गोरडे यांच्या मार्गदर्शनाखाली करण्यात आले.

Punyanagri – 07/02/2019

भूगोल विभागाचे सामाजिक व आर्थिक सर्वेक्षण

आरमोरी : येथील महात्मा गांधी महाविद्यालयाच्या भूगोल विभागातर्फे प्राचार्य डॉ. लालसिंग खालसा यांच्या मार्गदर्शनाखाली बी.ए. भाग २ व ३ च्या विद्यार्थ्यांनी पर्यावरण समिती विभागाद्वारे लोकांचे जैवविविधता नोंदवही अंतर्गत आष्टा व अंतरजी या गावाचे सामाजिक व आर्थिक सर्वेक्षण केले.

सामाजिक व आर्थिक सर्वेक्षणांतर्गत सामाजिक घटक व कृषी आधारित घटकांचा



अभ्यास प्रश्नावलीच्या माध्यमाने विद्यार्थ्यांनी माहिती भरून घेतली. यामध्ये सामाजिक व कुटुंबविषयक

माहिती, जात, धर्म, व्यवसाय, पुरुष व स्त्रियांचे प्रमाण, साक्षरता, कृषी आधारित उद्योग, जोडव्यवसाय,

पिकपद्धती, शेतीवरील खर्च, उत्पादन, नफा-तोटा, जलसिंचन, पिक प्रारूप, पिकांची तीव्रता, शेतकऱ्यांचे उत्पन्न आदी घटकांचा अभ्यास केला. सदर सर्वेक्षण भूगोल विभागप्रमुख प्रा. पराग मेश्राम, प्रा. डॉ. विजय गोरडे यांच्या मार्गदर्शनात करण्यात आली. विद्यार्थ्यांनी गावामध्ये प्रत्येक घरी जाऊन माहिती गोळा केली. त्याचे विश्लेषण करून अहवाल तयार केला. सर्वेक्षणात ८० विद्यार्थ्यांनी सहभाग घेतला.

**PEOPLE'S
BIODIVERSITY
REGISTER
2019-20**

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2019-20			
SCIENCE & HUMANITIES STREAM			
1.	Department of Botany		
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**DEPARTMENT OF
BOTANY**



Department of Botany***People Biodiversity Register*****Plant Diversity of Rampuri and Palora Village****Introduction: -**

Since the beginning of human progress man has been using several herbs and herbal extracts as medicine and they are depending on the surrounding forest for food, medicine and agriculture tools etc. The classical Indian literature Rig-Veda, Athurveda, Charak samhita and Sushruta samhita are the proof of the use of plants by our relatives. It indicates that the herbal medicines have been derived from rich traditions of very old culture and scientific heritage. The forests in India is the major storehouse of large number of medicinal and aromatic plant which are largely collected as a raw materials for manufacture of drugs and other products.

Virtually, more than half of the species on the earth live in forest. The destruction of forest result in the destruction and fragmentation of habitats of a large number of species of flora. In fact, the economy and ecology value of biodiversity are not understood by people and loss of biodiversity through grazing, forest fire, deforestation and tourism is continued at an alarming rate.

Therefore, department of botany nowadays engaged in documentation of floral diversity of the region.

Objective: -

1. To identify the plant diversity of Rampuri and Pallora village.
2. To enlisting and documentation of vegetation.

Methodology: -

The present study is being undertaken with local people a view to explore the plant resources of Rampuri and Pallora of Taluka Armori Gadchiroli Districts. The study was carried out in the month of 30th January 2020. Entire region explored by random survey and prepare list of plant. All the plant specimens were identified by using flora.

In the enumeration, the sequence of families has been followed after Bentham and Hookers classification System. The nomenclature has been adapted based on latest taxonomic literature and in recommendation made by International Code for Botanical Nomenclature (IUCN). Local name has been given wherever available. A short diagnostic description and flowering and fruiting months, for medicinal plants is mentioned.

Observation:-**List of Plant Species-**

Sr. No.	Family	Botanical Name	Local name
1	Annonaceae	Annona squamosa L.	सीताफल
2		Polyalthia longifolia (Sonner.) Thw.	शोभेचा अशोक
3	Menispermaceae	Cissampelos pareira L.	-
4		Cocculus hirsutus (L.) Diels.	-
5	Nymphaeaceae	Nymphaea nouchali Burm	कमल
6	Nelumbonaceae	Nelumbo nucifera Gaertn.	कमल
7	Papavaraceae	Argemone mexicana L.	-
8	Brassicaceae	Brassica juncea (L.) Czern.	मोहरी
9		Brassica cretica Lam	मोहरी
10		Brassica oleracea L. var. capitata L.	पतागोबी
11	Cleomaceae	Cleome viscosa L.	-
12	Capparaceae	Capparis zeylanica L.	-
13	Violaceae	Hybanthus enneaspermus (L.) F. V. Muell	-
14	Flacourtiaceae	Casearia graveolens Dalz.	-
15		Flacourtia indica (Burm.f.) Merr.	ककई
16	Polygalaceae	Polygala elongata Klein ex Wild.	-
17		Polygala erioptera DC. Prodr.	-
18	Elatinaceae	Bergia ammannioides Roxb. ex Roth.	-
19	Malvaceae	Abelmoschus ficulneus (L.) Wight & Arn.	-
20		Abutilon indicum (L) Sweet	-
21		Gossypium herbaceum L.	कापूस/पराठी
22		Hibiscus lobatus (Murr.) O. Kuntze.	-

23		Hibiscus panduraeformis Burm.f. S	--
24		Hibiscus rosa-sinensis L.	जास्वंद
25		Hibiscus sabdariffa L.	अंबाडी
26		Malachra capitata (L.) L.	-
27		Sida acuta Burm.f.	चिकना
28		Sida cordata (Burm.f) Borssum	-
29		Sida cordifolia L.	-
30		Urena lobata L.	-
31	Bombacaceae	Bombax ceiba L.	काटेसावर
32	Batneriaceae	Byttneria herbacea Roxb.	-
33	Sterculiaceae	Helicteres isora L.	मुरडशेंग
34		Melochia corchorifolia L.	-
35		Waltheria indica L.	-
36	Tiliaceae	Grewia damine Gaertn.	-
37		Triumfetta rhomboidea Jacq.	-
38		Triumfetta rotundifolia Lam.	-
39	Oxalidaceae	Biophytum sensitivum (L.) DC, Prodr.	-
40	Rutaceae	Aegle marmelos (L.) Correa	बेल
41		Citrus aurantifolia (Chrism) Sw.	निंबू
42		Limonia acidissima L.	खवट
43		Murraya koenigii (L) Spreng	गोडनिंब
44	Simaroubiaceae	Ailanthus excels Roxb.	माहरूक
45	Meliaceae	Azadirachta indica A. Juss.	निम
46		Melia azedarach L.	-
47		Soymida februfuga (Roxb.) A. Juss.	रोहण
48	Flindersiaceae	Chloroxylon swietenia DC. Prodr.	भेरा

49	Olacaceae	Olax scandens Roxb.	हरतकपाळी
50	Celastraceae	Cassine glauca (Rottb.) O. Kuntze	
51		Celastrus paniculatus Willd.	मालुकाकांगोणी
52		Maytenus senegalensis Lam.	-
53	Rhamanaceae	Ventilago denticulata Willd.	रक्तपापळी
54		Ziziphus mauritiana Lam.	बोर
55		Ziziphus oenoplia (L.) Mill.	येरूणी
56		Ziziphus rugosa Lam.	घोटी
57	Vitaceae	Ampelocissus latifolia (Roxb.) Planch.	-
58		Ampelocissus ternata (Roth ex Rpm. & Scult.) DC	-
59		Cayratia trifolia (L) Domin.	-
60		Cissus vitiginea L.	-
61	Sapindaceae	Cardiospermum helicacabum L.	कापफोडी
62		Dodonea viscosa (L.) Jacq.	-
63		Schleichera oleosa (Lour) Oken	कुसूम
64	Anacardiaceae	Buchanania cochinchinensis (Lour.) Almeida,	चार
65		Lannea cormandelica (Houtt.) Merr.	मोहई
66		Mangifera indica L.	आंबा
67		Semecarpus anacardium L.	बिबा
68	Fabaceae	Abrus precatorius L.	गुंजा
69		Aeschynomene aspera L.	-
70		Alysicarpus bupleurifolius (L.) DC. Prodr.	-
71		Alysicarpus monilifer (L.) DC. Prodr.	-
72		Alysicarpus vaginalis (L) DC. Prodr.	-
73		Butea monosperma (Lam.) Taub.	पळस
74		Cajanus cajan (L.) Millsp.	तुळ

75		Cajanus scarabaeoides (L.) du Petit-Thouars	-
76		Crotalaria montana Roth.	-
77		Cyamopsis tetragonoloba (L) Taub.	ग्वारशेंग
78		Dalbergia sissoo Graham	सिशम
79		Desmodium dichotomum (Willd) DC. Prodr	-
80		Desmodium gangeticum (L.) DC. Prod	-
81		Desmodium triflorum (L.) DC. Prodr.	-
82		Glciricidia sepium Steud.	-
83		Indigofera linifolia (L.f.) Retz.	-
84		Indigofera linnaei Ali	-
85		Lablab purpureus (L.) Sweet	पोपट
86		Lathyrus sativus L.	लाकोरी
87		Melilotus alba Desv.	-
88		Mucuna purpurians (L) DC. Prodr.	कवसकुरी
89		Phaseolus mungo L.	मुंग
90		Pisum sativum L.	
91		Pongamia pinnata	करंज
92		Pterocarpus marsupium Roxb.	बिजा
93		Rhynchosia minima (L.) DC. Prodr.	-
94		Smithia conferta Smith.	-
95		Stylosanthes fruticosa (Retz.) Alston.	-
96		Tephrosia puepurea (L) Pers.	दिवाळी
97		Tephrosia villosa (L) Pers.	दिवाळी
98		Teramnus labialis (L.f) Spreng.	-
99		Trigonella foenum-graecum L.	-
100		Vigna unguiculata (L.) Walp.	-

101		Zornia gibbosa Span.	-
102	Caesalpinaceae	Bauhinia racemosa Lam.	आप्टा
103		Cassia absus L.	-
104		Cassia fistula L.	बाहवा
105		Cassia mimosoides L.	-
106		Cassia occidentalis L.	देव तरोटा
107		Cassia siamea Lamk.	गुलमोहर
108		Cassia tora L.	तरोटा
109		Delonix regia (Boj.) Raf.	गुलमोहर
110		Peltophorum pterocarpum (DC) Bark ex Heyne	गुलमोहर
111		Tamarindus indica L.	चिंच
112	Mimosaceae	Acacia catechu (L.f.) Willd	खैर
113		Acacia leucophloea (Roxb.) Willd	हिवर
114		Acacia nilotica (L.) Del.	बाबुळ
115		Acacia torta (Roxb.) Craib.	-
116		Albizia lebbek (L.) Willd	चिचवा
117		Albizia procera (Roxb.) Benth.	किन्ही
118		Leucaena leucocephala (Lamk) de Wit.	सुबाबुळ
119		Pithecellobium dulce (Roxb.) Benth.	चिचबिलाई
120	Combretaceae	Anogeissus latifolia (Roxb. ex DC.) Guil & Perr.	धावडा
121		Calycopteris floribunda Lam.	झिलबुली
122		Combretum albidum G. Don.	
123		Terminalia bellirica (Gaertn) Roxb.	बेहळा
124		Terminalia cuneate	
125		Terminalia elliptica	ऐन
126	Myrtaceae	Eucalyptus sp.	निलगिरी
127		Psidium guajava L.	पेरू
128		Syzygium cumini (L) Skeels	जांभुळ

129	Lecythidaceae	Careya arborea Roxb.Naud.	कुंभी
130	Melastomataceae	Osbeckia muralis Naud.	-
131	Lythraceae	Ammannia baccifera L.	-
132		Lagerstroemia parviflora Roxb.	लेंडी
133		Rotala indica (Willd) Koehne	-
134		Woodfordia fruticosa (L.) Kurtz.	-
135	Onagraceae	Ludwigia perennis L.	-
136	Caricaceae	Carica papaya L.	पपई
137	Cucurbitaceae	Cucumis sativus L.	-
138		Cucurbita maxima Duch. ex Lamk.	कोहळा
139		Diplocyclos palmatus (L.) Jeffrey	-
140		Lagenaria siceraria (Molina) Standl	लवकी
141		Luffa acutangula (L.) Roxb.	दोडके
142		Luffa cylindrica (L.) Roem.	गलगला
143		Momordica charantia L.	कारले
144		Trichosanthes cucumerina L.,	-
145	Molluginaceae	Glinus lotoides L.	-
146		Glinus oppositifolius (L.) A. DC.	-
147		Molugo pentaphylla L.	-
148	Apiaceae	Coriandrum sativum L.	सांभार
149	Aliangiaceae	Alangium salvifolium (L.f.) Wangerin.	-
150	Rubiaceae	Gardenia latifolia Ait.	घोगर
151		Gardenia resinifera Roth.	ढिकामाली
152		Hedyotis corymbosa (L.) Lam.	-
153		Ixora pavetta Andr.	लोखंडी
154		Spermacoce articularis L.	-
155		Spermacoce pusilla Wall.	-
156	Asteraceae	Ageratum conyzoides L.	-
157		Blumea lacera (Burm.f.) DC.	-
158		Blumea oxyodonata DC.	-
159		Caesulia axillaris Roxb.	-

160		Cyathocline purpurea (D.Don) O Kuntze	-
161		Eclipta prostrata (L) L. Mant	-
162		Elephantopus scaber L.	-
163		Emilia sonchifolia (L) DC.	-
164		Gnaphalium polycaulon Pers.	-
165		Grangea maderaspatana (L.) Poir.	-
166		Parthenium hysterophorus L.	-
167		Pentanema indicum L.	-
168		Sphaeranthus indicus L.	गुड़ी
169		Spilanthus paniculata L.	अक्कलखडा
170		Tagetes erecta	झेंडू
171		Tridax procumbens L.	कंबरमोडी
172		Vernonia cinerea (L.) Less.	-
173		Xanthium indicum L.	-
174	Companulaceae	Wahlenbergia erecta (Roem, & Schult) Moel & Tuyn.	-
175	Lobeliaceae	Lobelia alsinoides Lam.	-
176	Primulaceae	Anagalis arvensis L.	-
177	Sapotaceae	Madhuca longifolia (J. Koenig) Macbr.	मोहा
178	Ebenaceae	Diospyros melanoxylon Roxb.	टेंबरूण
179	Oleaceae	Nyctanthes arbor-tristis L.	पारीजातक
180		Schrebera swietenoides Roxb.	-
181	Apocynaceae	Catharantus roseus (L) G. Don.	जगनाथ
182		Holarrhena pubescens (Buch.- Ham.) Wall ex G. Don.	कुडवा
183		Ichnocarpus frutescens (L.) R. Br.	-
184		Nerium indicum Mill.	कनेर
185		Plumeria rubra L.	
186		Tabernaemontana divaricata (L.) R. Br.	सदाफुली

187		Thevetia peruviana (Pers.) Schum.	-
188		Wrightia tinctoria R. Br.	-
189	Asclepiadaceae	Calotropis gigantea (L) R. Br.	रूई
190		Pergularia daemia (Forsk) Chiov.	उतरणवेल
191		Wattakaka volubilis (L.f.) Stapf.	-
192	Periplcaceae	Criptolepis buchmani Roem. & Schult.	-
193		Hemidesmus indicus (L.) R.Br.	खोबरजळी
194	Gentianaceae	Canscora decussata Schult & Schult.	-
195		Canscora diffusa (Vahl) R. Br.	-
196		Canscora heteroclita (L.) Gilg.	-
197		Centaurium meyeri (Bunge) Druce	-
198		Enicostema axillare (Lam.) Roynal	-
199		Exacum pedunculatum L.	-
200		Hoppea dichotoma Willd.	-
201	Menyanthaceae	Nymphoides indicum (L.) O. Ketz.	-
202		Nymphoides hydrophylla (Lour) O. Ketz.	-
203	Boraginaceae	Cordia dichotoma Forst f. Prodr.	शेलवट
204		Heliotropium indicum L.	-
205		Heliotropium supinum L.	-
206		Trichodesma indicum (L) R. Br.	-
207	Convolvulaceae	Evolvulus alsinoides (L) L.	-
208		Ipomoea aquatic Fosrk.	-
209		Ipomoea fistulosa Mart ex Choisy	बेशरम
210		Ipomoea obscura (L) Ker-Gawl.	-
211		Merremia gangetica (L) Cuf.	-
212		Rivea hypocrateriformis (Desr.) Choisy	-
213		Volvulopsis nummularia (L) Roberty	-

214		Xenostegia tridentate (L) Austin & Staples	-
215		Cuscuta chinensis	अमरवेल
216	Solanaceae	Capsicum annuum L.	मिरची
217		Datura metal	धोतरा
218		Lycopersicon esculentum Mill	टमाटर
219		Physalis minima L.	-
220		Solanum nigrum L.	-
221		Solanum melongena L.	वांगा
222		Solanum virginianum	कडभटई
223	Scrophulariaceae	Limnophila aromatica (Lam.) Merr.	-
224		Lindernia antipoda (L) Alston	-
225		Lindernia ciliata (Colsm.) Pennell	-
226		Lindernia crustacea (L) F. Muell.	-
227		Scoparia dulcis L.	-
228		Stemodia viscosa Roxb.	-
229		Striga angustifolia (D. Don) Sald.	-
230		Verbascum chinense (L) Santapau.	-
231	Lentibulariaceae	Utricularia stellaris L.f.	-
232	Martyniaceae	Martynia annua L.	-
233	Acanthaceae	Adhatoda zeylanica Medic.	आडूळशा
234		Andrographis paniculata (Burm.f.) wall ex Nees	भुईनिंब
235		Barleria cristata L.	-
236		Blepharis maderaspatensis (L) Roth.	-
237		Blepharis repens (Vah) Roth.	-
238		Eranthemum purpurascens Nees in Wall	-
239		Hemigraphis latebrosa (Heye ex Roth) Nees in DC	-

240		Hygrophila schulli (Buch..Ham.) M.R. & S.M. Almeida	काटेकोरंटी
241		Hygrophilla polysperma (Roxb.) T. And	-
242		Indoneesiella echioides (L.) Sreem	-
243		Justicia glauca Rottl.	-
244		Justicia japonica Thunb.	-
245		Lepidagathis cristata Willd.	-
246		Peristrophe paniculata (Forssk) Brummitt.	-
247		Rungia pectinata (L.) Nees in DC.	-
248		Rungia repens (L.) Nees in Wall.	-
249	Verbenaceae	Clerodendrum serratum (L.) Moon	-
250		Duranta erecta L.	मेहंदी
251		Gmelina arborea Roxb.	शिवण
252		Lantana camara L.	कामिनी
253		Phyla nodiflora (L.) Greene	-
254		Tectona grandis L.f.	सागवण
255		Vitex negundo L.	निरगुळी
256	Lamiaceae	Hyptis suaveolens (L) Poit.	-
257		Leucas cephalotes (Roth) Spr.	-
258		Ocimum sanctum L.	तुळशी
259		Ocimum basilicum L.	सब्जा
260		Orthosiphon rubicundus (D.Don) Bth.	-
261	Nyctaginaceae	Boerhavia diffusa L.	पुनरनवा
262		Bougainvillea glabra Choisy	-
263	Amaranthaceae	Achyranthes aspera L.	कुत्री
264		Aerva sanguinolenta (L.) Bl.	-
265		Alternanthera sessile (L.) R. Br. ex DC.	-
266		Alternanthera tenella Colla	-
267		Celosia argentea L.	-
268		Gomphrena serrata L.	-
269	Chenopodiaceae	Chenopodium album L.	माठ
270	Polygonaceae	Persicaria barbata (L) Hara	-
271		Persicaria glabra (Willd) Gomez	-
272		Polygonum plebejum R. Br.	-

273		Rumex dentatus L.	-
274	Loranthaceae	Dendrophthae falcata (L.f.) Etting	-
275	Euphorbiaceae	Acalypha ciliata Forsk.	-
276		Bridelia retusa (L.) Spreng	कसई
277		Cleistanthus collinus (Roxb.) Bth ex Hook.	गराडी
278		Emblica officinalis Gaertn	—
279		Euphorbia hirta L.	-
280		Jatropha curcas L.	चंद्रजोती
281		Jatropha gossypifolia L.	-
282		Mallotus philippensis (Lamk.) Muell.-Arg.	शेंद्री
283		Phyllanthus maderaspatensis L.	-
284		Phyllanthus urinaria L.	-
285		Phyllanthus virgatus Forst.f.	-
286		Ricinus communis L.	एरंडी
287		Sebastiania chamaelea (L.) Muell-Arg.	-
288	Moraceae	Ficus benghalensis L.	वड
289		Ficus hispida L.f.	
290		Ficus religiosa L.	पिंपळ
291		Ficus racemosa L.	उंबर
292		Morus alba L.	-
293	Hydrocharitaceae	Blyxa sp.	-
294		Hydrilla verticillata (L.f.) Royle.	-
295	Orchidaceae	Vanda tessellata (Roxb.) Hook.	वांदा
296	Musaceae	Musa paradisiaca L.	केळ
297	Amaryllidaceae	Crinum viviparum (Lam.) R. Ansari & V. J. Nair	
298	Hypoxidaceae	Curculigo orchioides Gaertn.	काळीमुसळी
299	Taccaceae	Tacca leontopetoides (L) O. Ktze.	-
300	Dioscoreaceae	Dioscorea bulbifera L.	मटनारु
301	Liliaceae	Allium sativum L.	-
302		Asparagus racemosus Willd.	शतावरी
303		Gloriosa superb L.	करकरी
304		Iphigenia indica (L.) A.b. Gray	-
305		Scilla hyacinthine (Roth.) Mc Bride.	-

306	Smilacaceae	Smilax zelyanica L.	शेरडेरे
307	Commelinaceae	Commelina benghalensis L.	-
308		Cyanotis cristata (L.) D. Don.	-
309		Murdannia spirata (L.) Brueck.	-
310		Tonningia axillaris (L.) O.Ktze.	-
311	Areaceae	Phoenix acaulis Roxb.	-
312		Phoenix sylvestris (L.) Roxb	शिंदी
313	Araceae	Amorphophallus sp.	सुरन
314	Aponogetonaceae	Aponogeton natans (L) Engl.	-
315	Najadaceae	Najas indica (Wild) Cham.	-
316	Eriocaulaceae	Eriocaulon quinquangulare L.	-
317	Cyperaceae	Bulbostylis barbata (Rottb.) C.B.Cl.	-
318		Cyperus compressus L.	-
319		Cyperus difformis L.	-
320		Cyperus iria L.	-
321		Cyperus pangorei Rottb	-
322		Cyperus tenuispica Steud.	-
323		Cyperus rotundus L.	-
324		Eleocharis acutangula	-
325		Eleocharis retroflexa (Poir) Urb.	-
326		Fimbristylis argentea (Rottb.) Vahl.	-
327		Fimbristylis dichotoma (L.) Vahl.	-
328		Fimbristylis miliacea (L) Vahl.	-
329		Fuirena ciliaris (L.) Roxb.	-
330		Kyllinga tenuifolia Steud.	-
331		Mariscus clarkei (T. Cooke) T. Koyama	-
332		Pycnus sanguinolentus (Vahl.) Nees ex C. B. Cl.	-
333		Rhynchospora wightiana (Nees) Steud.	-
334		Schoenoplectus articulatus (L.) Palla	-
335		Schoenoplectus lateriflorus (Gmel.) Lye	-
336		Scleria biflora Roxb.	-

337	Poaceae	Alloteropsis cimicina (L.) Stapf.	गवत
338		Apluda mutica L.	गवत
339		Aristida redacta Stapf.	गवत
340		Arthraxon hispidus (Thunb.) Makino	गवत
341		Bambusa arundinacea (Retz.) Willd. Sp.	गवत
342		Chloris barbata Swartz.	गवत
343		Chrysopogon fulvus (Spr.). Chiov.	गवत
344		Coix lacryma-jobi L.	गवत
345		Cynodon dactylon (L.) Pers.	गवत
346		Dactyloctenium aegyptium (L.) Willd.	गवत
347		Dendrocalamus strictus (Roxb.) Nees.	गवत
348		Dichanthium annulatum (Forssk.) Stapf.	गवत
349		Digitaria abludens (R. & S.) Veldk.	गवत
350		Digitaria ciliaris (Retz.) Koel.	गवत
351		Dimeria connivens Hack.	गवत
352		Echinochloa colona (L.) Link.	गवत
353		Eleusine indica (L.) Gaertn.	गवत
354		Eragrostiella bifaria (Vahl.) Bor.	गवत
355		Eragrostis japonica (Thunb.) Trin.	गवत
356		Eragrostis riparia (Willd.) Nees.	गवत
357		Eragrostis tenella (L.) P. Beauv.	गवत
358		Eragrostis unioides (Retz.) Nees ex Steud.	गवत
359		Heteropogon contortus (L.) P. Beauv.	गवत
360		Ischaemum indicum (Houtt.) Merr.	गवत
361		Iseilema laxum Hack. in DC.	गवत
362		Oryza rufipogon Griff.	देवधान
363		Oryza sativa L.	धान
364		Saccharum spontaneum L.	पाढर
365		Sacciolepis indica (L.) A. Chase	गवत
366		Setaria pumila (Poir) R. & S. Syst.	गवत

367		Triticum aestivum L.	गहू
368		Vetiveria zizanioides (L.) Nash.	खस

Economic aspects of the plant diversity of Rampuri and Palora:

List of the common crop plant and other import plant.

Pulses: *Cicer arietum* (Chana, herbara), *Cajans cajan* (Tur), *Vigna mungo* (Udid), *Vigna radiata* are the pulses species cultivated in the village.

Cereals: *Oryza sativa* (Dhan), *Triticum aetivum* (Gahu), *Zea mays* (Maka) is also cultivated in the village.

Vegetable: *Lycopersicon esculentum* (Tomato), *Solanum melongena* (Wange), *Cucurbita maxima* (Kohala), *Cucumis sativa* (Kundru), *Abelmoschus esculentus* (Bhendi), *Luffa culindrica*, *Luffa acutangula* (Dodka), *Momardica charantia* (Karale), *Hibiscus cannabinus* (Ambadi), *Cyamopsis tetragonaloba* (Gawarsheng) *Trigonella foenum-graecum* (Methi), etc are commonly grown in the village.

Fruit: *Aegle marmelos* (Bel), *Limonia acidissima* (Khawat), *Ziziphus mauritiana* (Bor), *Annona squamosa* (Shitafal), *Buchanania cochinchinensis* (Char), *Emblia officinalis* (Awala), *Mangifera indica* (Amba), *Semecarpus anacardium* (Biba), *Tamarindus indica* (Chinch), *Pithecellobium dulce* (Wilaiti chinch, Chihbilai), *Psidium guajava* (Peru, Gam), *Syzygium cumini* (Jamun), *Carica papaya* (Papaya), *Diospyrous melanoxylon* (Dembhruni), *Musa paradisiaca* (Kela) are encountered.

Medicinal plant : *Abrus precatorius*, *Achyranthes aspera*, *Adhatoda zeylanica*, *Aegle marmelos*, *Andrographis paniculata*, *Anogeissus latifolia*, *Asparagus racemosus*, *Azadirachta indica*, *Cassia tora*, *Celastrus paniculatus*, *Curculigo orchoides*, *Elephantopus scaber*, *Emblia officinalis*, *Gardenia resinifera*, *Helicteres isora*, *Holarrhena pubescens*, *Limonia acidissima*, *Mucuna pruriens*, *Phyllanthus amarus*, *Semecarpus anacardium*, *Terminalia arjuna*, *Terminalia bellirca*, *Tridax procumbens*, *Ventilago denticulate* are some example of medicinal plans.

Timber tree : *Tectona grandis* (Sagawan), *Soymida februfuga* (Rohan), *Chloroxylon swietenia* (Behara), *Cleistanthus collinus* (Garari), *Lannea coromandelica* (Mowai), *Pterocarpus marsupium* (Bija), *Acacia nilotica* (Babul), *Albizia lebbeck* (Chichwa), *Careya arborea* (Kumbhi), *Lagerstroemia parviflora* (Lendhi), *Mitragyna parvifolia*, *Madhuca longifolia* (Moha), *Bridelia retusa* (Kasai) etc.

Oil yielding plant: *Brassica* sps. (Mohari, Sarso), *Ricinus communis* (Erandi), *Linum usitasimum* (Jawas, Alsi),

Gum yielding plant : *Acaccia leucocephala* (Hiwar), *Acaccia nilotica* (Babul), *Lannea coromandelica* (Mowai), *Sterculia urens* (Karu) etc.

Agriculture Weed: (32) *Achyranthes aspera*, *Aerva sanguinoleta*, *Ageratum conyzoides*, *Alternanthera sessile*, *Ammannia baccifera*, *Anagalis* sp., *Argemone mexicana*, *Caesulia axillaris*, *Cardiospermum helicacabum*, *Celosia argentea*, *Chenopodium album*, *Commelina benghalensis*, *Cyperus difformis*, *Cyperus iria*, *Echinochloa colona*, *Eclipta prostrata*, *Euphorbia hirta*, *Leucas cephalotes*, *Lobelia alsinoides*, *Ludwigia perennis*, *Parthenium hysterophorus*, *Pentanema indicum*, *Physalis minima*, *Rumex dentatus*, *Solanum nigrum*, *Sphaeranthus indicus*, *Spilanthus paniculata*, *Stemodia viscosa*, *Trichodesma indicum*, *Tonningia axillaris*, *Vernonia cinerea*, *Wahlenbergia erecta* are encounter.

Aquatic Plant: *Alternanthera sessile*, *Ammannia baccifera*, *Aponogeton natans*, *Bergia ammannioides*, *Blyxa* sp., *Caesulia axillaris*, *Coix lacryma-jobi*, *Crinum viviparum*, *Cyathocline purpurea*, *Cyperus difformis*, *Cyperus iria*, *Cyperus pangorei*, *Echinochloa colona*, *Eclipta prostrata*, *Eleocharis acutangula*, *Eleocharis retroflexa*, *Eriocaulon quinquangulare*, *Fimbristylis miliacea*, *Fuirena ciliaris*, *Hoppea dichotoma*, *Hydrilla verticillata*, *Hygrophila schulli*, *Hygrophilla polysperma*, *Ipomoea aquatic*, *Ipomoea fistulosa*, *Limnophila aromatica*, *Lindernia antipoda*, *Lindernia ciliata*, *Lobelia alsinoides*, *Ludwigia perennis*, *Najas indica*, *Nelumbo nucifera*, *Nymphaea nouchali*, *Nymphoides indicum*, *Nymphoides hydrophylla*, *Persicaria barbata*, *Persicaria glabra*, *Phyla nodiflora*, *Rhynchospora wightiana*, *Sacciolepis indica*, *Schoenoplectus articulatus*, *Schoenoplectus lateriflorus*, *Smithia conferta*, *Spilanthus paniculata*, *Tonningia axillaris*, *Utricularia stellaris*, *Verbascum chinense* *Vetiveria zizanioides* *Wahlenbergia erecta* were total 49 species found.

Result and Discussion: -

The assessment of floral diversity in the study area enlisted total 368 species belonging to 302 genera and 89 families of flowering plants. All the enlisted 368 species enumerated in the table.

In recent study total 368 species recorded and categorized into trees (76), Climber and lianas (32), Shrubs (24), herbs (183), sedges & grasses (50) and parasitic and epiphyte plants (03). The figures in the parenthesis represent their numbers.

Out of 368 species wild species are represented by 326 species. While cultivated and planted are represented by 42 species. The local people are used as food plants in a particular season because of their nutritive value.

Floristic Spectrum:

Angiosperm in Rampuri & Pallora region are represented by 368 taxa. Pie diagram shows floristic spectrum of flowering plant of the region. Of the total angiosperm, Dicotyledones account for 79 %, of the total taxa and monocotyledons by 21%. Wild plants contribute for 89 % of the total taxa, While 11 % cultivated Plants. Out of the total taxa 49.72 % are herb, 6.52 % Shrub, 20.65 % tree, 8.69 % Climber and lianas, 13.58 % Grasses and Sedges, 0.81 % parasitic and epiphyte.

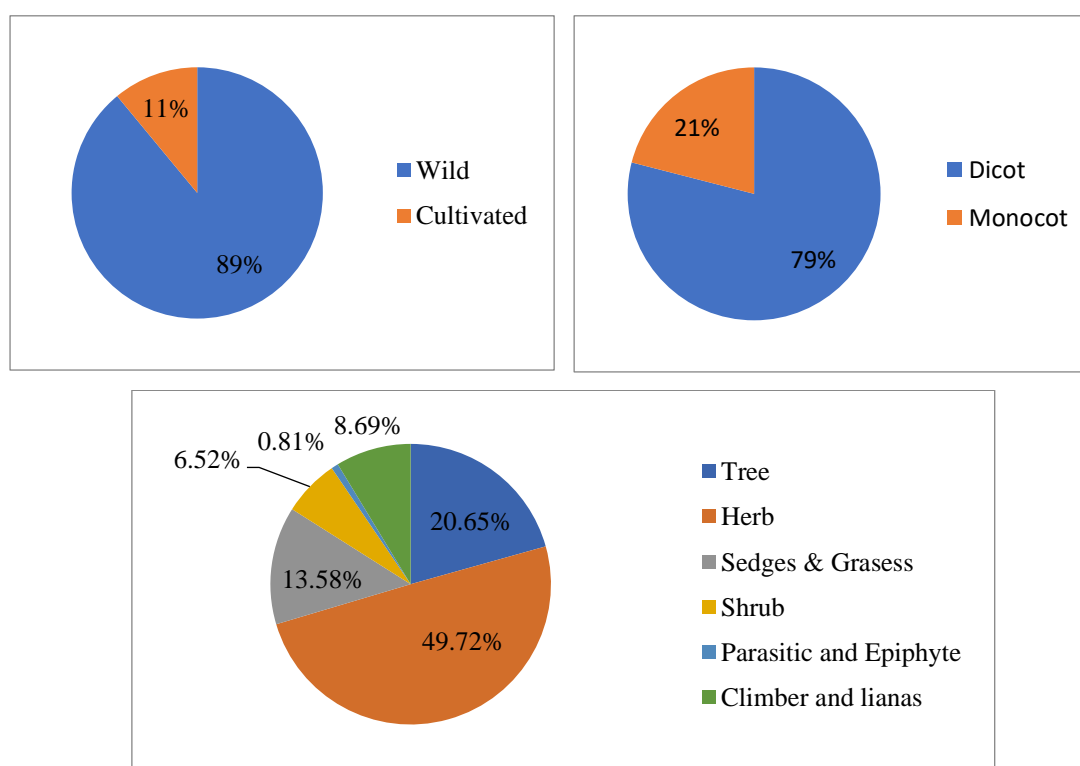


Photo Plate



Students interact with Local People



Students observe the plant in field



Students Agriculture field and interact with farmer



Students' data collection photography



Barleria cristata



Olax scandens



Terminalia bellerica



Combretum albidum



Mallotus philippensis



Annona squamosa



Acacia catechu



Holarrhena pubescens



Gardenia resinifera



Gardenia resinifera



Ziziphus mauritiana



Sphaeranthus indicus



Momardica charantia



Spilanthus paniculata



Asparagus racemosus



Tonningia axillaris



Utricularia stellaris



Nymphaea nouchali



Nymphoides indicum



Eleocharis acutangular



Fuirena ciliaris



Sacciolepis indica

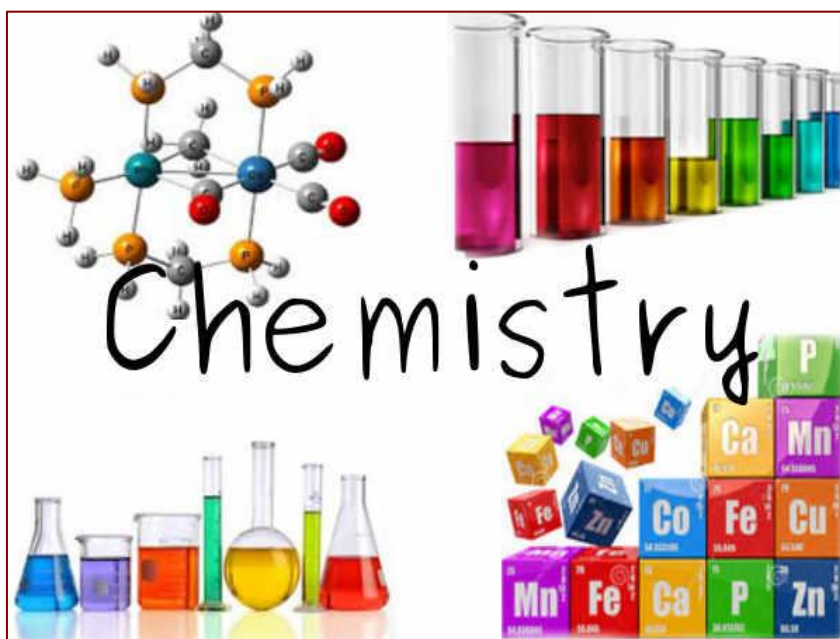


Cynodon dactylon



Saccharum spontaneum

DEPARTMENT OF CHEMISTRY



Department of Chemistry

PBR Report 2019-20

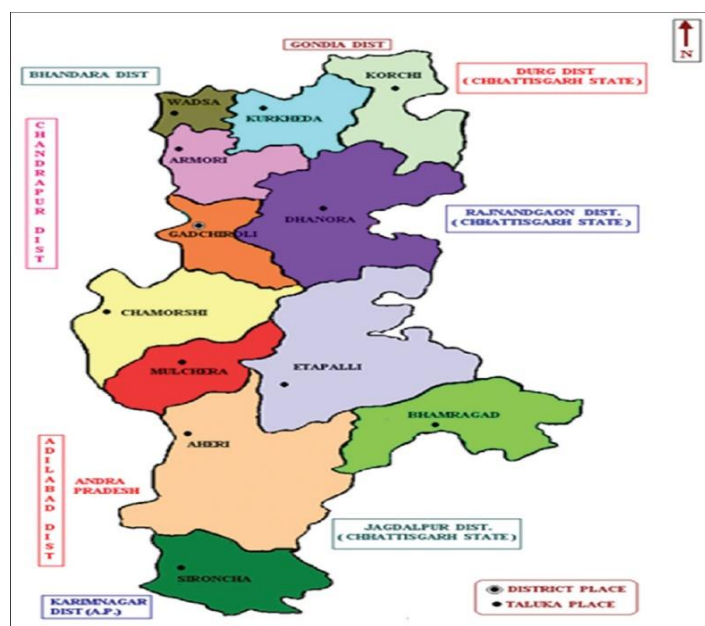
**“Survey and Physico-Chemical analysis of water and soil of Rampuri and Palora village
of Armori tehsil, Gadchiroli district Maharashtra”**

PBR submitted by: **B. Sc. II** (Department of Chemistry) students' group **2019-20**

Under the supervision of **Prof. Satendra M. Sontakke, Dr. Satish S. kola, Dr. Naresh**

Bansod

1.	Name of study area	Rampuri and Palora
2.	Date of collection of samples	30/01/2020
3.	Date of completion of analysis	20/02/2020
4.	Name of village	Rampuri and Palora
5.	Name of Gram panchayat	Kasvi
6.	Pin code of study area	441208
7.	Tehsil	Armori
8.	District	Gadchiroli
9.	State	Maharashtra



❖ **STUDY AREA: Rampuri and Palora-Geographical View**

Gadchiroli emerged as a district on 26 Aug 1982 having area about 14412 sq. Km. Armori is a municipal taluka in the Gadchiroli district in the Indian state of Maharashtra. It is connected with NH-353C. It is located on the left of the Wainganga River. It is about 120 km from the city of Nagpur and about 36 km from district headquarters, Gadchiroli. In present survey, we have selected Rampuri and Palora village.

Rampuri is a medium size village located in Armori Taluka of Gadchiroli district, Maharashtra with total 168 families residing. This village has population of 729 of which 358 are males while 371 are females. Average Sex Ratio of Rampur Chak village is 1036 which is higher than Maharashtra state average of 929. The literacy rate of Rampur Chak village was 75.84 % compared to 82.34 % has lower literacy rate compared to Maharashtra. In Rampur Chak Male literacy stands at 86.20 % while female literacy rate was 65.55 %.

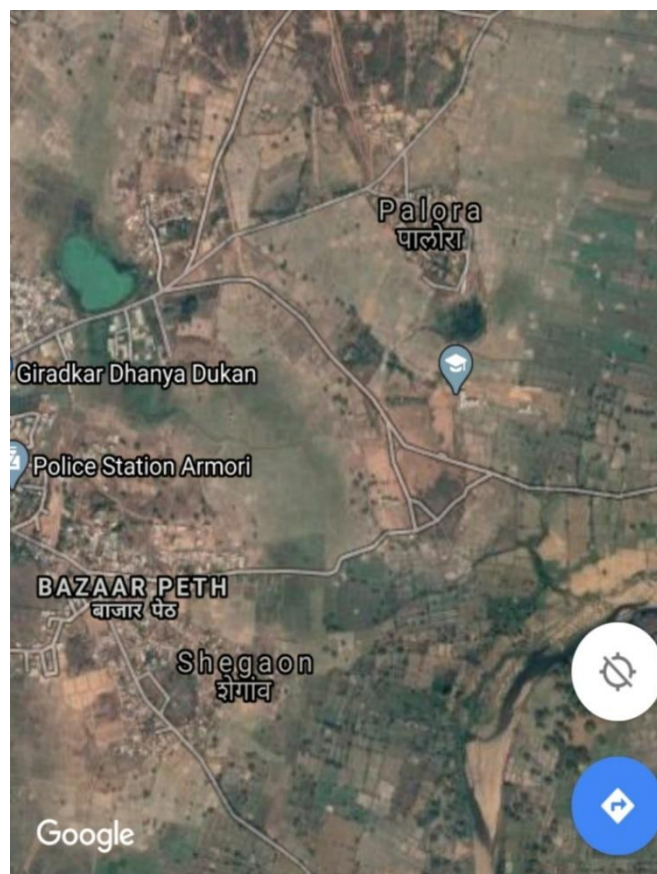


Satellite view of Rampuri Village

Second village of our survey and study is Palora village placed in Armori Taluka of Gadchiroli district with total 130 families exists, having population of 540 of which 269 are males while 271 are females. Average Sex Ratio of Palora village is 1007 which is higher than Maharashtra state average of 929. In Palora Male literacy stands at 94.44 % while female literacy rate was

76.33 %. As per constitution of India and Panchyati Raaj Act, Rampuri and Palora village is administrated by Sarpanch Head of Village who is elected representative of village.

For Rampur and Palora village Bore well, dug well and water treatment plant is set up on the river which provides drinking water for the people and most of the farmers of both the village take paddy crop.



Satellite view of Palora Village

❖ METHODOLOGY

The complete PBR project consists of three parts.

1. Survey of Rampuri and Palora village using questionnaires and peoples approach around water quality they used, misused, water recharging, shortage of water, and their role in conservation of water.
2. Study and comparison various parameters of water by using water sampling kit and titration method.
3. Study and comparison various parameters of soil by using standard literature procedure and reference.

Peoples Biodiversity Register of Rampuri Village

Villager Name: - Laxman Makde (Age -76 years)

House No.- 50, land area 2 ½ Acre

Questionnaire (Survey) on water

Q.1 - What are various sources of water in Rampuri area (village)?

Ans.: - Dug well, Grampanchayat tap water, Bore well.

Q.2 - In rainy season, whether chlorination of drinking water is carried out by Gram Panchayat or not?

Ans.: - Yes, Chlorination is done by Gram Panchayat in drinking water.

Q.3 - What is difference between pure water & impure water in your sense?

Ans.: - pure water is clean, Impure water is dirtier and more turbid.

Q.4 - Generally well water quality is good in comparison with Bore well water. What is your Experience?

Ans.: - As per my opinion Dug well water is good in comparison with bore well.

Q.5 - Do you know, we get important minerals like calcium and fluoride from water?

Ans.: - Yes

Q.6 -Do you feel water scarcity in summer season?

Ans.: - No, drinking water is sufficient in our village.

Q.7 -Do you think we the people are responsible for the water scarcity?

Ans.: - Yes

Q.8 -Water scarcity arises due to improper management and improper recharging of water. What is your opinion?

Ans.: - No, we don't have any idea

Q.9 - Whether water resources in your area is sufficient for irrigation point of view?

Ans.: - Yes, canal water is available.

Q.10 -We can differentiate between soft water & hard water due to chemical activity.

Water which gives more scum (salt) it is called hard water if less scum (salt) is formed it is called soft water. Do you aware about it?

Ans.: - Yes

Q.11 – What is effect of hard water on Agriculture produce?

Ans.: - we don't have any idea about it

12 - Due to washing of cloth, pollution of lake takes place. Do you aware about it?

Ans.: - Yes

Q.13 - In rainy season, do you drink water after chlorination or boiling?

Ans.: - No

Q.14 -Which method you applying for cold water in summer season.

Ans.: - Water store in matka made from soil. -

Q.15 -What type of method you are applying for water purification?

Ans.: - by Bleaching powder.

Q.16 -What type of Ayurveda medicine (Jadibuti) you were practicing earlier?

Ans.: - Extract of Kadunimb use as insecticide as well as pesticide.

Q.17 -What are the solution for water scarcity in summer season.

Ans.: - No Scarcity of water.

Q.18 -What is the method for the removal of salt from water?

Ans.: - Alum is use.

Peoples Biodiversity Register of Rampuri Village

Villager Name: - Vishnuas M. Kharkate (Age - 42 years)

House No.- 156 land area 2 ½ Acre

Survey on Agriculture Information

Q.1- what type of fertilizer you are using in your farming whether chemical or organic?

Ans.: - Chemical fertilizers

Q.2- Which type of chemical composition you preferred for chemical fertilizers?

Ans.: - 20:20:0

Q.3 -Which Company Brand is more useful as per your opinion?

Ans.: - Krushiudhog

Q.4- How many Kg or bag of chemical fertilizer you require per acre?

Ans.: - 3 ½ Bags per Acre

Q.5 - From how many Years you are using chemical fertilizers?

Ans.: - 9-8 Years

Q.6 - During use of chemical fertilizer what was the percentage of crop production? Whether Increased or decreased.

Ans.: - In percentage of crop production.

Q. 7- During the use of organic fertilizer what was the percentage of crop production? Whether Increased or decreased.

Ans.: - percentage of crop production was average.

Q.8- compare to chemical fertilizer and organic fertilizer which is best?

Ans.: - Chemical is good, but it decreased soil fertility.

Q.9 - During use of chemical fertilizer what was the percentage of insect or paste attack on Crops whether increased or decreased?

Ans.: - The average percentage of insect or paste attack was increased

Q.10 - During use of organic fertilizers what was the percentage of insect or pest attack on Crops? Whether increased or decreased?

Ans.: - Insect or pest attack was decreased in use of organic fertilizers.

Q.11 - What type of pesticide and insecticide you were using before 20 years? Chemical or self-Made from plant Extract.

Ans.: -Self-made insecticide was used before 20 years.

Q.12 - Please tell names of some self-made pesticide or insecticide if you know?

Ans.: - Panchamrut, Saptaparni.

Q. 13 - How much amount you spend on insecticide and pesticide per acre?

Ans.: - 1900 Rs per Acre.

Q. 14- Are you ready to do the organic farming as before if you get some scheme or facilities from government?

Ans.: - Yes

Q.15- Do the soil fertility of your land increased or decreased using chemical fertilizer?

Ans.: - The soil fertility was decreased using chemical fertilizer.

Q.16 - Compare production rate and selling rate of crop, profit or loss?

Ans.: - The production rate was 1600 and selling rate was 27,000, overall profit.

Q. 17 - Have you ever done the Agriculture Audit?

Ans.: - No

Q.18 - Did you ever compare the production rate and amount you spend for paddy crop?

Ans.: - Yes

Q.19- Are you aware about soil analysis of your farmland conducted by the government? Did You participate there?

Ans.: - No

Q.20 - Are you ready to do the soil analysis in current year?

Ans.: - Yes

Q.21- Do you have any experience of Bagayti Agriculture?

Ans.: - Yes

Q.22- if so, is it more useful than traditional Agriculture?

Ans.: - Yes, it is more profitable

Q.23- Do you have proper facility of Irrigation?

Ans.: - yes, Irrigation is of sprinter type

Q.24- Is it useful to take the production of oil Seeds

Ans.: - No

Q.25- Do you take the production of cereals

Ans.: - Yes

Q.26- If so, is it profitable?

Ans.: - Yes, it is profitable and cheaper than other crop production.

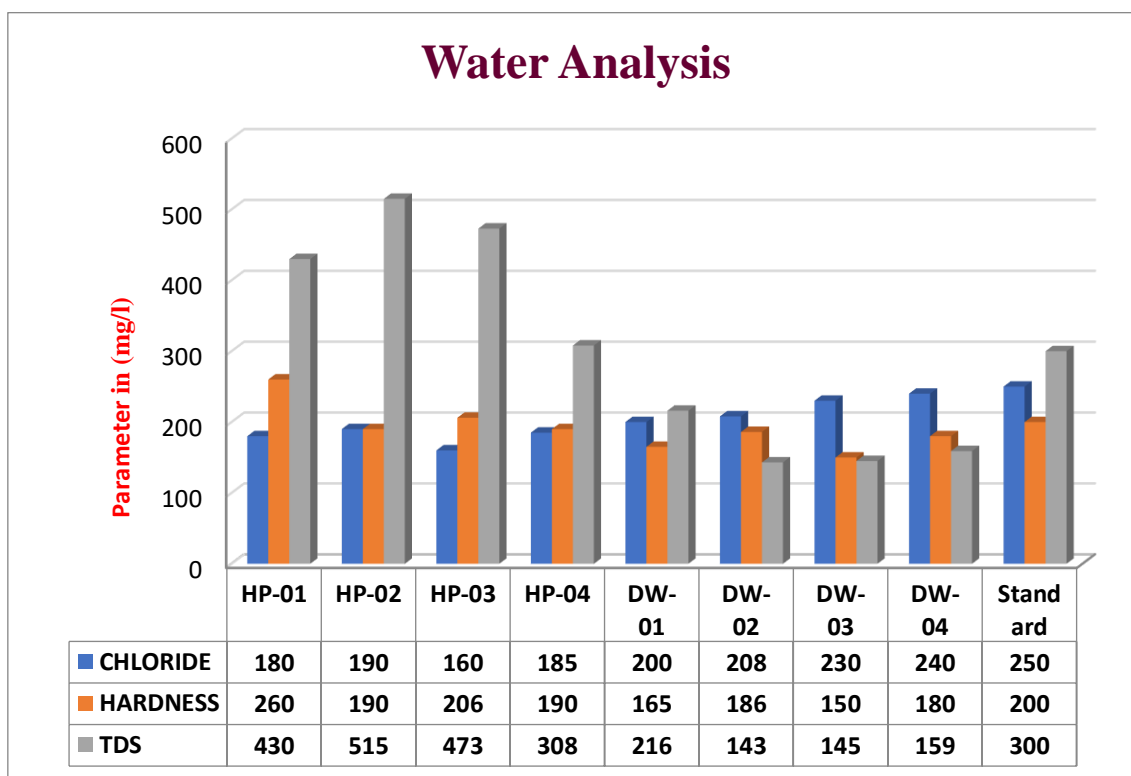
Total 08 water samples were collected from the various locations of Rampuri village group of students and different parameters like: - Chloride, Hardness, pH, TDS, Fluoride, were investigated by using standard procedure of literature Result were depicted in table1.

Group No. 01

Table No.- 1:- Physico-chemical Analysis of Bore well and Dug Well Water of Rampuri Village

Sources	Chloride (mg/l)	Hardness (mg/l)	pH	TDS (mg/l)	Fluoride (mg/l)
HP 01	180	260	6.95	430	0.37
HP 02	190	190	6.99	515	0.28
HP 03	160	206	6.59	473	0.30
HP 04	185	190	6.65	308	0.20
DW 01	200	165	5.67	216	0.50
DW 02	208	186	5.18	143	0.42
DW 03	230	150	5.72	104	0.34
DW 04	240	180	6.20	159	0.35
Standard(IS10500) (Excellent Acceptable range)	≤ 250	≤ 200	6.5-8.5	≤ 300	≤ 1

HP = Hand pump, DW = Dug Well

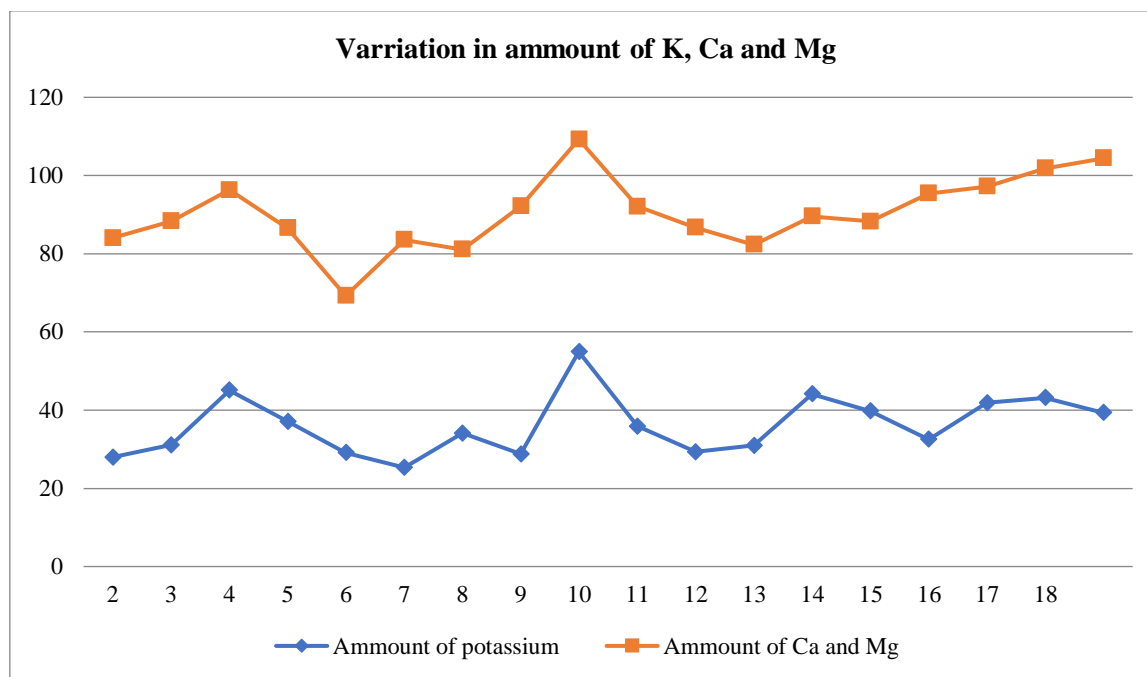


Soil Sample Analysis

Department of chemistry, Peoples biodiversity register group (PBR) visited *Rampuri* village on 31 January, 2020 for the collection of soil samples. Total 18 soil samples were collected from *Rampuri* village by adopting standard procedure for collection of soil sample and Students of chemistry PBR group analyzed parameters like: P^H of Soil, Dissolved salt in water, Total Organic carbon, Amount phosphorus, Amount Potassium, Amount of Nitrogen, Amount Ca and Mg in collaboration with Government Agriculture College, Gadchiroli. The results obtained are depicted below in **Table No. 2**

Table No. 2: Observation Table (Students Group No. 02)

Sample No.	P^H of Soil	Dissolved Salt of the soil water	Total Organic carbon	Amount of phosphorus	Amount of Potassium	Amount of Nitrogen	Amount Ca and Mg
1.	7.3	0.51	1.92	27.94	470	11	56.12
2.	7.3	0.61	1.84	31.10	430	13	57.23
3	7.3	0.27	1.86	45.09	591	08	51.25
4	7.6	0.51	1.84	37.10	484	15	49.43
5	5.1	0.53	1.93	29.10	417	13	40.11
6	7.0	0.46	1.83	25.32	349	13	58.23
7	7.7	0.26	1.69	34.10	470	15	46.98
8	5.6	0.37	1.62	28.78	403	14	63.40
9	7.6	0.63	1.78	54.94	524	15	54.30
10	7.2	0.36	1.78	35.86	390	13	56.20
11	7.2	0.44	2.69	29.32	349	11	57.36
12	7.5	0.28	1.68	30.94	484	16	51.38
13	7.6	0.48	1.69	44.09	524	15	45.45
14	7.3	0.48	1.50	39.78	430	09	48.46
15	7.6	0.39	1.62	32.55	484	16	62.89
16	7.1	0.43	1.47	41.86	486	14	55.32
17	7.4	0.46	1.50	43.17	349	15	58.65
18	7.3	0.33	1.60	39.32	376	17	65.10
Standard	6.0-7.5	0.18-0.63	1.8 - 2.5	25-40	150-250	10-20	50-70



RESULT & DISCUSSION

Hand Pump Water and Dug Well water of Rampuri Village

We have collected various water samples from Bore well and dug well from different region of Rampuri and Palora village using standard procedure and carried out analysis as per location given in the table. We have selected four location of hand pump some are private and some are public bore well.

- The concentration chloride found average in all the bore well and dug well sample of Rampuri village.
- Hardness of entire hand pump and dug well water samples varies from 150 ppm to 260 ppm. Sample of Hand pump **01** and **03** shows higher hardness while remaining sample is soft with respect to standard conventional Range of Indian standard.
- P^H analysis of water sample indicates that dug well **01**, **02** & **03** water is some of acidic compare with bore well.
- TDS of drinking water should be less than 300 as Indian standard (IS-10500). Water analysis confirmed that HP-01, H.P-02 having more TDS while remaining water sample are having very good TDS range.
- Concentration of fluoride was found be less than 1 and in the range of (0.2- 0.5) in all Sample Hand pumps and dug well which is good sign of drinking water.

Soil Sample Report of Rampuri Village

- ❖ Entire soil sample of Rampuri village with respect to P^H are in the range of standard **6.5-7.5** except sample number **5** and **8**.
- ❖ If the level of salts in the soil water is too high, water may flow from the plant roots back into the soil. This results in dehydration of the plant, causing yield decline or even death of the plant. Percentage of dissolved salt in water is in good agreement with standard specification **0.18-0.63**.
- ❖ Analysis of organic carbon content in the soil shows that it is in the standard reference range.
- ❖ Phosphorus is a vital component of ATP, the "energy unit" of plants. ATP forms during photosynthesis, has phosphorus in its structure, and processes from the beginning of seedling growth through to the formation of grain and maturity. Thus, phosphorus is essential for the general health and vigor of all plants. Investigation of Sample collected from Rampuri shows surplus phosphorus than required according to standard specification. It may be due to excess uses of fertilizers.
- ❖ Potassium plays a key role in the regulation of water in plants. Both uptake of water through plant roots and its loss through the stomata are affected by potassium. The entire soil sample contains average potassium except soil No. **3** and **16**.
- ❖ Nitrogen is so vital because it is a major component of chlorophyll, the compound by which plants use sunlight energy to produce sugars from water and carbon dioxide (i.e., photosynthesis). Amount of soil in nitrogen found to be in normal range except sample **03** and **14**.
- ❖ Examination all-inclusive soil sample of calcium and magnesium found in the range of 50-70 ppm. Calcium and magnesium both increase soil pH, but sulfur from some sources reduces soil pH. Compounds containing one or more of these nutrients are often used as soil amendments rather than strictly as suppliers of plant nutrition.

Total 06 water samples were collected from the various location of Palora village by groups of students and different parameters like: - Chloride, Hardness, pH, TDS, Fluoride, were investigated by using standard procedure of literature Result were listed in **table 3**.

Table No.3 Physico-chemical Analysis of Bore well and Dug Well Water of Rampuri Village. (Group No. 03)

Sources	Chloride (mg/l)	Hardness (mg/l)	pH	TDS (mg/l)	Fluoride (mg/l)
HP 01	190	220	7.10	430	0.60
HP 02	198	195	7.05	415	0.67
HP 03	180	220	7.7	373	0.45
DW 01	220	170	6.98	216	0.51
DW 02	208	164	7.25	143	0.48
DW 03	230	169	7.4	104	0.68
Standard (IS10500) (Excellent Acceptable range)	≤ 250	≤ 200	6.5-8.5	≤ 300	≤ 1

HP = Hand pump, DW = Dug Well



Soil Sample Analysis

Department of chemistry, Peoples biodiversity register group (PBR) visited Palora village on 31 January, 2020 for the collection of soil samples. Total 10 soil samples were collected from Rampuri village by adopting standard procedure for collection of soil sample and Students of chemistry PBR group analyzed parameters like: P^H of Soil, Dissolved salt in water, Total Organic carbon, Amount phosphorus, Amount Potassium,

Amount of Nitrogen, Amount Ca and Mg in collaboration with Government Agriculture College, Gadchiroli. The results obtained are illustrated below in **table No-04**.

Table No-04 Observation Table (Students Group No. 02)

Sample No.	P^H of Soil	Dissolved Salt of the soil water	Total Organic carbon	Amount of phosphorus	Amount of Potassium	Amount of Nitrogen	Amount Ca and Mg
1.	7.3	0.51	0.92	54.94	470	11	56.12
2.	7.3	0.61	0.84	81.10	430	13	57.23
3	7.3	0.27	0.86	47.09	591	08	51.25
4	7.6	0.51	0.84	81.10	484	15	49.43
5	7.1	0.53	0.93	81.10	417	13	40.11
6	7.0	0.46	0.83	52.32	349	13	58.23
7	7.7	0.26	0.69	81.10	470	15	46.98
8	7.2	0.37	0.62	28.78	403	14	63.40
9	7.6	0.63	0.78	54.94	524	15	54.30
10	7.2	0.36	0.78	41.86	390	13	56.20
Standard	6.0-7.5	0.18-0.63	1.8 - 2.5	20-30	150-250	10-20	50-70



Collection of soil sample

RESULT DISCUSSION

Hand Pump Water and Dug Well water of Palora Village

We have carried out investigation of all collected water sample from some private and certain public hand Pump and Dug well using standard procedure and result is depicted in Table No- 3

- Sodium chloride may impart a salty taste however; calcium or magnesium chloride is not usually detected by taste until levels of 1000 mg/l are reached. Public drinking water standards require chloride levels not to exceed 250 mg/l. The amount of dissolved salt was found to be below 250 in all the bore well and dug well sample of Palora village.
- Hardness is most commonly expressed as milligrams of calcium carbonate equivalent per liter. Water containing calcium carbonate at concentrations below 60 mg/l is generally considered as soft while 60-120 mg/l, moderately hard and 120- 180 mg/l, hard; and more than 180 mg/l, very hard water sample of Palora village is above 150 mg/l which shows water is hard as compared with Indian standard conventional Range.
- P^H analysis of water sample indicates that most of the water sample is neutral or slightly basic.
- TDS of drinking water should be less than 300 as Indian standard (IS-10500). Water analysis confirmed that HP-01, H.P-02, H.P-03 is having more TDS while remaining water sample are having very good TDS range.
- Excessive fluoride causes fluorosis-changes in tooth enamel that range from barely noticeable white spots to staining and pitting. Fluoride can also become concentrated in bone stimulating bone cell growth, altering the tissue's structure, and weakening the skeleton. Fluoride ion analysis confirmed that all collected water sample have concentration is in the range of **0.2- 0.5** mg/l which is considered as good water for drinking.

Soil Sample Report of Rampuri Village

- ❖ Soil pH affects the amount of nutrients and chemicals that are soluble in soil water, and therefore the amount of nutrients available to plants. Some nutrients are more available under acid conditions while others are more available under alkaline conditions. However, most mineral nutrients are readily available to plants when soil pH is near neutral. The development of strongly acidic soils (less than 5.5 pH) can result in poor

plant growth. Most of the soil sample of Palora village with respect to P^H is above 7 which are slightly basic.

- ❖ Level of dissolved salt of soil water play vital role for the proper growth of plants more salt in soil result in dehydration of the plant, causing yield drop down amount of dissolved salt in water found to be in range between **0.18-0.63** mg/l.
- ❖ Analysis of organic carbon content in the soil shows that it is in the standard reference range.
- ❖ Phosphorus is a vital component of ATP, the "energy unit" of plants. ATP forms during photosynthesis, has phosphorus in its structure, and processes from the beginning of seedling growth through to the formation of grain and maturity. Thus, phosphorus is essential for the general health and vigor of all plants. Investigation of Sample collected from Rampuri shows surplus phosphorus than required according to standard specification. It may be due to excess uses of fertilizers.
- ❖ Potassium plays a key role in the regulation of water in plants. Both uptake of water through plant roots and its loss through the stomata are affected by potassium. The entire soil sample contains average potassium except soil No. **3** and **16**.
- ❖ Nitrogen is so vital because it is a major component of chlorophyll, the compound by which plants use sunlight energy to produce sugars from water and carbon dioxide (i.e., photosynthesis). Amount of soil in nitrogen found to be in normal range except sample **03**.
- ❖ Analysis of total soil sample of calcium and magnesium found in the range of **50-70** ppm. Except sample **4** and **5**. Calcium, magnesium are essential plant nutrients. They are called "secondary" nutrients because plants require them in smaller quantities than nitrogen, phosphorus, and potassium.

Recommendation for Rampuri and Palora village general public

Water quality: -

3. Those hand pump and dug well water of Rampuri and Palora village, which have high TDS and hardness value water of that source should be treated before drink water or if no such facility is available then banned for use.
4. Peoples are advice to chlorinate drinking water frequently.
5. Essential to arrange some more awareness program for Rampuri and Palora village people on water and soil to know its importance and to increase its quality.

Soil quality: -

1. Analysis of soil sample of Rampuri and Palora village shows some of its samples contain excess of amount nitrogen, potassium and Phosphorous hence they are advised to use less chemical fertilizer.
2. By our survey we are promoting Farmers of Rampuri and Palora village towards organic farming by different government projects and subsidy.
3. By different program farmers should know its major benefit like food obtained from organic farming is free from any contamination. The organically grown foods have better tastes no effects on health than those grown by harmful chemicals such as pesticides, fungicides and herbicides
4. People advised to use compost or manure to increase the percentage of microorganism in the Soil.
5. Vermicomposting is also alternative solution to increase the quality of soil.

Conclusion: - In summary, we have carried out survey and analysis on water and soil sample of Rampuri and Palora village by using questionnaire and analysis of entire samples of soil and water was completed in M.G Arts, Science and late N.P Commerce college Armori chemistry laboratory and in laboratory of Govt. Agriculture college Gadchiroli. Different parameter of water like chloride, Hardness, P^H , TDS, and Fluoride was studied and compared with standard (IS10500) Excellent Acceptable range. Parameters of soil like P^H , dissolved salt in soil water, amount carbon, phosphorous, potassium, nitrogen, calcium and magnesium were also studied and compared with standard value. From the result of investigation, we recommended some key advice to that corresponding village.

Acknowledgement: - Department of Chemistry PBR team is thankful to Sarpanch and Village people of Rampuri and Palora for their support and cooperation during survey and sample collection. We also show our deep gratitude to principle of M.G arts Science and late N.P commerce college Armori, for continuous inspiration and guidance throughout survey.

Field Photography



Group of students collecting water sample of hand pump from different location of Rampuri Village

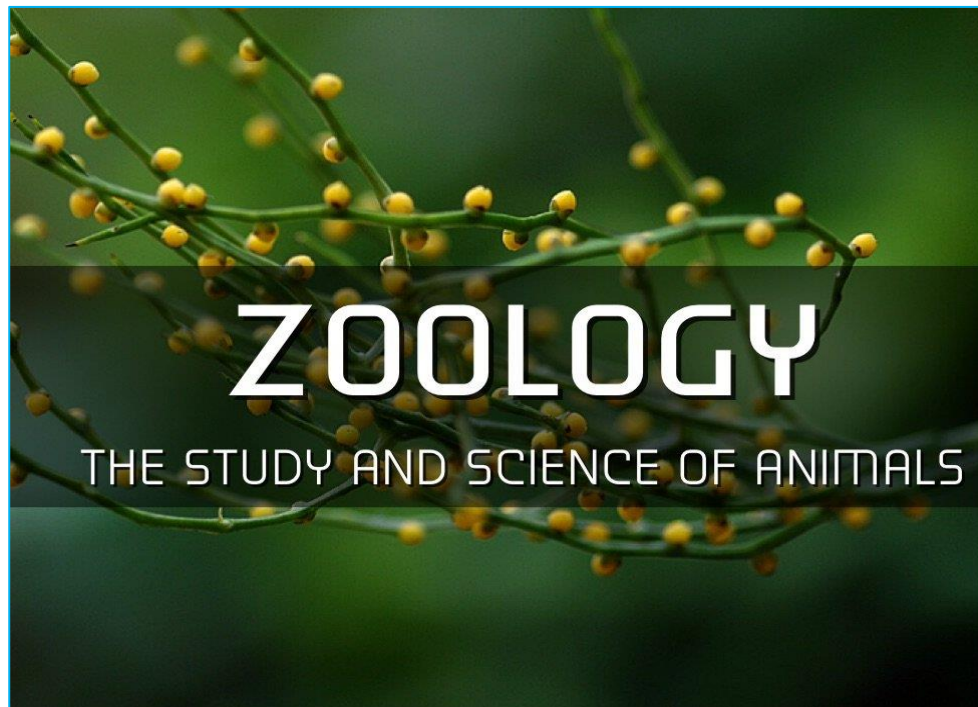


Group of students collecting dug well water sample from different location of Rampuri Village



Group of students conducting survey on water and soil Through Questionnaire

DEPARTMENT OF
ZOOLOGY



DEPARTMENT OF ZOOLOGY***Peoples Biodiversity Register******Animal Diversity Of Four Villages - Palora, Rampur, Antarji, Ashtha Of Tahesil –
Armori Dist- Gadchiroli*****INTRODUCTION: -**

Biodiversity, a contraction of "biological diversity," generally refers to the variety and variability of life on Earth. The number and variety of plants, animals and other organisms that exist is known as biodiversity. It is an essential component of nature and it ensures the survival of human species by providing food, fuel, shelter, medicines and other resources to mankind. The richness of biodiversity depends on the climatic conditions and area of the region. All species of plants taken together are known as flora and all species of animals taken together are known as fauna which includes birds, mammals, fish, reptiles, insects, crustaceans, molluscs, etc.

Gadchiroli district has thick forest with rich biodiversity. The different vegetation forms like herbs, shrubs and trees provide significant parameters for animal diversity. This area provides natural and varied ecological habitat for animals. The body form of animal is correlated with habitat; hence there is great diversity of annelids, arthropods, molluscs, amphibians Pisces, reptiles, birds and mammal species in this area. The area provides nesting beds as tall trees for birds, and thick grasslands and swampy areas for residence of amphibians, mammals, water bodies for fishes.

Palora, Rampur, Antarji and *Ashtha* are the most important ecological localities in Armori tahsil. These villages are very nearer to us. It has natural ecological habitat with rich animal diversity, day by day due to increasing anthropogenic activity, a very sensitive animal get disturbed, hence it is necessary to protect and maintain the diversity of the area.

MATERIALS AND METHODS

We the faculty of Department of Zoology along with B.Sc. IInd year students visited (from June 2018-Feb. 2020) to *Antarjee, Ashta, Rampur* and *Palora* village in respect to the biodiversity of animals study through the local peoples response. Required materials for animal collection was brought with us, including camera, mobile with high magnification, net trap, plastic pouches, formalin solution, plastics bottles, bowels etc. Our study has only observation base, hence as we see the insect, we had taken photographs then collected sample preserved in our laboratory for further study in details. The data on wild carnivore animals

were collected from local inhabitants. It is based on folk information of villagers. Our regular 2 year study orient on animal diversity enlists, identifies, classification with characters and quantifies the different species of annelids, arthropods, molluscs, amphibians, Pisces, reptiles, birds and mammals. During identification, care was taken to avoid any disturbance to species. Identification of annelids, arthropods, and molluscs, with standard book of Entomology by Dr. D. B. Tembhare and for bird's standard reference books (Salim Ali). The reptiles were identified by Deoras (1969), and mammals by Sheshadri (1994).

Results And Discussion

In the present investigation, 02 species of annelids, 47 species of arthropods, 02 species of molluscs, 03 species of amphibians, 21 species of Pisces, 11 species of reptiles, 35 species of birds and 14 species of mammals' species were encountered.

PBR Group of Zoology Department Visited to Four Villages for EVS.



Table no. 1): Observation of Annelids species during study year June 2018- February 2020 at selected study places/villages.

SN	Common Name	Scientific name	Class	Order	Identifying character
1	Leech	<i>Hirudinaria granulose</i>	Hirudinea	Gnathobdellida	Leeches are segmented worms with suction cups at each end. Their bodies are flattened, much wider than they are thick. They are usually dark colored, often brown or sometimes black or dark green. Sanguivorous
2	Earthworm	<i>Pheretima posthuma</i>	Oligochaeta	Opisthopora	Earthworms have long, segmented bodies, covered in microscopic setae. Which help to anchor and pull the worm via longitudinal muscle contractions.

Table no. 2): Observation of Arthropods species during study year June 2018- February 2020 at selected study places/villages

SN	Common Name	Scientific name	Class	Order	Identifying characters
1	Prawn	<i>Palaemon malcolmsonii</i>	Crustacea	Decapoda	Shrimp have a head and a tail, and an abdomen with six segments. The last abdominal segment is the telson. The thorax has a spine called the rostrum
2	Scorpion	<i>palamnaeus</i>	Crustacea	Decapoda	It is known as indian scorpion. It is predatory arachnids of the order Scorpiones. They have eight legs and are easily recognized by the pair of grasping pedipalps.
3	Cockroach	<i>Periplaneta americana</i>	Insecta	Orthoptera	Cockroaches are generalized insects, with few special adaptations. They have a relatively small head and a broad, flattened body, and most species are reddish-brown to dark brown

4	Grasshopper	<i>Schistocerca gregaria</i>	Insecta	Orthoptera	Grasshoppers are medium to large insects. they have chewing mouthparts, two pairs of wings, one narrow and tough, the other wide and flexible, and long hind legs for jumping
5	Housefly	<i>Musca domestica</i>	Insecta	Diptera	The housefly is a medium size common insect, from light to dark gray in color. It is a house pest as it serves as a carrier of many diseases producing organism. With the help of its sponging type of mouthparts, the fly licks up liquid food.
6	Gryllus cricket	<i>Gryllus bimaculatus</i>	Insecta	Orthoptera	Also known as the African or Mediterranean field cricket or as the cricket. Gryllus produces sound with the help of wings and legs in night.
7	Mosquito	<i>Culex</i>	Insecta	Diptera	With proboscis it sucks the human blood causing diseases Dengu Chikungunya. Abdomen of a culex remains parallel to the substratum.
8	Mosquito	<i>Anopheles</i>	Insecta	Diptera	With proboscis it sucks the human blood causing diseases Malaria. Abdomen of a Anopheles making 45 degree angle to the substratum.
9	Mosquito	<i>Aedes aegypti</i>	Insecta	Diptera	With proboscis it sucks the human blood causing diseases Yellow fever. Abdomen of a Aedes remain parallel to the substratum. They are active and bit during day time.
10	Wasp	<i>Vespa orientalis</i>	Insecta	Hymenoptera	Abdomen having yellow and dark brown bands Its stings young larvae and collect as a food source for their young ones
11	Praying mantis	<i>Hierodula patellifera</i>	Insecta	Mantodea	It has pair of a prominent raptorial four legs which work like blades of scissors. Both nymph and adult eat silkworm

12	Bug	<i>Canthecona furcellata</i>	Insecta	Hemiptera	Head with a central pale band & black marginal spots on abdomen Both nymph and adult attack on silkworm larvae
13	Red Millipede	<i>millipedes</i>	Diplopoda		Millipedes have glands capable of producing irritating fluids that may cause allergic reaction. It contains hydrochloric acid that can chemically burn the skin and cause long term skin discoloration
14	Black Millipede	<i>milipedes</i>	Diplopoda		Millipedes have glands capable of producing irritating fluids that may cause allergic reaction. It contains hydrochloric acid that can chemically burn the skin and cause long term skin discoloration
15	Velvet insect	Trombidium	Arachnida	Trombidiformes	This insect is found in soil eater. They use their front pair of legs as feelers
16	Green tree ant	<i>Oecophylla smaragdina</i>	Insecta	Hymenoptera	Workers and major workers are mostly colored orange & long strong legs and large mandibles It attack on silkworm larvae at different stages
17	Ant	<i>Myrmicaria brunnea</i>	Insecta	Hymenoptera	Workers are chestnut brown in color with shining mandibles The workers ants attack the host Tasar larvae in groups
18	Yellow fly	<i>Diachlorus ferrugatus</i>	Insecta	Diptera	Yellow colour body with eyes are blue green with purple bands It attacks on cocoon by cutting with the help of its strong mandibles
19	Ichneumon fly	<i>Xanthopimpla punctata</i>	Insecta	Hymenoptera	It is yellow in colour with black bands on abdomen They lay their eggs on moth caterpillars that damage crops
20	Tachinid fly	<i>Tachina fera</i>	Insecta	Diptera	Female lay eggs on silkworm larvae Maggot penetrates into the body of Tasar
21	Beetle	<i>Dermestes ater</i>	Insecta	Coleoptera	It has black or brown elytra It attack on stored Tasar cocoons in the field or in a storage room
22	Crab	Cancer	Chrseticia	Octopoda	Body is flat and oval.

					Cephalothorax is broader than long. Antennules and eye stalks are contained in sockets of carapace.
23	Cotton boll worm	Helicoverpa armigera	Insecta	Lepidoptera	Forewings are yellowish to orange in female and greenish gray in males. It is a cotton pest
24	Lime butterfly	Papilio demoleus	Insecta	Lepidoptera	The butterfly is also known as the lime butterfly. It does not have prominent tail. The caterpillars can completely defoliate young citrus trees and devastate citrus nurseries.
25	Common mormon	Papilio polytes	Insecta	Lepidoptera	Jet black butterfly with row of white spots along the middle part of hind wing. It is most common in the monsoon and post monsoon months.
26	Common Rose	Pachliopta aristolochiae	Insecta	Lepidoptera	Female differ from male only in the comparative broader wings. It flies just as readily in the shade as in the sun and frequently visits flowers. The larvae feed on crops
27	Plain Tiger	Danaus Chrysippus	Insecta	Lepidoptera	It is a medium sized butterfly with a wingspan of about 7-8cm. The hind wing has three black spots in the center.
28	Striped Tiger	Danus Genutia	Insecta	Lepidoptera	The butterfly closely resembles the monarch butterfly of the Americas. Both sexes of the butterfly have tawny wings with veins marked with broad black bands.
29	Common Bushbrown	Mycalesis perseus	Insecta	Lepidoptera	Hind wing uniform occasionally two or three post median obscure ocelli present. The female having posterior ocellus on the upper side of the forewing is always larger than the male.
30	Danaid Eggfly	Hypolimnas misippus	Insecta	Lepidoptera	The male has the upperwings dark velvety brownish black.

					Cilia of both forewings and hindwings white alternated with black.
31	Chocalate Pansy	Junonia iphita	Insecta	Lepidoptera	The wavy lines on the underside of the wings vary from wet to dry season forms. The eggs are often laid on the ground or on dry twigs near the host plants.
32	Lemon Pansy	Junonia Lemonias	Insecta	Lepidoptera	It is brown with the numerous eyespots as well as black. The lemon pansy can be seen basking with its wings open facing the sun.
33	Common Emigrant	Catopsilia Pomona	Insecta	Lepidoptera	The development of the forms has been linked to photoperiod and temperature during growth. The eggs are usually laid singly on the underside at the margin of the leaves.
34	Motted Emigrant	Catopsilia Pyranthe	Insecta	Lepidoptera	Upper side is chalky white, slightly tinted in the some specimens with green. In both sexes antennae reddish, head and thorax interiorly brown in colour.
35	Common Grass yellow	Eurema hecabe	Insecta	Lepidoptera	The common grass yellow exhibits seasonal polyphenism. The lepidopteran has a darker summer morph, triggered by a long day exceeding 13hr in duration.
36	Striped Pierrot	Taracus nara	Insecta	Lepidoptera	Small white butterfly with striped pattern. Bottom age of wings decorated with violetish eye spots.
37	Common Cerulean	Jamides Celeno	Insecta	Lepidoptera	This species shows seasonal polyphenism. The hind wing is uniformly coloured, except for an antimilitary black line.
38	Small Branded Swift	Pelopidus mathias	Insecta	Lepidoptera	Hind wing with one or two very indistinct pale discal spots. Female with five discle spot in the fore wing.

39	Brown Awl	Badamia Exclamationnis	Insecta	Lepidoptera	The brown awl flies as low as six feet over the bushes. The feeds at lower levels on flowers of shrubs and small trees.
40	Lesser Grass Blue	Zizina Otis	Insecta	Lepidoptera	It has no tonal tail the male is uniformly purplish blue butterfly both wings have cell end patches and no other marks on the fore wing cells.
41	Green army moth	Daphnisnerii	Insecta	Lepidoptera	The adults feed on nectar of a great variety of flowers. The caterpillars feed mainly on oleander leaves.
42	Tasar moth	Antheraea mylitta	Insecta	Lepidoptera	Caterpillar feed on leaves of yen and arjun. This species is bivoltine and it is crude wild Tasar silk.
43	Sonuli	Buprestidae	Insecta	Coleoptera	Shape is generally cylindrical or elongate to ovoid, with lengths ranging from 3 to 80 mm . Ten species of flat headed borers of the family Buprestidae feed on spruce and fir.
44	Beetle	Chlaenius	Insecta	Coleoptera	Chlaenius is a large and diverse <u>genus</u> of <u>ground beetle</u> . All appendages orange brown except antonnomers 1 to 3 which are often pailer.
45	Udali	Termites	Insecta	Blattodea	Termites are usually small measuring between 4 to 15 mm.
46	Dragonfly	Anisoptera	Insecta	Odonata	An adult dragonfly has three distinct segments, the head, thorax, and abdomen as in all insects. Dragonflies and their relatives are an ancient group.
47	Damselfly	Zygoptera	Insecta	Odonata	The general body plan of a damselfly is similar to that of a dragonfly. The top of the head bears three simple eyes.

Table no. 3): Observation of Molluscans species during study year June 2018- February 2020 at selected study places/villages

SN	Common name	Scientific name	Class	Order	Identifying characters
1	Unio	Unio pictorum	Bivalvia	Unionida	Also known as painters mussels. They are herbivores. Feed on submerged plant. It burrows in furrow in and with the help of a hatched shaped foot.
2	Pila	Pila globosa	Gastropoda	Mesogastropoda	They are sliding on flat area with the help of plates. Plates are present in Head and foot. They are herbivores. Feed on submerged plant

Table no. 4): Observation of Pisces species during study year June 2018- February 2020 at selected study places/villages

SN	Common name	Scientific name	Class	Order	Identifying characters
1.	Catla	Catla catla	Actinopterygii	Cypriniformes	Catla is fish with large and broad head, a large protruding lower jaw and upturned mouth. Catla is surface and mid water feeder. It is omnivores feed on both zooplankton and phytoplankton.
2.	Mrigal	Cirrhinus mrigala	Actinopterygii	Cypriniformes	It is a fresh water fish. Mrigal is the benthic pelagic and potamodromous plankton feeder.
3	Rohu	Labeo rohita	Actinopterygii	Cypriniformes	Rohu is larged silver colour fish. It is omnivores with specific food preferences at different life stages.

4	Kanas	Labeo calbasu	Actinopterygii	Cypriniformes	Has a small, inferior mouth surrounded by fleshy lips. Adults occur in river and ponds.
5	Catfish	Clarias batrachus	Actinopterygii	Siluriformes	It is fresh water air breathing catfish. This catfish has long based dorsal and anal fins as well as several pairs of sensory barbels. Skin is scaleless but covered with mucus.
6	Shingur	Heteropneustes fossilis	Actinopterygii	Siluriformes	The stinging catfish is able to deliver a painful sting to humans. Poison from a gland on its pectoral fin spine has been known to be extremely painful.
7	Savla	Wallago attu	Actinopterygii	Siluriformes	It is a large predatory fish. Eyes are small with free orbital margin. They are carnivores feed on small fishes, crustaceans mollusks.
8	Katwa	Mystus vittatus	Actinopterygii	Siluriformes	It is found in brackish water systems with marginal vegetation in lakes. It is an omnivorous.
9	Chandi	Chanda nama	Actinopterygii	Perciformes	Body is strongly compressed and laterally almost flat. Lateral line is partly distinct, partly absent.
10	Marad	Channa marulius	Actinopterygii	Anabantiformes	Body is elongated and almost rounded or cylindrical in cross section. They are carnivores.
11	Dadak	Channa striatus	Actinopterygii	Anabantiformes	The striped snakehead has a long body characterized with dark black brown on the upper section of body.
12	Botarya	Channa punctatus	Actinopterygii	Anabantiformes	It has accessory respiratory organ which is composed of a pair of incompletely bipartitioned chambers. They are carnivores. Sometimes cannibalism.
13	Bhirbunya	Nemacheilus	Actinopterygii	Cypriniformes	They are omnivores. They are smaller in size.

					Small pectoral pelvic and caudal fin. Silvery brown colour
14	Vavri	Mastasembelus armatus	Actinopterygii	Synbranchiformes	Tapering head with mouth. Dorsal fin continuous Scale less fish with olive green or brown in colour use as a food.
15	Chacha	Chacha	Actinopterygii	Perciformes	Laterally compress. Cycloid scales are present. Pelvic pectoral caudal fins are present.
16	Curvadi	Puntiuschola Puntispintis	Actinopterygii	Cypriniformes	Laterally compress. Cycloid scales are present. Pelvic pectoral caudal fins are present.
17	Sarangya	Oxygastergora oxygaster	Actinopterygii	Cypriniformes	Laterally compress. Cycloid scales are present. Pelvic pectoral caudal fins are present.
18	Tambu	Anguila anguila	Actinopterygii	Cypriniformes	Feeds on small crustaceans, worms, mollusks etc. Has a good export market for both live Snake headed fish
19	Chalat	Notopterus Notopterus	Actinopterygii	Osteoglossiformes	Young specimens are a dark -like color that becomes lighter with age. Spawning occurs at night.
20	Dukri	Nandus nandus	Actinopterygii	Osteoglossiformes	Adults occur frequently in ditches and inundated fields. Found most commonly in standing or sluggish waters of lakes.
21	Tilapi	Oreochromis mossambica	Actinopterygii	Perciformes	Spawns at the edge of the littoral terrace of lakes. Eggs and milt are sucked up by the female.

Table no. 5): Observation of Amphibian species during study year June 2018- February 2020 at selected study places/villages

SN	Common name	Scientific name	Class	Order	Identifying characters
1.	Beduk	Rana tigrina	Amphibia	Anura	<i>Rana tigrina</i> is mostly solitary and nocturnal in nature.

					Lower jaw with two not very prominent bony processes in front.
2.	Tree frog	Hyla	Amphibia	Anura	Hyla are tree frogs, recognizable by their slender bodies, their long limbs, and the expanded tips of their digits.
3	Bufo	Bufo	Amphibia	Anura	Behind their eyes, <i>Bufo</i> species have wart-like structures, the parotoid glands. They secrete a fatty, white poisonous substance

Table no. 6): Observation of Reptilian species during study year June 2018- February 2020 at selected study places/villages

SN	Common name	Scientific name	Class	Order	Identifying characters
1.	Nag	Naja naja	Reptilia	Squamata	<i>Naja</i> species vary in length and most are relatively slender-bodied snakes. Most species are capable of attaining lengths of 1.84 m.
2.	Ajgar	Python molurus	Reptilia	Squamata	The rock python's color pattern is whitish or yellowish with the blotched patterns varying from tan to dark brown shades. Lethargic and slow moving even in their native habitat, they exhibit timidity and rarely try to attack even when attacked.
3	Satranjisap	Bungarus fasciatus	Reptilia	Squamata	The banded krait is easily identified by its alternate black and yellow cross bands. The eyes are black. It has arrowhead-like yellow markings on its otherwise black head and has yellow lips, lowers, chin, and throat.
4	Dandikadi	Bungarus caeruleus	Reptilia	Squamata	The average length is 0.9 m. The head is flat and the neck hardly evident. The tail is short and rounded.
5	Dhaman	Ptyas mucosa	Reptilia	Squamata	Eye large; rostral a little broader than deep.

					One large preocular, with a small subocular below. Adult members of this species emit a growling sound and inflate their necks when threatened.
6	Ghonas	Viperidae	Reptilia	Squamata	Fangs that are used to inject venom from glands located towards the rear of the upper jaws, just behind the eyes. The left and right fangs can be rotated together or independently.
7	Dhondya	Fowlea piscator	Reptilia	Squamata	The eye of <i>F. piscator</i> is rather small and shorter than its distance from the nostril in the adult. The frontal scale is longer than its distance from the end of the snout.
8	Vashya	Masticophis lateralis	Reptilia	Squamata	M. lateralis is 90-120 cm in length. It eats a variety of live animal including insects, lizards etc.
9	Brahminy blind snake	Indotyphlops braminus	Reptilia	Squamata	The head and tail are superficially similar as the head and neck are indistinct. Coloration ranges from is similar to that of the adult.
10	Wall lizard	Hemidactylus	Reptilia	Squamata	The dorsal lepidosis is either uniform or heterogeneous. The pupil of the eye is vertical.
11.	Fencing lizard	Calotes	Reptilia	Squamata	Calotes have a proportionately longer tail and limbs. It changes neck colour to red or according to environment known as mimicry.

Table no. 7): Observation of Aves (Birds) species during study year June 2018- February 2020 at selected study places/villages

SN	Common name	Scientific name	Class	Order	Identifying characters
1.	Large pied Wagtail	<i>Motacilla maderaspalensis</i>	Aves	Passeriformes	The male is glossy metallic bluish to purplish black on the upper parts with the wings appearing dark brown. The breeding male also has under parts of the same purplish black.
2.	Yellow Wagtail	<i>Motacilla flava</i>	Aves	Passeriformes	The adult has a stubby dark bill typical of grain eating birds, brown upperparts and a dark brown head. The sexes are similar, although males have darker markings on the underside and a darker throat than females.
3	Red wattled Lapwing	<i>Vanellus indicus</i>	Aves	Charadriiformes	It has a dark fan-shaped tail, edged in white and white super cilium and throat. It has whitish under parts, and a grey breast band that is spotted white.
4	Yellow wattled Lapwing	<i>Vanellus malabaricus</i>	Aves	Charadriiformes	The facial disc is pale and the iris is yellow. There is a white neckband and super cilium. Sexes are similar. The flight is deeply undulating.
5	Little Blue Kingfisher	<i>Alcedo atthis</i>	Aves	Coraciiformes	Their plumage is black except for a white throat and rump, the white rump patch extending onto the flanks. The legs are used for clinging to vertical surfaces only..
6	White breasted Kingfisher	<i>Halcyon smyrnensis</i>	Aves	Coraciiformes	The male is striking in the typical oriole black and yellow plumage. The female is a drabber green bird.
7	Baya weaver Bird	<i>Ploceus philippinus</i>	Aves	Passeriformes	The patch behind the eye appears darker. The outer flight feathers are black and the feathers have dark cross bars and are mottled at the base.

8	Red Vented Bulbul	<i>Pycnonotus cafer</i>	Aves	Passeriformes	The male is duller in fresh no breeding plumage, with whitish tips on many feathers. The female has no black markings or grey crown. Its upperparts and head are brown with darker streaks around the mantle and a distinct pale super cilium.
9	Blue Rock Pigeon	<i>Columba livia</i>	Aves	Colambiformes	The forehead, crown, throat and upper breast are a richly glossed black, whilst the neck and breast are a lighter grey-brown in colour. The wings, tail and legs are black.
10	Indian Ring Dove	<i>Streptopelia decaocta</i>	Aves	Colambiformes	. All texa have a relatively long bill with the upper one quite thick and arched, making it look heavy and almost raven-like.
11.	Spotted Dove	<i>Streptopelia chinensis</i>	Aves	Colambiformes	Adults are whitish on the underside with fine rufous bars while the upperparts are grey. The lower belly is less barred and the thighs are whitish.
12	Rose ringed Parakeet	<i>Psittacula krameri</i>	Aves	Psittaciformes	The rose-ringed parakeet is sexually dimorphic. As a popular pet species, escaped birds have colonized a number of cities around the world
13	Crow Pheasant	<i>Centropus sinensis</i>	Aves	Cuculiformes	They appear stocky with a short neck, short thick bill and buff-brown back. It is very similar to the squacco heron, <i>Ardeola ralloides</i> , but is darker-backed.
14	Asian koel	<i>Eudynamys scolopacea</i>	Aves	Cuculiformes	The adult little egret is 55–65 cm long with an 88–106 cm wingspan. Its plumage is normally entirely white.
15	European Hoopoe	<i>Upupa epops</i>	Aves	Bucerotiformes	The white ibis range of food includes both terrestrials and aquatic invertebrate and human scrap. Neck without feathers. White ibis reaches sexual maturity in 8 years and can reach 28 years of age.

16	Black Drongo	<i>Dicrurus adsimilis</i>	Aves	Passeriformes	It is greyish white with glossy black wings and tail that has a green or purple sheen. Young bird does not have this gap.
17	Brahminy Sterling	<i>Sternus pagodarum</i>	Aves	Passeriformes	They have relatively short wings due to their need for economical movement under water. They have dark feathers and their feet have webbing between all four toes.
18	Common Myna	<i>Acridotheres tristis</i>	Aves	Passeriformes	The male is glossy metallic bluish to purplish black on the upper parts with the wings appearing dark brown. The breeding male also has under parts of the same purplish black.
19	Purple Sunbird	<i>Nectarinia asiatica</i>	Aves	Passeriformes	The male is striking in the typical oriole black and yellow plumage. The female is a drabber green bird.
20	Spotted Breasted Munia	<i>Lonchura punctulata</i>	Aves	Passeriformes	The patch behind the eye appears darker. The outer flight feathers are black and the feathers have dark cross bars and are mottled at the base.
21	White Spotted fantail Flycatcher	<i>Rhipidura albogularis</i>	Aves	Passeriformes	The male is duller in fresh no breeding plumage, with whitish tips on many feathers. The female has no black markings or grey crown. Its upperparts and head are brown with darker streaks around the mantle and a distinct pale super cilium.
22	Spotted Owlet	<i>Athene brama</i>	Aves	Passeriformes	The forehead, crown, throat and upper breast are a richly glossed black, whilst the neck and breast are a lighter grey-brown in colour. The wings, tail and legs are black.
23	Golden Oriole	<i>Oriolus oriolus</i>	Aves	Passeriformes	Adults are whitish on the underside with fine rufous bars while the upperparts are grey. The lower belly is less barred and the thighs are whitish.
24	Pariah Kite	Pariah Kite	Aves	Accipitriformes	The patch behind the eye appears darker. The outer flight feathers are black and the feathers have dark cross bars and are mottled at the base.

25	House Sparrow	<i>Passer domesticus</i>	Aves	Passeriformes	They appear stocky with a short neck, short thick bill and buff-brown back. It is very similar to the squacco heron, <i>Ardeola ralloides</i> , but is darker-backed.
26	House Crow	<i>Corvus splendens</i>	Aves	Passeriformes	The adult little egret is 55–65 cm long with an 88–106 cm wingspan. Its plumage is normally entirely white.
27	Jungle Crow	<i>Corvus macrorhynchos</i>	Aves	Passeriformes	The cattle egret is a stocky heron with an 88–96 cm wingspan. The non-breeding adult has mainly white plumage, a yellow bill and grayish-yellow legs.
28	Shikra	<i>Accipiter badius</i>	Aves	Accipitriformes	The adult is 18–20 cm long with a 32–35 cm wingspan. In winter plumage, they are duller and have more conspicuous barring on the wings.
29	Pond heron	<i>Ardoela grayii</i>	Aves	Pelecaniformes	They have long pink legs. A long thin black bill and are blackish above and white below. Immature birds are grey instead of black and have a markedly sandy hue on the wings.
30	Little Egret	<i>Egretta gerzetta</i>	Aves	Pelecaniformes	The white ibis range of food includes both terrestrials and aquatic invertebrate and human scrap. Neck without feathers. White ibis reaches sexual maturity in 8 years and can reach 28 years of age.
31	Cattle egret	<i>Bulbulcus ibis coromandus</i>	Aves	Pelecaniformes	The painted stork is a large wading bird in the stork family. The head of the adult is box & n the primaries and secondary's are black with a greenish gloss.
32	White ibis	<i>Threskiornis moluccus</i>	Aves	Ciconiformes	The male is glossy metallic bluish to purplish black on the upper parts with the wings appearing dark brown. The breeding male also has under parts of the same purplish black.

33	Painted Stork	Mycteria lucocephala	Aves	Ciconiformes	The adult has a stubby dark bill typical of grain eating birds, brown upperparts and a dark brown head. The sexes are similar, although males have darker markings on the underside and a darker throat than females.
34	Open Bill Stork	Anastomus orcitane	Aves	Ciconiformes	It has a dark fan-shaped tail, edged in white and white super cilium and throat. It has whitish under parts, and a grey breast band that is spotted white.
35	Cormorant	Phalacrocorax ari stotelis	Aves	Suliformes	The facial disc is pale and the iris is yellow. There is a white neckband and super cilium. Sexes are similar. The flight is deeply undulating.

Table no. 8): Observation of Mammalian species during study year June 2018- February 2020 at selected study places/villages

SN	Common name	Scientific name	Class	Order	Identifying characters
1.	India Goat	Capra hircus	Mammal	Artiodactyla	Various shapes and sizes depending on the breed. Their horns are made of living bone surrounded by keratin and other proteins. Commonly domesticated for meat.
2.	Bat	Pteropus giganteus giganteus	Mammal	Chiroptera	Fruit eating bat frugivorous wings with patagium. Five digits with claws sexual dimorphism in male and female brown colour back around the neck of hairs upside hanging down on the tree branches near water source.
3	Squirrel	Funambulus palmarum	Mammal	Rodentia	The palm squirrel is about the size of a large chipmunk. The ears are small and triangular.
4	Domestic Cow	Bos indicus	Mammal	Artiodactyla	Reared for milk, meat and calf. It is herbivores. Young cattle of both sexes are called calves until they are weaned.

5	Jersey cow	Bos taurus	Mammal	Artiodactyla	The ability to carry a larger number of effective milking cows per unit area. It produces hybrid for the production of high yield of milk.
6	Buffalo	Bubalus bubalis	Mammal	Artiodactyla	The skin of the river buffalo is black, but some specimens may have dark, slate-coloured skin. Swamp buffaloes are heavy-bodied and stockily built; the body is short and the belly large.
7	Indian fox	Vulpes bengalensis	Mammal	Carnivora	It appears to avoid steep terrain and tall grassland. The head and body length is 18 in with a 10 in long tail.
8	Indian Monkey	Rhesus macaque	Mammal	Primates	The rhesus macaque is brown or grey in color and has a pink face, which is bereft of fur. The range extension of rhesus macaque – a natural process in some areas.
9	Rabbit	Oryctolagus cuniculus	Mammal	Lagomorpha	Rabbit are small furry mammals with long ears short fluffy tails and strong large hind legs. They have 2 pairs of sharp incisors.

HABITAT OF THE ANIMALS: -

Annelids: Annelids are seasonal in rainy season found in pond and ground.

Arthropods: Arthropoda is vast diverse group in this area various insects found during rainy and other season.

Molluscs: few species of shell bearing animals found in river and pond.

Amphibia: Amphibia are the cold-blooded animals and highly developed creatures these animals found in pond and ditches.

Pises : fishes are in wide variations found in river ponds.

Reptiles: Reptiles are the cold-blooded animals and highly developed creatures. During the present survey many reptiles were observed in the area at various places.

Aves: Birds might have become highest form of life upon the earth. Birds are warm blooded vertebrates able to survive in greater climatic extremes than the other animals. The migrant birds regularly visited to this place. Area includes naturally occurring herbs, shrubs and trees. Many birds are reported associated with different plants for their nesting as well as for residence.

Mammals: Mammals are the highest warm-blooded animals in the scale and evolution. During present survey several mammals were observed in the area at various places.

THREATS: - Biodiversity is the foundation of ecosystems, and ecosystem services are the foundation of human **wellbeing** and **economic prosperity**.

STEPS TO CONSERVE THE BIODIVERSITY: -

1. An extensive reforestation a forestation program should be followed.
2. Alternative environment-friendly sources of fuel energy such as biogas other than wood should be used.
3. Loss of biodiversity due to forest fire is a major problem, immediate steps to prevent forest fire need to be taken.
4. Overgrazing by cattle can damage a forest seriously. Therefore, certain steps should be taken to prevent overgrazing by cattle.
5. Hunting and poaching should be banned.

ROLE OF HUMAN BEING:

- We should be alarmed because humans are not detached from the consequences of this loss.
- We need a new biodiversity vision.

➤ We must manage our forests sustainably so they can store carbon, protect watersheds and provide resources and income.

It is a great pleasure for us to convey our message study project on biodiversity. Our government has been making enormous efforts so far to reduce the current rate of biodiversity loss. However, unfortunately we have to say that the unprecedented level of loss of biodiversity still continues at the global level. We believe that heavy responsibility to hand over a rich and diverse ecosystem to future generations. And it is a critical moment to start concrete actions, sharing the common understanding on the need to stop the loss of biodiversity and restore it. In this respect, if every country develops and effectively implements the National Biodiversity Strategy and Action Plan under such an understanding, it would be an important step towards achieving this goal.

Respecting and Protecting our Natural Beauty: - One of the most important actions can take in supporting conservation and biodiversity is to expand the protected lands and waters bodies within its jurisdiction. We are actively working with other peoples to conserve flora and fauna in the face of increasing development and a changing climate. Peoples hold a deep appreciation and respect for nature. There is no better legacy for any of us than respecting and protecting our inheritance so it can be appreciated and enjoyed for generations to come.











Rights of Nature is a tradition of legal and political scholarship advocating legal standing for the natural environment. The river, for example, is the living symbol of all the life it sustains or nourishes—fish, aquatic insects, and all other animals, including man, who are dependent on it. All persons, communities, peoples and nations can call upon public authorities to enforce the rights of nature. Nature has the right to be restored. Persons, communities, peoples, and nations shall have the right to benefit from the environment and the natural wealth enabling them to enjoy the good way of living.


Significance: - The Rights of Nature is significant as it is the first case where this concept has been evoked at the national level. The combination of human rights with the rights of nature will allow for more effective protection of indigenous communities.

Conclusion: - Among all describe species few animal species declining in number listed in endangered species which are Scorpion *Palamnaeus*, Tambu fish *Anguila anguila*, big frog *Rana tigrina*, Spotted Owlet *Athene brama* House Crow *Corvus splendens* Bat *Pteropus giganteus giganteus* are observed.













The total number of animals (130a species) suggests a good healthy condition in the study area. The village surrounding area support rich animal diversity some species are threatened, some are Critical endangered species few of Vulnerable and 95% of Least concern species. The diversity in this area is not very much influenced by anthropogenic activities in the surrounding area but the increasing anthropogenic are of great concern considering the future existence of these species. Large number of migratory and residing birds recorded, are indicative of good breeding and feeding conditions in *Palora*, *Rampur*, *Antarji*, *Ashtha* of Tahesil –Armori with creek. Large number of winter and local migratory birds also visits this area during winter season. By considering these facts, the animals are the bio- monitors of healthy and diversified condition of the area there is a need for awareness in these village communities towards conservation of such diverse fauna and its importance with respect to the ecosystem and this area should be conserve as heritage site.













Plate: -1) Observed animal diversity at Study area during study period 2019-2020.

		
<i>Hirudinaria granulosa</i>	<i>Pheretima posthuma</i>	<i>Palamon malcolmsonii</i>
		
<i>Palamnaeus</i>	<i>Periplaneta americana</i>	<i>Schistocerca gregaria</i>
		
<i>Musca domestica</i>	<i>Gryllus bimaculatus</i>	<i>Culex</i>
		
<i>Anopheles</i>	<i>Aedes aegypti</i>	<i>Vespa orientalis</i>

 <p><i>Hierodula patellifera</i></p>	 <p><i>Canthecona furcellata</i></p>	 <p><i>millipedes</i></p>
 <p><i>millipedes</i></p>	 <p><i>Trombidium</i></p>	 <p><i>Oecophylla smaragdina</i></p>
 <p><i>Myrmecaria brunnea</i></p>	 <p><i>Diachlorus ferrugatus</i></p>	 <p><i>Xanthopimpla punctata</i></p>
 <p><i>Tachina fera</i></p>	 <p><i>Dermestes ater</i></p>	 <p><i>Cancer</i></p>
 <p><i>Helicoverpa armigera</i></p>	 <p><i>Papilio demoleus</i></p>	 <p><i>Papilio polytes</i></p>

 <p><i>Danaus Chrysippus</i></p>	 <p><i>Danus Genutia</i></p>	 <p><i>Mycalesis perseus</i></p>
 <p><i>Hypolimnias misipp</i></p>	 <p><i>Junonia iphita</i></p>	 <p><i>Junonia Lemonias</i></p>
 <p><i>Catopsilia Pomona</i></p>	 <p><i>Catopsilia Pyranthe</i></p>	 <p><i>Eurema hecabe</i></p>
 <p><i>Taracus nara</i></p>	 <p><i>Jamides Celeno</i></p>	 <p><i>Catochrysops strabo</i></p>

 <p><i>Daphnisnerii</i></p>	 <p><i>Antheraea mylitta</i></p>	 <p><i>Buprestidae</i></p>
 <p><i>Chlaenius</i></p>	 <p><i>Termites</i></p>	 <p><i>Anisoptera</i></p>
 <p><i>Zygoptera</i></p>	 <p><i>Unio pictorum</i></p>	 <p><i>Pila globosa</i></p>
 <p><i>Catla catla</i></p>	 <p><i>Cirrhinus mrigala</i></p>	 <p><i>Labeo rohita</i></p>

 <p><i>Labeo calbasu</i></p>	 <p><i>Clarias batrachus</i></p>	 <p><i>Heteropneustes fossilis</i></p>
 <p><i>Wallago attu</i></p>	 <p><i>Mystus vittatus</i></p>	 <p><i>Chanda namaa</i></p>
 <p><i>Channa marulius</i></p>	 <p><i>Channa striatus</i></p>	 <p><i>Chnna punctatus</i></p>
 <p><i>Nemacheilus</i></p>	 <p><i>Mastasembelus armatus</i></p>	 <p><i>Chacha</i></p>

 <p><i>Puntiuschola Puntispintis</i></p>	 <p><i>Oxygastergora oxygaster</i></p>	 <p><i>Anguila anguila</i></p>
 <p><i>Notopterus Notopterus</i></p>	 <p><i>Nandus nandus</i></p>	 <p><i>Oreochromis mossambica</i></p>
 <p><i>Rana tigrina</i></p>	 <p><i>Hyla</i></p>	 <p><i>Bufo</i></p>
 <p><i>Naja naja</i></p>	 <p><i>Python molurus</i></p>	 <p><i>Bungarus fasciatus</i></p>



Bungarus caeruleus



Ptyas mucosa



Viper



Fowlea piscator



Masticophis lateralis



Indotyphlops braminus



Hemidactylus



Calotes



Motacilla maderaspalensis



Motacilla flava



Vanellus indicus



Vanellus malabaricus



Alcedo atthis



Halcyon smyrnensis



Ploceus philippinus



Pycnonotus cafer



Columba livia



Streptopelia decaocta



Streptopelia chinensis



Psittacula krameri



Centropus sinensis



Eudynamys scolopacea



Upupa epops



Dicrurus adsimilis



Sternus pagodarum



Acridotheres tristis



Nectarinia asiatica



Lonchura punctulata



Athene brama



Oriolus oriolus



Pariah Kite



Passer domesticus



Corvus splendens



Corvus macrorhynchos



Accipiter badius



Ardoela grayii



Egretta gerzetta



Bulbulcus ibis coromandus



Threskiornis moluccus



Mycteria lucocephala



Anastomus orcitane



Phalacrocorax aristotelis



Capra hircus



Pteropus giganteus



Funambulus palmarum



Bos indicus



Bos taurus



Bubalus bubalis



Vulpes



Rhesus macaque



Oryctolagus cuniculus

DEPARTMENT OF GEOLOGY



Department of Geology
PBR Study Report on
A Study of Shallow Aquifer and Soil Erosion in Rampur and Palora Village
of Armori Taluka, Dist. Gadchiroli.

PBR submitted by: - B.Sc. II (Department of Geology) students group 2019-20
Under the supervision of Prof. Dr. C. P. Dorlikar and Prof. P. S. Ganvir

1. INTRODUCTION

The existence of the groundwater is in deep aquifers from where only bore wells can be used to draw the water and second is the shallow aquifers where dug wells are employed. The village inhabitants depend chiefly on shallow water aquifers, as dug wells are moderately expensive and easy to build. The bed rock of any region is a shallow water aquifer in any groundwater regime. The settlements are continuously searching for new groundwater reserves and abusing them without any approximation, because of which availability of groundwater is a problem, especially in summers.

An estimated multi-billion tons of soil cover each year is worn due to numerous causes. There are many reasons behind soil erosion like deforestation, over-irrigation which are anthropogenic, whereas relief, climate, as natural. The soil resource is always taken for granted, but carelessness can consequence into disturbing effects.

The drastically rising population with respective demands is generating inescapable conditions, which needs an urgent attention. The study described below is just a superficial view over groundwater availability and of soil erosion in Rampur and Palora Village of Armori Taluka for the fulfillment of Peoples Biodiversity Register by second year graduate students of Geology.

2. OBJECTIVES

In this study following objectives were kept;

- To study the geology and geomorphology of the study area.
- The test the fresh water accessibility in the study area.
- To understand the water utilization pattern of the settlements in the study area.
- To assess the water table level of the study area.
- To identify the lithological units acquiring shallow water aquifer.
- To study the soil erosion issues in study area.
- To suggest remediation (in case of soil erosion issue).

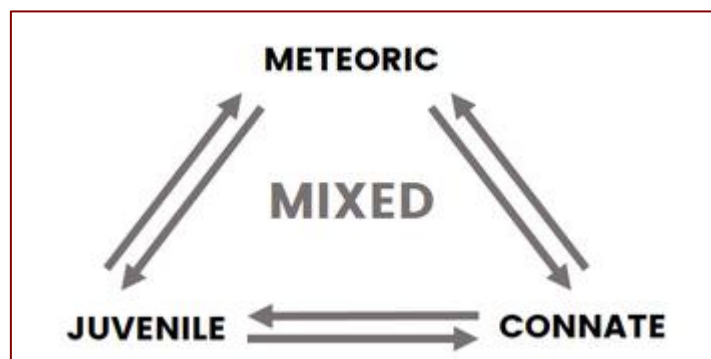
3. SOME BASIC CONCEPTS

3.1 Types of Ground Water - Groundwater is the most essential requirement for all flora and fauna including human beings. It has various use like in irrigation, industries and most important for domestic purposes. The water which occurs beneath the earth's surface is called groundwater or sub-surface water or underground water. Most of the groundwater is derived from one of the following.

3.1.1 Meteoric water - Meteoric water is derived from the atmospheres. It constitutes the great body of atmospheric, surface and sub-surface water which has accumulated during geologic time. Meteoric water originates in the atmosphere, falls as precipitation (rain) and becomes groundwater by infiltration.

3.1.2 Connate water - The opening or pore space of materials that have built up on ocean floors by sedimentation, were originally filled with sea water. Many important sedimentary rocks are limestone, sandstone and gravels that are deposited and consolidated under water. Some of these sediments are uplifted above sea level along with its water content. Groundwater of this region is called connate water. Sometimes connate water is referred to as 'fossil water'.

3.1.3 Juvenile water - Juvenile water is new water that has never been part of the hydrosphere. It is further classified to origin as- magmatic water, volcanic water and cosmic water. Magmatic water is the water driven out of magma during its crystallization. It is the water derived from magma at shallow depth. Volcanic water is ejected during volcanism and cosmic water is from out of earth atmosphere and never had been a part of hydrosphere.



3.2 Types of Groundwater Reserves - Subsurface rock which can accumulate groundwater are known as groundwater reserve. The name for a rock or soil which contains or transmits water and thus is a source of groundwater is referred to as aquifers. 'aqua' means water and 'fer' means to yield. Therefore an aquifer is an underground zone or layer which is the source of water. It may be underground zone of gravel, sandstone. Limestone is a good example of aquifer.

3.2.1 Unconfined Aquifer - An unconfined aquifer is one in which water table varies in undulating form and in slope, depending on area of recharge and discharge, pumping from well and permeability, contour map and profile of the water table can be prepared from elevation of water in well that tap the aquifer to determine the quantities of water available and their distribution and movement.

3.2.2 Confined Aquifer - Confined aquifers are also known as artesian or pressure aquifers. Groundwater here is confined under pressure greater than atmospheric by overlying relatively impermeable strata. Water enters a confined aquifer in an area where the confining bed rises to the surface. The aquifer becomes unconfined. A region supplying water to a confined aquifer is known as recharge area.

3.2.3 Aquiclude - A rock body which may be porous enough to hold some quantity of water but which by virtue of its other properties does not allow easy and quick good flow of water is called Aquiclude. It is a particularly impermeable rock mass. Clay is the best example.

3.2.4 Aquifuge - It is an absolutely impermeable formation neither containing nor transmitting water. Areas having such formations cannot provide a chance of groundwater storage, which increases dependability on other sources.

3.2.5 Aquitard - A saturated but permeable stratum that allows groundwater movement but does not yield water freely to well, on contrary they may transmit appreciable water to form adjacent aquifer. This new aquifer can be utilized as a active resource for groundwater with systematic management.

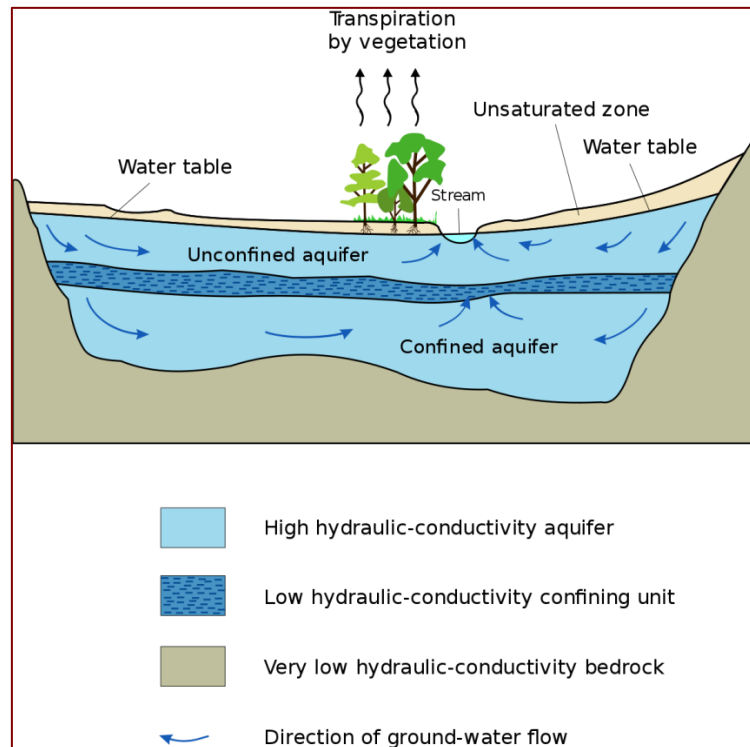


Figure 1 - Confined and Unconfined Aquifer.

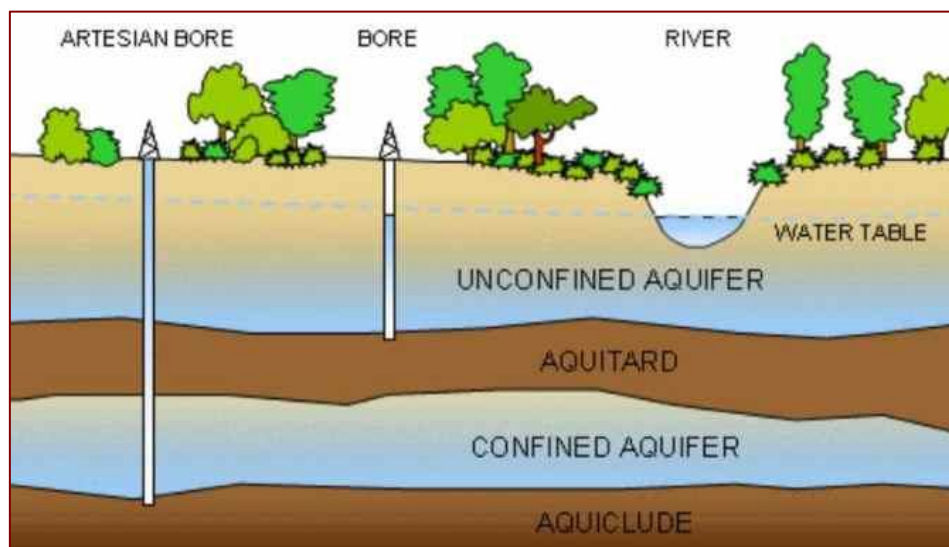


Figure 2 - Aquitard and Aquiclude.

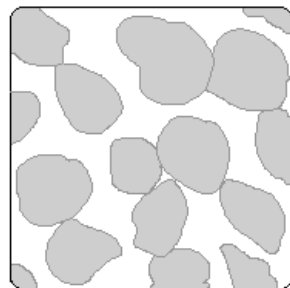
3.3 Hydrological properties of rocks

3.3.1 Porosity - Porosity is the property of a rock to contain interstitial pore spaces and is expressed as percentage of the void volume in given volume of rock.

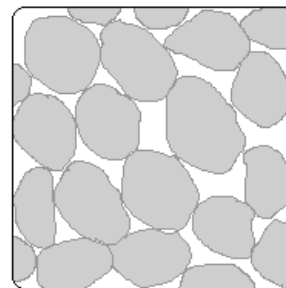
Following are some porosity range for some common material.

UNCONSOLIDATED MATERIAL	n (%)	CONSOLIDATED MATERIAL	n (%)
Clay	45 - 60	Sandstone	5 - 20
Silt	35 - 50	Limestone	4 - 20
Sand and gravel	25 - 40	Shale	0 - 10
Glacial till	10 - 25	Igneous and metamorphic rock	0 - 10
		Vesicular basalt	5 - 40

Table 1 - Porosity ranges of some materials



a) High porosity



b) Low porosity

Figure 3 - Depiction of low and high porosity in materials.

3.3.2 Permeability - It is measure of a fluid to flow through a medium. If the material permits rapid movement of the ground water, then it is called as an aquifer. The rate of flow of water through small tubes varies directly as to the hydraulic gradient. Following are some common examples.

CLASS	K (M/D)	EXAMPLE
EXTREMELY PERMEABLE	>10	Coarse sandstone, limestone and fissured crystalline rocks, pebbles, gravels.
SEMI - PERMEABLE	10 – 0.1	Fined grained sands, loams, slightly jointed crystalline rocks.
IMPERMEABLE	< 0.1	Clays, marls, compact igneous rocks.

Table 2 - Permissibility ranges

3.3.3 Hydraulic Conductivity - In groundwater geology or hydrology, the quantitative measurement of flow or water is generally expressed by the term Hydraulic Conductivity rather than permeability. The hydraulic conductivity K, may be defined as the flow velocity per unit hydraulic gradient. It is expressed as meters / second.

3.3.4 Hydraulic Gradient - The difference in hydraulic head at two points divided by the length is often called as hydraulic gradient. This relationship is of fundamental importance in groundwater studies Here, Q represent discharge and is expressed as discharge per unit time such as cubic meters per day or gallons per minute. K, as usual, is the hydraulic conductivity and indices the quantity of water that will flow through a unit crossed-sectional area per unit time under a unit hydraulic gradient, at a specified temperature. The value of K ranges from 0.5 m/day to 200 m/day or even more.

3.4 Types of Wells - The most common device used by men for tapping groundwater is the well. The 'well' is a vertical opening or shaft excavated into the zone of saturation. Wells serve as reservoirs into which groundwater moves and from which it can be pumped to the surface. The amount of water that a well will yield depends chiefly on the permeability of the aquifer, thickness of the aquifer and diameter of the well.

3.4.1 Dug wells - Dug wells are excavated by means of picks and shovels and their diameter is usually more than one meter. These wells seldom exceed a depth of 20 meters.

3.4.2 Driven wells - The wells in the unconsolidated materials may be constructed by driving a pipe at the end of which there is a drive point. The diameter of such wells seldom exceeds 7.0 centimeters.

3.4.3 Bored wells - The bored wells are constructed in the unconsolidated materials by means of hand or power augers.

3.4.4 Jetted wells - These wells are excavated in the loose earth materials by the force of the jet of water which is produced by pumping water through hollow drill rods.

3.4.5 Drilled wells - The water from consolidated aquifers is extracted by drilling deep wells. These wells are generally constructed by hydraulic rotary drill methods. The drilled wells may attain a depth of 70 meters or more.

3.5 Soil - Soil is the top layer of the earth surface which provides stability and nutrition to the flora. In geology soil is sometime called as Regolith, i.e. weathered product of rock. The texture, color, nutrition values etc. depends upon the parent rock present beneath it. For example Basalt is weathered into black cotton soil, whereas metamorphic rock usually gives red soil. There are various factors responsible for the formation of different soil like climate, relief, weathering, soil biota, and time.

3.5.1 Soil Horizon - It is the vertical section of the soil cover which is classified into four layers as follows.

Horizons	Composition
A	Regolith and Humus.
B	Fresh Soil without Humus.
C	Weathered Bed Rock.
D	Compact (unweather) Bed Rock.

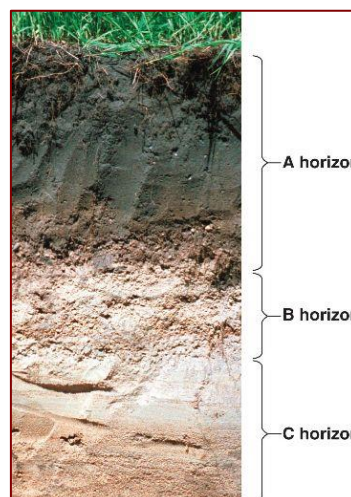


Figure 4 - Depiction of soil profile.

3.5.2 Soil Erosion - The horizon A is most susceptible to erosion due to various anthropogenic and natural events. This horizon is actually the most vital layer in terms of plant health and agriculture. Following are the various factors responsible for soil erosion.

Anthropogenic – These are the activities like Deforestation, Overgrazing, over irrigation, Constructional works and Monotonous agricultural practices done by human being due to which the soil is subjected to erosion.

Natural – These are the naturally occurring events like high velocity wind, river action, water runoff during heavy rains, high relief and climatic impact due to which soil is eroding.

4. WATER USAGE OF RAMPUR AND PALORA VILLAGE

The survey of Rampur and Palora village with special reference to cropping pattern, water utilization and type of irrigation was done to understand water usage pattern.

- Paddy is the chief crop
- It requires intense irrigation.
- Single cropping pattern is common with few exceptions
- Canal irrigation is common, whereas the dug & bore are observable in the field.
- The Gadhavi river of the Rampur village and act as a major source for irrigation.
- Very few dug wells are in the village proximity, whereas the government installed hand pump are common.

5. GEOLOGY AND GEOMORPHOLOGY OF RAMPUR AND PALORA VILLAGE: -

The basic information regarding geology and geomorphology has been made by traversing along and across the study area to develop a grid of approximately 100 m.

In a preliminary observation, it was observed that,

- The red to yellow soil is dominant.
- Pockets of grey soil, showing bedrock variation.
- The red color of the soil is attributed to the ferruginous cementing material leached out from bed rock due to weathering.
- The ferruginous reddish sandstone of Gondwana rocks is observable in the study area.
- The ferruginous sandstone is a very good aquifer as its porosity and permeability is good.

- A stable geomorphological setup of the area is observable in the study area.
- Micro flood plains are observed along the sides of Gadhavi river near Rampur village.
- Evidences of soil erosion from the agricultural fields along the river side are observable.
- In comparative Palora villege is on plain area with stable landform acquired by agricultural fields.

6. WELL INVENTORY SURVEY OF STUDY AREA

WELL INVENTORY DATA SHEET 1

1. Village: **Rampur**
2. Taluka: **Armori**
3. District : **Gadchiroli**
4. Toposheet No: Quadrant:
6. Altitude: **216 metres** (M.S.L.) 7. Date: **03 – 04 – 2020** 8. Time: **12.00 am**
9. Location: **20° 48' N & 80° 02' E**
10. Ownership: **Private**
11. Address:
12. Type of well: **Dug Well** 13. Height of Parapet: **01 m.**
14. Diameter of well top: **1.5 m.** 15. Bottom: _____
16. Depth of well: **20 m.** 17. Dimension of the Bore: _____
18. Dug cum bore well: _____ 19. Depth of lining: _____ m
20. Nature of lining: _____ 21. Condition of lining: _____
22. S W L Summer /winter: **4.2 m.** 23. Draw Down Summer/Winter:
24. Use of water: **For Domestic** 25. Quality of water: **Fresh**
26. Geological Formation: **Sandstone**
27. Trajectory: _____
28. Rate: _____
29. Duration of pumping summer/ winter:
30. Quality pumped Summer/Winter: _____ 30-A. Kilt/day: _____
31. Prime mover: _____ Make: _____
32. H.P _____ 32-A R.P.M _____ 32-B Drive _____ 32-C pump-Type _____
33. Section of the well/lithology: **Sandstone**
34. Log of bore-hole: _____
35. Fluctuation of water table? Post Monsoon (Oct): _____
- Late Monsoon (June): _____
36. Any other remark: _____
37. Temperature: _____ 38. Conductivity: _____ 39. PH: _____
- 39-A D.O: _____
40. Date: **03 – 04 – 2020** 41. Reporter:
42. Name of the student: B.Sc. II yr Students.

WELL INVENTORY DATA SHEET 2

1. Village: **Rampur**
2. Taluka: **Armori**
3. District : **Gadchiroli**
4. Toposheet No: Quadrant:
6. Altitude: **216 metres** (M.S.L.) 7. Date: **03 – 04 – 2020** 8. Time: **12.30 am**
9. Location: **20° 48' N & 80° 02' E**
10. Ownership: **Gram Panchayat**
11. Address:
12. Type of well: **Dug Well** 13. Height of Parapet: **0.7 m.**
14. Diameter of well top: **2.4 m.** 15. Bottom: _____
16. Depth of well: **18 m.** 17. Dimension of the Bore: _____
18. Dug cum bore well: _____ 19. Depth of lining: _____ m
20. Nature of lining: _____ 21. Condition of lining: _____
22. S W L Summer /winter: **5.9 m.** 23. Draw Down Summer/Winter:
24. Use of water: **For Domestic** 25. Quality of water: **Fresh**
26. Geological Formation: **Sandstone**
27. Trajectory: _____
28. Rate: _____
29. Duration of pumping summer/ winter:
30. Quality pumped Summer/Winter: _____ 30-A. Kilt/day: _____
31. Prime mover: _____ Make: _____
32. H.P _____ 32-A R.P.M _____ 32-B Drive _____ 32-C pump-Type _____
33. Section of the well/lithology: **Sandstone**
34. Log of bore-hole: _____
35. Fluctuation of water table? Post Monsoon (Oct): _____
- Late Monsoon (June): _____
36. Any other remark: _____
37. Temperature: _____ 38. Conductivity: _____ 39. PH: _____
- 39-A D.O: _____
40. Date: **03 – 04 – 2020** 41. Reporter:
42. Name of the student: B.Sc. II yr Students.

WELL INVENTORY DATA SHEET 3

1. Village: **Palora**
2. Taluka: **Armori**
3. District : **Gadchiroli**
4. Toposheet No: Quadrant:
6. Altitude: **205 metres** (M.S.L.) 7. Date: **03 – 04 – 2020** 8. Time: **1.00 am**
9. Location: **20° 47' N & 80° 39' E**
10. Ownership: **Private**
11. Address:
12. Type of well: **Dug Well** 13. Height of Parapet: **01 m.**
14. Diameter of well top: **03 m.** 15. Bottom: _____
16. Depth of well: **12 m.** 17. Dimension of the Bore: _____
18. Dug cum bore well: _____ 19. Depth of lining: _____ m
20. Nature of lining: _____ 21. Condition of lining: _____
22. S W L Summer /winter: **6.2 m.** 23. Draw Down Summer/Winter:
24. Use of water: **For Domestic** 25. Quality of water: **Fresh**
26. Geological Formation: **Sandstone**
27. Trajectory: _____
28. Rate: _____
29. Duration of pumping summer/ winter:
30. Quality pumped Summer/Winter: _____ 30-A. Kilt/day: _____
31. Prime mover: _____ Make: _____
32. H.P _____ 32-A R.P.M _____ 32-B Drive _____ 32-C pump-Type _____
33. Section of the well/lithology: **Sandstone**
34. Log of bore-hole: _____
35. Fluctuation of water table? Post Monsoon (Oct): _____
- Late Monsoon (June): _____
36. Any other remark: _____
37. Temperature: _____ 38. Conductivity: _____ 39. PH: _____
- 39-A D.O: _____
40. Date: **03 – 04 – 2020** 41. Reporter:
42. Name of the student: B.Sc. II yr Students.

7. REMEDIATION FOR SOIL EROSION

As many of the evidences are observed regarding the soil erosion, following remediation are proposed;

- Obstacles can be placed to hold the eroded soil near the Gadhavi river along Rampur village.
- The relief can be moderated along the banks of river Gadhavi near Rampur village.
- Avoid the overgrazing of livestock around Rampur village.
- Plantation drives along the Gadhavi river bank to hold the soil along it.
- Utilization of SRT method also called as Broad Bed Farrow method which reduces soil erosion. This method also retains the soil moisture which is again helpful for the water use efficiency.

8. CONCLUSION

The Rampur and Palora villages come under paddy dominant region, where the rice fields are common and intense irrigation has been done through Gadhavi river, canal water and dug/bore wells. During survey following conclusions were drawn;

- The sandstone is the bedrock and same act as an aquifer in the study area.
- The Gadhavi river is the major source of water in the Rampur area.
- The rice fields are irrigated by Gadhavi river water with dug and bore wells' dominance in Palora village.
- The Gadhavi river may be an influent stream for Rampur area which recharges the groundwater level.
- Palora village is far and could have less influence of Gadhavi river.
- The average static water level (SWL) is 4.26 m.
- In summer higher dependability is on deep water aquifer (bore wells).
- Soil erosion is prominent near the river but became stable as we move away.
- Gadhavi river banks are highly eroded due to frequent floods and deforestation.
- Repetitive agrarian exercise not only affect the soil fertility but impacts on farmers' economy also.

9. RECOMMENDATION

On the basis of observation following recommendation are given to villagers of Rampur and Palora for the futuristic management of water resource;

- It is recommended to exploit shallow water aquifer wisely to decrease the pressure on deep water aquifer.
- It is recommended to make group irrigation arrangements to optimize water usage.
- It is recommended to enhance the recharge points along the river by identifying recharge points and constructing relevant structures along them to increase groundwater recharge rate.
- Utilization of Broad Bed Farrow (SRT) method is suggested to enhance the soil quality and farmer economy too.
- Afforestation along Gadhavi river bank, allocation of grazing lands etc. are suggested for soil conservation.

FIELD PICTURES



Figure 5: A dug well observation at Rampur village.



Figure 6: P.B.R. team at Palora.



Figure 7: P.B.R. team at Rampur

**DEPARTMENT OF
PHYSICS**



Department of

Physics

*Department of Physics
PBR Survey Report on*

Use of Electrical Appliances in Household at Palora Village

PBR submitted by: -B. Sc. II (Department of Physics) students group

Session 2019-2020

Under the supervision of Dr. R.M. Thombre

Introduction:

Electricity has played a significant role in the development of human civilization. Numerous electrical appliances have made human life easy. Currently, lighting accounts for approximately 30 % of total residential electricity used followed by refrigerators, fans, electric water heaters, and TVs. Approximately 4 % of total residential electricity used is for standby power the apparently small amount of power that many modern appliances consume when they are not actively turned on. Modern electrical appliances consume less electricity as compare to old ones which ultimately results into low carbon emission serving the environment conservation.

The Department of Physics conducted survey at adopted village *Palora*. The objective of this project was to assignment survey on use of electrical appliances in household at adopted village *Palora*. Twelve (12) students contributed in this investigation. Data from 70 families was collected. The survey was carried out using questionnaire based personal interviews in households.

Observations and Analysis:

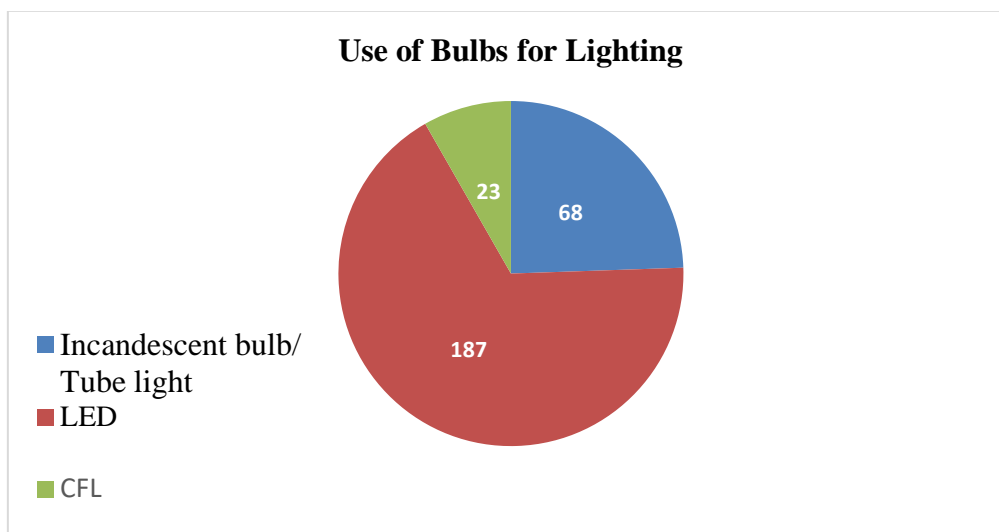
The brief analysis of the major results is presented in the following report. The tables with detailed results are included in appendices.

1. Number of Families without Electricity:

From the survey a very striking fact is observed that 13 household (18.54 %) of the village still do not have electrification in their houses.

2. Use of Conventional Bulbs and LED Bulbs:

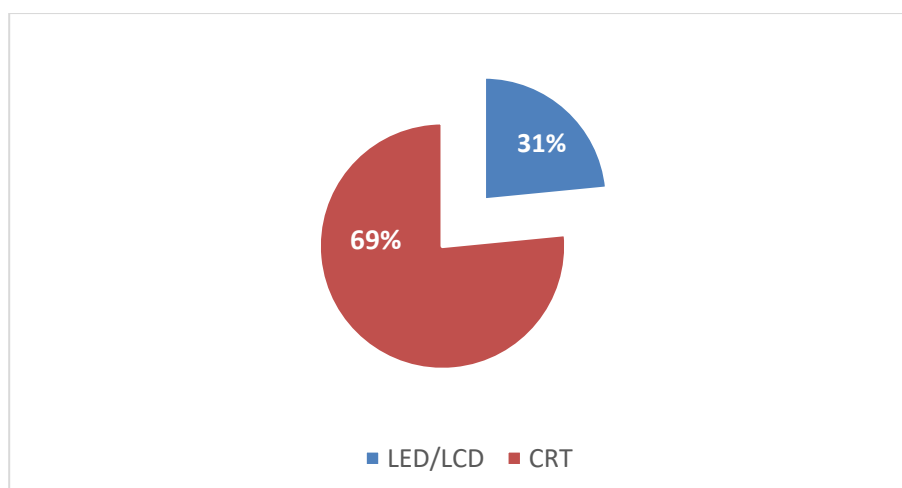
The data on lighting was collected on the type of light bulbs use in household. The numbers of conventional bulbs/ tube light and LED/CFL bulbs used in these families are as bellow:



It is observed that 59 % household use LED bulb, 10.36% use CFL whereas 30.63 % household still use conventional bulbs for lighting purpose.

3. Use of Television:

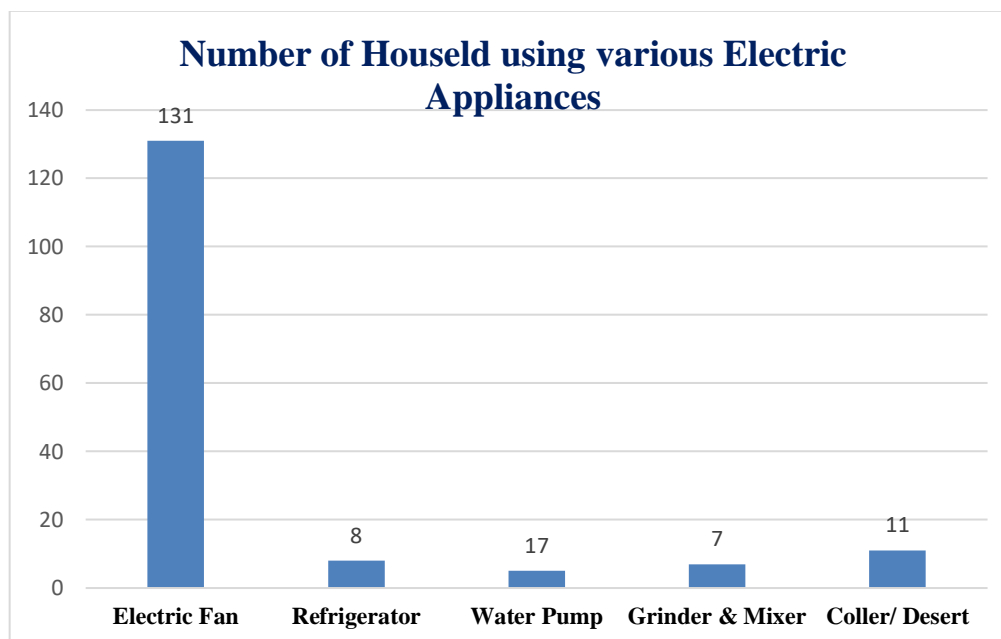
Out of 70 families 54 families has television set. The distribution of CRT and LED/LCD TV sets is as bellow:



Most of the families i.e. 69 % families use CRT TV sets which consumes more electricity whereas very few families i.e. 31 % families use LED/LCD TV sets.

4. Electric Fan, Refrigerator, Electrical Water Pump, Other Appliances:

Data on use of other electric appliances was also collected. It is found that 13 families i.e., 11.74 % do not have electric fans. Only 08 families (06.11 %) have refrigerator. Seventeen (17) families have electric water pump. Seven (07) household have Grinder and Mixer whereas 11 household have cooler/ Desert.



Other than electric appliances some questions were asked about electric consumption and monthly electric bill. Since many families are using few electric appliances, their monthly electric consumption is less but few families complained about more electric bill. The cause of more electric consumption in these families is found to be inappropriate earthling and old electric appliances.

Conclusion:

In the era of modern civilization where electricity and electrical appliances are very important for the survival of human being and government putting its efforts to make every household electrified, 18.54 % of households are away from electrification in village *Palora*. Moreover, since 30% of electricity in household is use for lighting purpose, modern lighting technologies are being adopted. It is found that still 23 % household are using conventional lighting sources resulting into more consumption of electricity. Very few other electrical appliances are being used in household and some of these are made up of old technologies. In some household, inappropriate earthlings are found.


Recommendations:

4. The concerning authorities should take steps to make 100 % electrification in the village.
5. Use of LED bulbs should be promoted.
6. Awareness camp on proper use of electric appliances and proper earthlings should be conducted.

Annexure: 1

Data Collection by students at adopted village *Rampur*

Student List


 Manoharona Shikshan Prasarak Manadal
 Mahatma Gandhi Arts, Science & Late N. P. Commerce College
 ARMORI DIST. GADCHIROLI M.S. 441208
 Subject Wise Student Details

Session Name : 2019-2020

Sr. No.	Roll No.	Reg No.	Student Id.	Student Name	Section	Gender
Course Name : B.Sc. - 3 PBR Physics - 2020						
Subject Name : Geology, Physics						
1			1959617	DNYANESHWAR UMAKANT DEOGIRKAR ✓		MALE <i>Deogirkar</i>
2			485474	KAPIL KARTIK DHONGADE ✓		MALE <i>Dhonde</i>
3			483275	KHUSHBOO MURLIDHAR BAVANGADE ✓		FEMALE <i>Bavangade</i>
4			507020	KRUNAL RAVINDRA HARSHE ✓		MALE
5			1959653	MAMTA SANTOSH CHICHGHARE ✓		FEMALE
6			480503	MANISH HETRAM BOPCHE ✓		MALE <i>Bopche</i>
7			479560	MANISH SANJAY SHENDE ✓		MALE <i>Shende</i>
8			477896	NIKHIL VIJAY DESHMUKH ✓		MALE <i>Deshmukh</i>
9			478341	NITIN NARAYAN NANDANWAR ✓		MALE <i>Nandanwar</i>
10			506168	PRASHANT SUNIL BORKAR ✓		MALE <i>Borkar</i>
11			481680	PUNAM VINAYAK BHAGADKAR ✓		FEMALE <i>Bhagade</i>
12			483730	RAGINI VINAYAK NIKURE ✓		FEMALE <i>Nikure</i>
13			481561	SARANG NARENDRA JAMBHULE ✓		MALE
14			477339	SHUBHAM MILIND AKHADE ✓		MALE <i>Akhade</i>
15			499047	SHUBHAM UMESH TIWARI ✓		MALE
16			481527	VAIBHAV JITENDRA DESHMUKH ✓		MALE
17			480505	VAISHNAVI ARUN BODNE ✓		FEMALE <i>Bodne</i>

Department of Physics
PBR Survey Report on

Use of Electrical Appliances in Household at Rampur Village

PBR submitted by: -B. Sc. II (Department of Physics) students group

Session 2019-2020

Under the supervision of Prof. S.B. Gedam and Dr. C.D. Mungmode

Introduction:

Electricity has played an important role in the development of human civilization. Numerous electrical appliances have made human life easy. Currently, lighting accounts for approximately 30 % of total residential electricity used followed by refrigerators, fans, electric water heaters, and TVs. Approximately 4 % of total residential electricity used is for standby power the apparently small amount of power that many modern appliances consume when they are not actively turned on. A modern electrical appliance consumes less electricity as compare to old ones which ultimately results into low carbon emission helping the environment conservation.

The Department of Physics conducted survey at adopted village *Rampur*. The objective of this project was to carry out a survey on use of electrical appliances in household at adopted village *Rampur*. Twelve (12) students participated in this survey. Data from 142 families was collected. The survey was carried out using questionnaire based personal interviews in households.

Observations and Analysis:

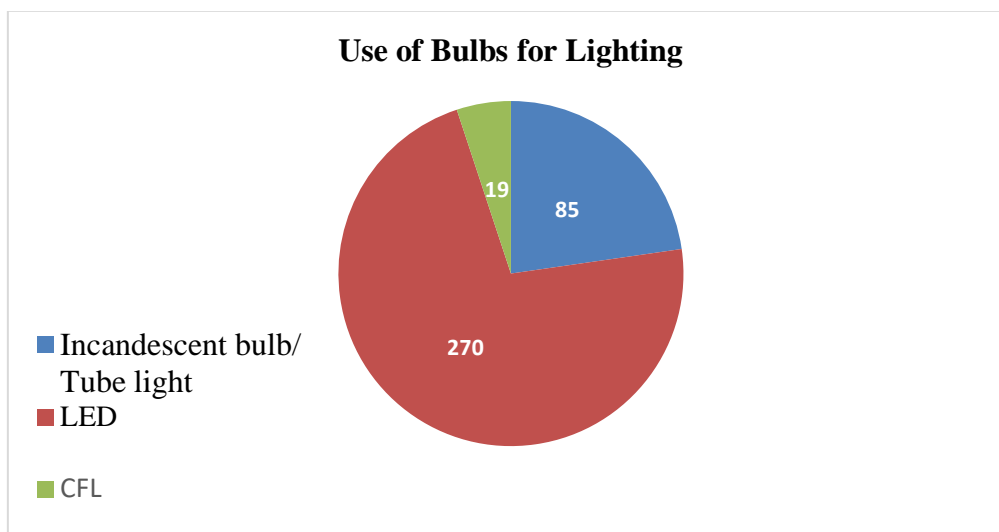
The brief analysis of the major results is presented in the following report. The tables with detailed results are included in appendices.

1. Number of Families without Electricity:

From the survey a very striking fact is observed that 11 household (07.74 %) of the village still do not have electrification in their houses.

2. Use of Conventional Bulbs and LED Bulbs:

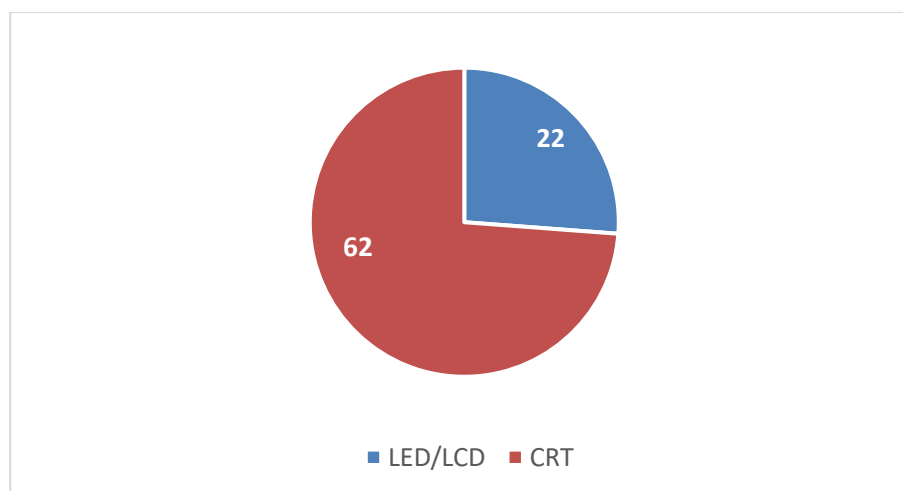
The data on lighting was collected on the type of light bulbs use in household. The number of conventional bulbs/ tube light and LED/CFL bulbs used in these families are as bellow:



It is observed that 72 % household use LED bulb, 5 % use CFL whereas 23 % household still use conventional bulbs for lighting purpose.

3. Use of Television:

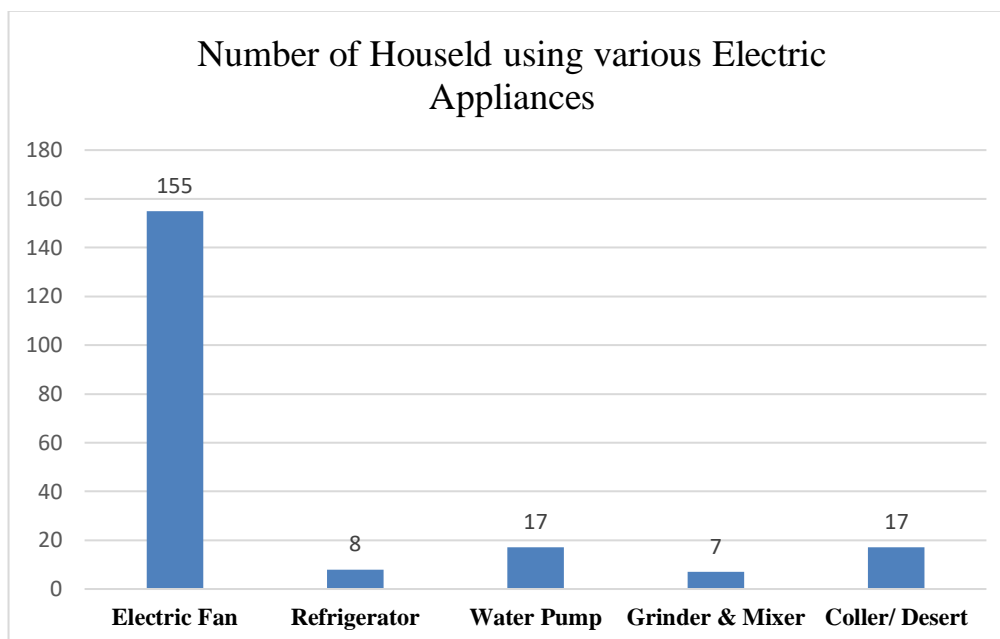
Out of 142 families 84 families has television set. The distribution of CRT and LED/LCD TV sets is as bellow:



Most of the families i.e. 74 % families use CRT TV sets which consumes more electricity whereas very few families i.e. 26 % families use LED/LCD TV sets.

4. Electric Fan, Refrigerator, Electrical Water Pump, Other Appliances:

Data on use of other electric appliances was also collected. It is found that 18 families i.e. 13.74 % do not have electric fans. Only 08 families (06.11 %) have refrigerator. Seventeen (17) families have electric water pump. Seven (07) household have Grinder and Mixer whereas 17 household have Cooler/ Desert.



Other than electric appliances some questions were asked about electric consumption and monthly electric bill. Since many families are using few electric appliances, their monthly electric consumption is less but few families complained about more electric bill. The cause of more electric consumption in these families is found to be inappropriate earthling and old electric appliances.

Conclusion:

In this era where electricity and electrical appliances are very important for the survival of human being and government putting its efforts to make every household electrified, 07.74 % of households are away from electrification in village *Rampur*. Moreover, since 30% of electricity in household is use for lighting purpose, modern lighting technologies are being adopted. It is found that still 23 % household are using conventional lighting sources resulting into more consumption of electricity. Very few other electrical appliances are being used in household and some of these are made up of old technologies. In some household, inappropriate earthlings are found.

Recommendations:

- 1) The concerning authorities should take steps to make 100 % electrification in the village.
- 2) Use of LED bulbs should be promoted.
- 3) Awareness camp on proper use of electric appliances and proper earthlings should be conducted.

Annexure: 1

Data Collection by students at adopted village Rampur

Mahatma Gandhi Arts, Science & Late N. P. Commerce College, Armori Dist. Gadchiroli

Department of Physics

People's Biodiversity Register (PBR)

Survey Data (Adopted village Rampur)

Session 2019-20

Sr. No.	Name of Head of Family	Information of Electrical Instruments in Household use						Daily Electrical Consumption	Monthly average electrical bill	Signature
		Bulb/ Tube light	TV	Fan	Fridge	Electrical Motor	Other Instrument			
1	अविनाश लक्ष्मीराम कलसाहे	01 Y 03 L	01 CRT	01 T	-	-	-		Rs 200/-	
2	मोहन लक्ष्मीराम कलसाहे	03 L	01 LED	01 T	-	-	-		Rs 200/-	
3	निलकुंठ रघुनाथ डफरे	03 L	01 CRT	01 T	-	-	-		Rs 300/-	
4	भैरवी शिवजी होरे	03 Y	01 LED	01 C	-	-	-		Rs 350/-	
5	सुरेश शिवराम प्रधान	03 L	-	01 C	-	-	-		Rs 400/-	
6	पविता संपत शाकत	01 L	-	-	-	-	-		Rs 150/-	
7	गोपाल शिवराम प्रधान	03 L	01 CRT	02 C	-	-	01 Mixer		Rs 500/-	
8	बालकृष्ण लोणारे	04 L 01 CFL 02 L	01 LED -	02 C 01 T	-	-	01 cooler		Rs 550/-	
9	मनीष सिवकुमार	01 Y 03 L	-	01 T	-	-	01 cooler		Rs 220/-	
10	विष्णु वाडीकर	03 L 01 Y	01 CRT	02 C	-	-	-		Rs 500/-	
11	पुरुषोत्तम शाकत	01 L 02 Y	01 CRT	01 T	-	-	-		Rs 400/-	

Shubham Milind Akhade

Mahatma Gandhi Arts, Science & Late N. P. Commerce College, Armori Dist. Gadchiroli

Department of Physics

People's Biodiversity Register (PBR)

Survey Data (Adopted village Rampur)

Session 2019-20

Sr. No.	Name of Head of Family	Information of Electrical Instruments in Household use						Daily Electrical Consumption	Monthly average electrical bill	Signature
		Bulb/ Tube light	TV	Fan	Fridge	Electrical Motor	Other Instrument			
1	सुमिता अभिमन बोले	4 Y	J	3 SF J-T-F	No	No	No	-	500.Rs.	
2	पूषा उरकुंडी खोरे	No	No	No	No	No	No	No electric connection	-	
3	देवराव प्रभूनाथ मधान	1.T.F 3.Y	J	3.SF	Yes	No	No	-	800.Rs	
4	मधुकर किसन शाकत	4.CFL	J	1.SF J-T-F	No	No	No	-	400.Rs	
5	अशोक रघुनाथ मधान	3.Y.	J	1.SF J-T-F	No	No	No	-	500.Rs	
6	गुरुदेव रामचंद्र गुरुनूल	2.CFL	J	No	No	No	No	-	400.Rs	
7	रामचंद्र गुरुनूल	2.CFL	J	No	No	No	No	-	400.Rs	
8	मनोभागी विजय गुरुनूल	No	No	No	No	No	No	No electric connection	-	
9	जहान भास्कर वाडगुणे	3.CFL	J	1.SF	No	No	No	-	-	
10	हरिदास वेंकट गुरुनूल	1.CFL 1.S.Y.	J	1.SF	No	No	No	-	-	
11	मोहन आर्जुनराव गुरुनूल	No	No	No	No	No	No	No electric connection	-	

Manish S. Slunde



Time: 18-01-2020 10:20
Npte: Rampuri Maharashtra 441308, India



DEPARTMENT OF COMPUTER SCIENCE



*Department of Computer Science**PBR Survey Report- 2019-20 on***Use of Internet Banking & Android Mobile Application Survey of Palora and Rampur Village**

PBR submitted by: -B. Sc. II (Department of Computer Science) students 2019-20

Under the supervision of: -Prof. S. D. Chute, Head of the Computer Science department

Introduction: -

The *Palora and Rampur* village's economy is basically agrarian. In spite of economic development, agriculture is the backbone of the village economy. Apart from those who are directly involved in the agrarian sector, a very few number of the population of those village's is also engaged in agro-based activity. Use of advanced technology like android mobile phone and computer or laptop is the need of present scenario but villages in India lack of these things. Government of India start new program like Startup India, Standup India and Digital India on this background we try to survey on this topic.

Unlike smart city, villages as well as farmer of India should be smart in respect of internet banking and banking application of android mobile. In a changing environment, banks are diversifying their role in the agriculture sector in order to get revenue from their significant contribution to agriculture. Some of the new roles that banks have adopted are Marketing, Training and Consultancy, insurance and financing for infrastructure via private-public participation. The development of information technology has an enormous effect on development of more flexible payments methods and more-user friendly banking services. Internet banking involves, consumer using the Internet to access their bank account and to undertake banking transactions in mobile banking at home.

Aim of the study: -Banking has been always a highly intensive activity that relies heavily on information technology (IT) to acquire and deliver the information to all relevant users. IT is not only critical in the processing information; it provides a way for the banks to differentiate their products and service in the market. The mobile, cellphone or smartphone is not just used for What apps, Facebook or Angry Birds; it can be used in a multitude of ways from land information like 7/12 abstract and various government schemes for farmer.

Study area: Palora and Rampur, Tah- Armori, District- Gadchiroli (M.S.)

Palora and Rampur villages are part of our college under Unnat Bharat Abhiyan hence these are selected for study and survey in use of internet banking & android mobile application. Palora Village is situated 2km and Rampur Village is 4.4km away from sub-district headquarter Armori .

Palora Village

Population	Area (Ha)	Density (P/Ha)	Sex Ratio	Literacy
540	560.73	1	1007	85.18%

Total Population	Male Population	Female Population
540	269	271

Population	Area (Ha)	Density (P/Ha)	Sex Ratio	Literacy
729	664.6	1	1036	75.84%

Rampur Village**Materials and Methods: -**

Total Population	Male Population	Female Population
729	358	371

Students of B.Sc. II Computer Science study the use of internet banking & android mobile application survey of that village's Palora and Rampur a questionnaire was prepared in respect to use of internet banking & android mobile by computer science department. Only 67 Families selected for the study by PBR groups of Computer Science. Photograph of the families with PBR students was taken with help of mobile and high megapixel canon camera.

Results and Discussion: -

Total No Of Home	Bank Account	Nationalized Bank Account	State Level Bank	Private Bank	No. of Android Mobile	Simple Mobile	Mobile Bank Application	Bank UPI APP	Total No of Used Social Site	Total No Of Used Internet Banking
67	67	32	35	00	57	10	5	10	50	0

Total 67 Home Survey of those village's Palora and Rampur was undertaken in various aspects such as Bank holder like Nationalized Bank, State Level Bank, Private Bank etc. Used of Internet Banking, android mobile, banking application on mobile etc.

In survey it is observed that all the family belonging to survey have bank account in National Bank as well as co-operative sector Bank.

In all, only 80% people have android mobile phone while remaining 20% people have simple mobile phone for communication purpose.

One of the remarkable observations is that 7.46% used mobile bank application and 0% used internet banking and 14.92% used UPI Application but 74.62% people used social site like Facebook or what's app etc.

In agricultural sector, farmers in rural areas faced major problems because of illiteracy. They cannot take the advantage of internet to access the information related to farming.

The information represented in icons will help the farmers to take the important decisions. Also, there will be additional benefit to farmer as there is speech-based interaction in Indian language with icons.

Conclusion: -

In Palora and Rampur, some families are not aware about android mobile application and internet banking even those people having such android mobile phone.

The Krishi-Mitra website gives the whole information regarding crops, Weather status and also user can get the expert advice in Marathi and English languages. Krishi-Mitra

application can be used as smart system which will be more sophisticatedly working for benefit of the user.

A user can be made aware about current weather statistics and new information regarding to crops, seeds, fertilizer etc. just on single click of a button. People can even consult with experts if needed. This application can be very much helpful even if one could not read the information on the device by native language support provided in it.

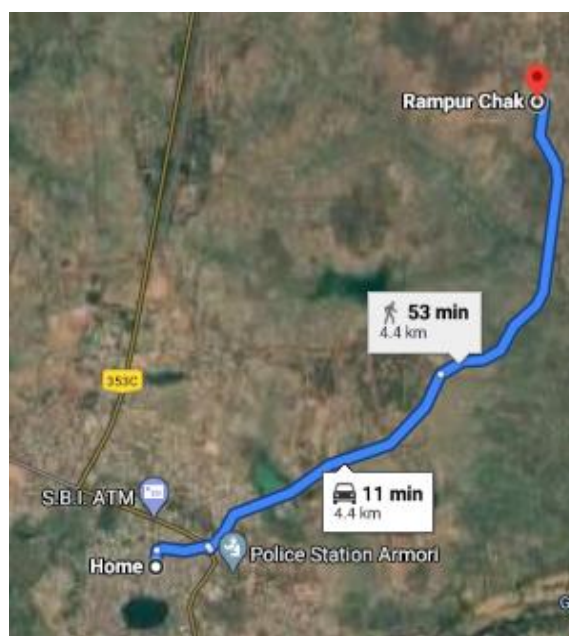
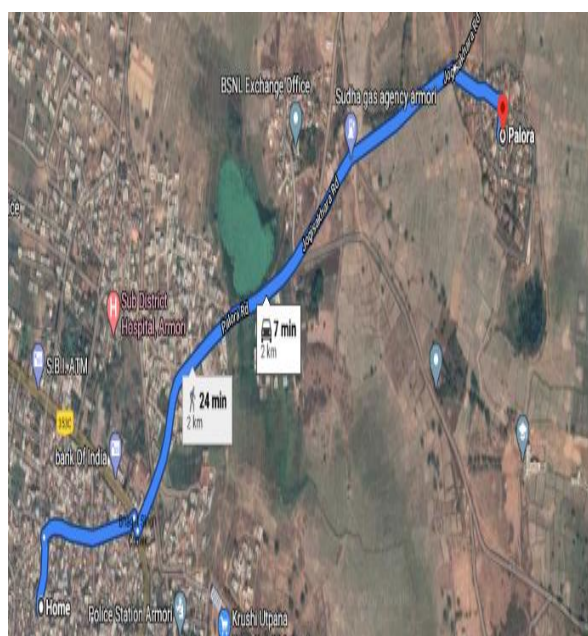
This model will be a great enhancement to currently using techniques. In this way this Krishi-Mitra expert system for farmers reaches towards the implementation. Hence, difficulties faced by farmers in farming are overcome and resolved. Future scope for this system will be more native language support and dynamic query resolution. Also, downloading various data and information provided by experts will be possible through the application.

Government of India focusing much more on use of advanced technology but instead of people partnership it is useless.

Recommendation: -

Farmers should develop a technically up-to-date use of internet banking & android mobile application with agriculture. They should aware about the dynamic agro-based sector having and producing means of production and consumer goods.

Way of Palora and Rampur Villages



Field Photography



Students of B.Sc. Computer science taking interview with villager

List of Student Participate in PBR

Sr. No.	Name of Student
1	AKARE AJAY RAMESH
2	AKARE SANKET TEJRAO
3	AWACHAT SAMIKSHA RAJESH
4	BABANWADE VIBHA PRABHAKAR
5	CHANDANBAWANE SHUBHAM MOHAN
6	CHAPLE NIKESH HOMDEO
7	CHAUDHARI POOJA VILAS
8	DADMAL VAIBHAV DHYANESHWAR
9	DARVEKAR ANIKET DHANANJAY
10	DHAKATE KALYANI TRYMBAK
11	DHONGE PRIYANKA KAMALAKAR
12	DHORE DATTARAJ YASHWANT
13	DONADKAR TEJASWINI SURESH

14	FULBANDHE SHAMSUNDAR SUDAM
15	FULKAMBALE MADHAVI DEORAO
16	GEDAM SAMIR MAHADEO
17	GONNADE AMOG ASHOK
18	JUARE SAHIL PRAMOD
19	KALLEWAR YASH ARUN
20	KAMBLE PRANAY SHESHRAO
21	KANDALKAR NAKUL SANTOSH
22	KHOBRADE BHOJRAJ DILIP
23	KURA PRADNYA HARINATH
24	MESHARAM HARSHAL MUNISHWAR
25	MOHURLE PRADIP ANIL
26	NIPANE ONKAR BALIRAM
27	PAL KANCHAN VINOD
28	PANCHALWAR NIKESH JAGESHWAR
29	PAULBUDDHE SHREYASH SHRIHARI
30	PILAWAN SURAKSHA ASHOK
31	PILEWAN NILESH RAIESH
32	PITTULWAR NIRAJ RAVI
33	POTEKAR SANTOSHI HEMANT
34	PRADHAN DEWANAND NAKTU
35	RAUT AMOL VARSHAKETU
36	SAHARE CHETAN ARVIND
37	SANGOLE ROSHANA NEPAL
38	SAUNDARKAR ARTI GURUDEV
39	SAYAM LAXMI DHARMA

40	SHEIKH SHAHIN JAKIR
41	SIDAM KHUSHAL RUSHIJI
42	TALANDE ANKIT VINAYAK
43	THAKARE PRACHI BHAURAO
44	WASEKAR VIPUL DILIP

DEPARTMENT OF GEOGRAPHY



People Biodiversity Register (PBR)**SESSION -2019 -20****Agro – Socio, Economic Survey Of Palora Village****The biodiversity record of the People of Palora**

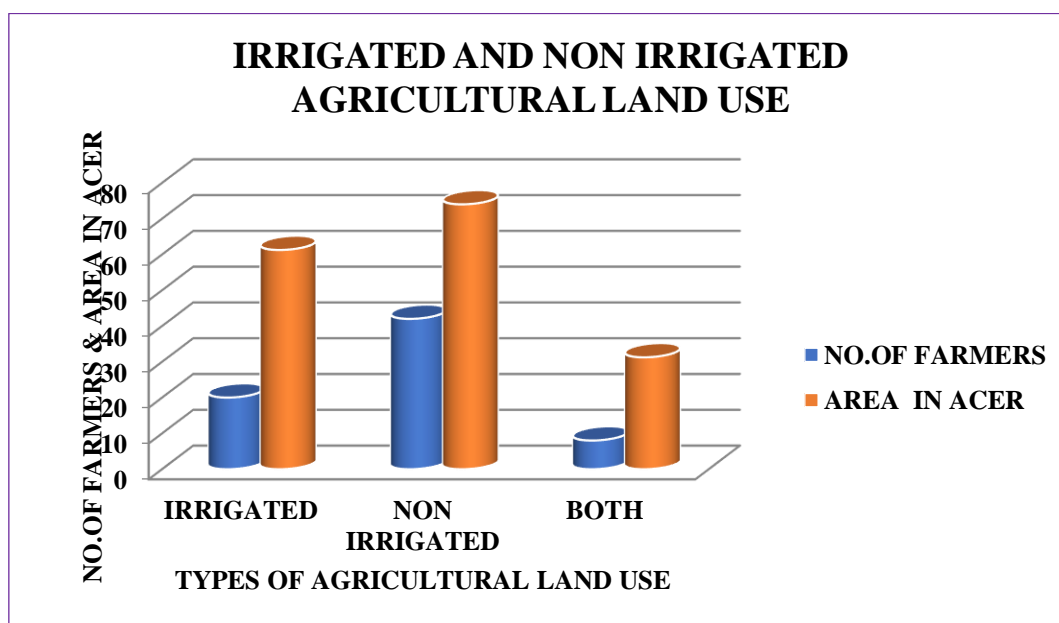
In internal the biodiversity record of the people of Palora related. Studied under the information. Agriculture –Economic Social Survey, made in Palora , student have filled the form about area of agricultural land, irrigated and non irrigated agricultural area, various crops and production, expenditure of agriculture, food security, adding agro base business etc. with questionnaire method In which the students actual 70 family information filled with questionnaire.

1) Agricultural land holder at Palora:-

The no. of agriculture land holder is as follow. There are 70 families out of total population based on agriculture and 26 families don't have agricultural land at Palora is 166.5 acres.

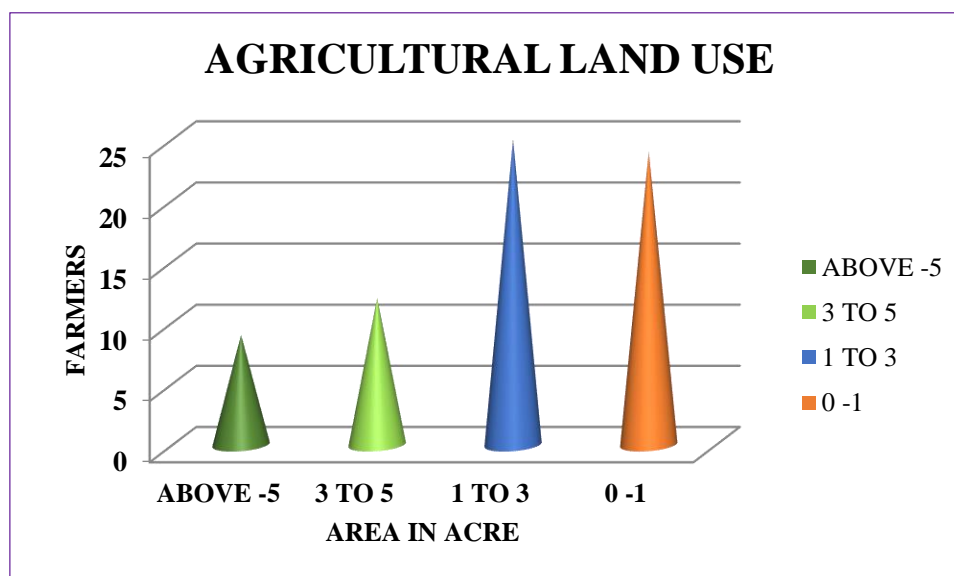
2) Types of agricultural land: -

After studying agricultural land at Palora the following information is collected out of total agricultural land 61.25 acres is irrigated, while 74 acres is non irrigated besides these 31.25 acres agricultural lands is used for both types of farming.



3) Ratio of farm land to the farmer: -

After studying the farming families at Palora following information is collected there are 9 families who have more than 5 acres of land. There are 12 families who have land between 3 to 5 acres, and 25 families who possess 1 to 3 acres of land while the no. of families who less than 1 acres is 24 and they are marginalized farmers. Remaining 26 families don't own any farming land.



4) Information in the crops grows on the field in every season: -

Agriculture – economical survey of Palora show that farmer's growth different season. Primarily in kharif season the cultivation of rice is the highest (166.5 acres) variety RPN rice is cultivated in 85.75 acres, variety of 1010 rice is cultivated in 39.75 acres while variety of Jay Shreeram is cultivated in 36.25 acres.

While in a rabbi season other crop are also cultivated along with rice variety of RPN rice is grown in 37.50 acres, CHANA in 11.50 acres, groundnut in 7 acres and other crops are grown in 25 acres in land.

5) Cost for farming (fertilizers, labors & others): -

Cost for farming at Palora in Rabbi & Kharif season is as follows. In kharif season the land under cultivation is consist of 161.72 area and for tilling that land the farmer have to spent collectively 5447700 rupees along with that 369800 rupees is spent on labor for sowing

294900, for pesticide 169500, for fertilizers 325000 rupees for harvesting 287800 rupees like this in total 1699200 is spent for overall cultivation.

In rabbi season the total cultivation area is less and that is 81 acre in that for tillage 301270, 105100 for labor 985 for sowing for pesticide 68200 rupees, 103000 on fertilizers and for harvesting 115900 rupees has been spent like this the total amount in rabbi season 520820 is spent.

6) Income from crops: -

In kharif season variety of Jay Shreeram rice was 539.50 quintal and is sold for 7982210 rupees RPN rice was harvested of 874 quintal and sold for 1285800 rupees and the variety of rice 1010 was sold for 534600 rupees.

While in rabbi season RPN rice 2374 quintal for 1217000, CHANA 09 quintal for 14000, groundnut 36 quintal 88000 and other crops 24 quintal 53500 rupees of income has been gained by the farmer.

7) Usages of fertilizers and expenses: -

a) Kharif Season –

After studying the expenses on fertilizers in kharif season at Palora it was seen that expense on organic fertilizers was 90600 in 77 acres and expense on chemical fertilizers was seen 234500 rupees in 99.5 acres.

From the above information we can say that the collective expense in a kharif season on organic and chemical fertilizers was 244100 rupees.

b) Rabbi season –

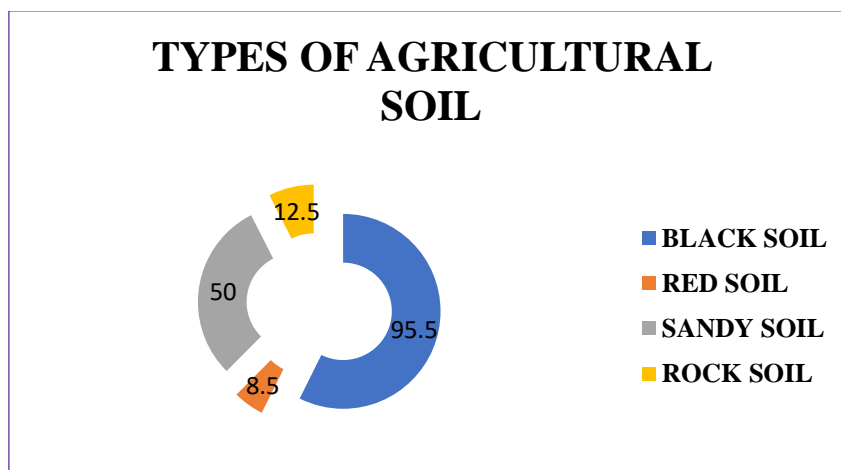
In rabbi season the expenses on organic fertilizers was 30000 rupees in 27 acres and 73000 rupees in 54 acres.

From the above information we can say that the collective expense in a rabbi season on organic and chemical fertilizers was 103000 rupees.

Total expenses on organic and chemical fertilizers in both kharif and rabbi season was 428100 rupees.

8) Type of soil (in acres): -

After analyzing soil at Palora it was seen that 95.5 acres constitute of black soil 8.5 acres, red soil 50 acres, sandy soil, and 12.5 acres of rocks soil. From the above analysis we can conclude that at Palora the portion of black soil the highest after that sandy soil and lowest is red soil.



9) The Usages of Necessary Irrigation Sources: -

A) Kharif Season: -

After analyzing the usage of necessary irrigation sources, it is seen that irrigation is done in 20.5 acres by wells, 54 acres is irrigated by canal 7.5 acres by tube well, 13 acres by pond and 27.5 acres irrigated by water from rivers.

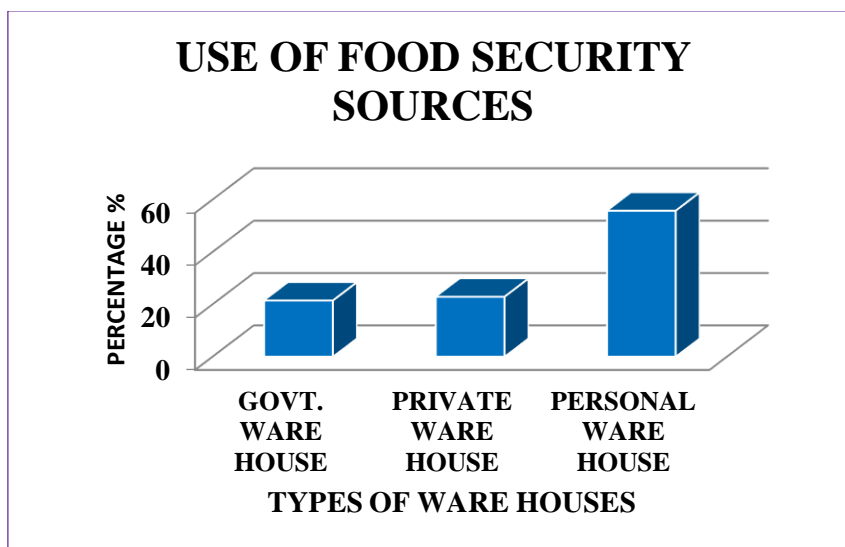
B) Rabbi season: -

After analyzing the usage of necessary irrigation sources, it is seen that irrigation in rabbi season, 3.5 acres is irrigation by well 3 acres by tub well, 1.5 acres by pond and 15 acres of land is irrigated by river water.

From the above discussion we can concluded that in kharif season canals are used maximum portion. And in rabbi season wells are used maximum no.

10) Usage of Food Security Sources: -

After making socio-economic and agricultural survey it is seen that for food security 15 farming families kept grain in government warehouse and 16 families kept there in private warehouses and 39 families kept their own houses.

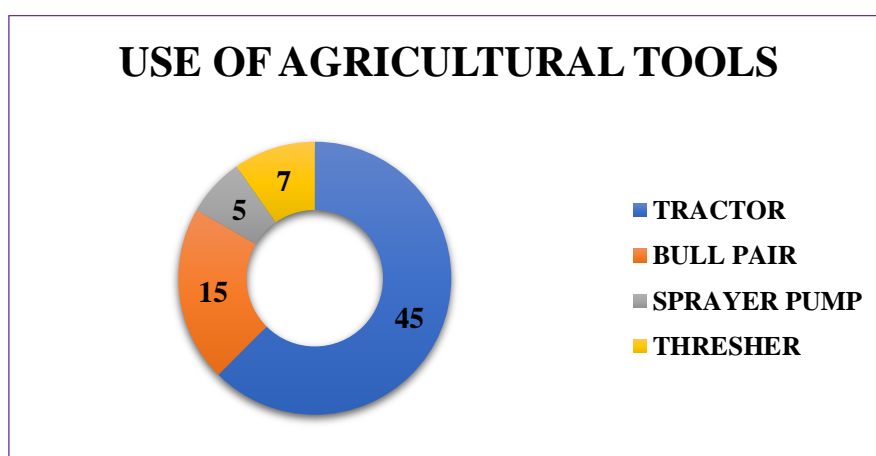


11) Type of loan facility for farming: -

For kharif season farmers acquired 494000 rupees loan for 34 acres from nationalized banks. From co-operative bank 108000 rupees loan acquired for 9 acres, And from other bank 20,000 rupees loan acquired for 2 acres along with for rabbi season 20000 loan acquire for 1 acres.

12) Usage of Agricultural Tools: -

At Palora 45 farming families use tractor, 15 families used bullock cart, 5 families have sprayer pump and 7 families used thresher machine.

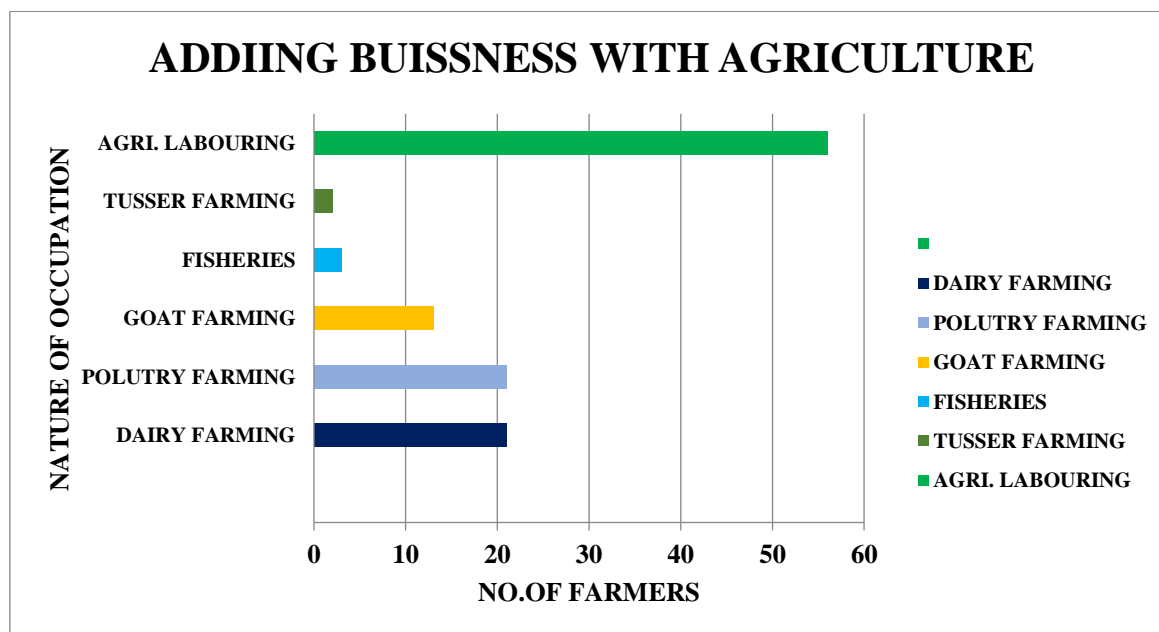


13) Ratio And Type of Grain Selling: -

After study ration and types of food grain the following information has been found. In that the selling in form of government structural 702 quintal and its cost was 1012200 rupees and in private structure 811.50 quintal grain was sold for 1324610 rupees.

14) Adding Business with Farming: -

At Palora following adding business with farming is as follow. 21 families are involved in dairy farming, 21 families with poultry and 13 families with goat farming.



15) Types of Horticultural Farming: -

After making a survey at Palora the following information has been observed at Palora varies kinds of horticultural farming is seen. In that the vegetable farming is done in 7.5 acres, flower farming in 0.5 acres and other kind of farming is done in 11 acres.

Conclusion: -

- 1) Out of total of 96 families in Palora, 70 have farms.
- 2) Palora has a large no. of small land holders as well as those with 1 – 3 acres of land.
- 3) Rice is an important crop in agriculture of Palora.
- 4) Rabbi crop cultivation is less than kharif crop cultivation at Palora.
- 5) Chemical fertilizers used more than organic fertilizers in agriculture at Palora.
- 6) Farmers in Palora have higher proportion of black soil in their farms.
- 7) Farmers in Palora are increasingly using canal water for irrigation.
- 8) Farmers in Palora have taken more loans from co- operative banks than from govt. banks.
- 9) Farmers in Palora sell their farm products in large quantity privately.

10) Along with farming in Palora farm, labor is the main occupation.

11) At Palora, the income seen to be more than the cost of farming.



People Biodiversity Register Survey (Agro - Socio- Economic Survey) (B.A. II)
at Palora Village – (18/01/2020)

Agro – Socio, Economic Survey of Rampur - Chak Village

Geography of Rampur - Chak

1) Place: -

The Gadchiroli District has founded on dated 26 August 1982 in landscape of 14412 Sq. fit. Geographically Armori taluka has found North South in Gadchiroli, and Rampur - Chak is situated on east at a distance of 5 km from Armori taluka of Gadchiroli District and there is a Gadhavi river goes western side.

2) Climate – Rainfall & Temperature: -

There is a variety of diversity in Gadchiroli district. Where temperature is more in May and June an average Temperature growth is summer time almost 47 to 48 Degree C and in winter time 9 to 11 Degree.

Probably in this District rainfall from monsoon wind and rainfall from 1400 to 1500 mm June to October.

3) River: -

Gadchiroli District is mainly the Wainganga River. The river goes to the west of the District and the Gadhavi River flows through the east from west. Godavari from the southern border. The Indravati River flows from east. In the besides imp rivers are Dina, Khobragadi, Kathani, Por, Nibra, Kotari, Parlkota, Pamul Gantam etc.

4) Soil: -

The soil in Rampur - Chak is situated in the lower part of the Gadhavi River bank. The lower part of the river is fertile and the mud is the soil.

Sandy soil, black soil and rocky soil are found in and around Rampur Chak. It is included some parts are Gadchiroli, Armori, Chamorshi taluka. Rice is a main crop in there.

5) Crops: -

In all the taluka of Gadchiroli District, Rice crop is important. Rice crop and around 75% of the area rice dominated. Along with it seen Tur, Popat, Chilli, Groundnut and Vegetable etc.

6) Transportation and Communication: -

In Gadchiroli District road from Nagpur – Gadchiroli – Sironcha and road from Gadchiroli – Chandrapur and also road are important from Gadchiroli – Dhanora – Rajnandgaon. The state governments Zilla Parishad and Public works department counstructed the road length of 11,798 km by the end of 2012.

The biodiversity record of the People of Rampur -Chak

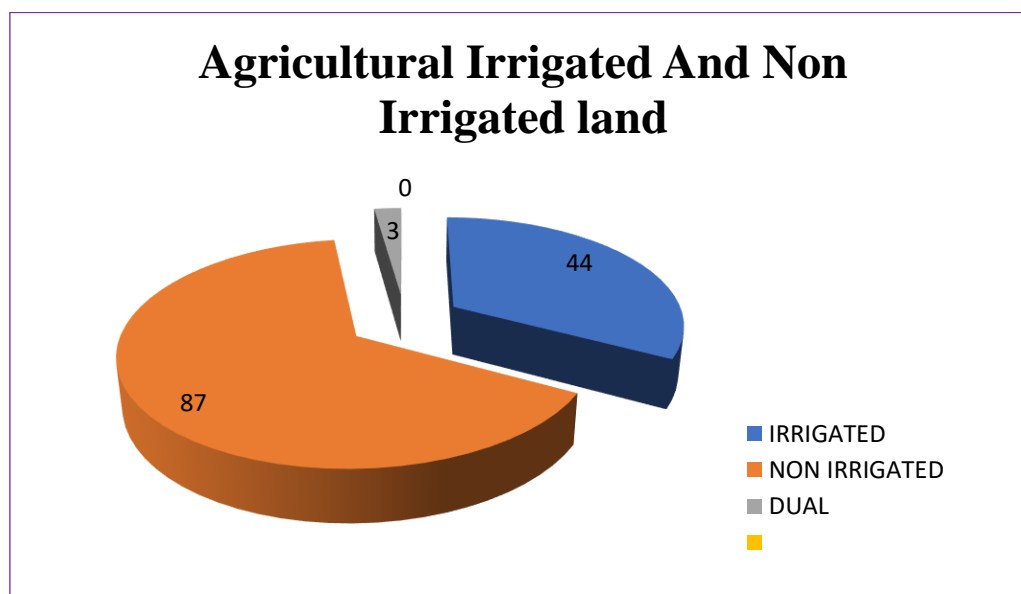
In internal the biodiversity record of the people of Rampur - Chak related. Studied under the information. Agriculture –economic social survey, made in Rampur - Chak , student have filled the form about area of agricultural land, irrigated and non irrigated agricultural area, various crops and production, expenditure of agriculture, food security, adding agro base business etc. with questionnaire method In which the students actual 134 family information filled with questionnaire.

1) Farmer families& Farming area: -

From the Agricultural Economic and Social Survey conducted at Rampur (Chak). It is learned that the main business of the villagers is arming and there are 134 farmers with 138 acres of farming land.

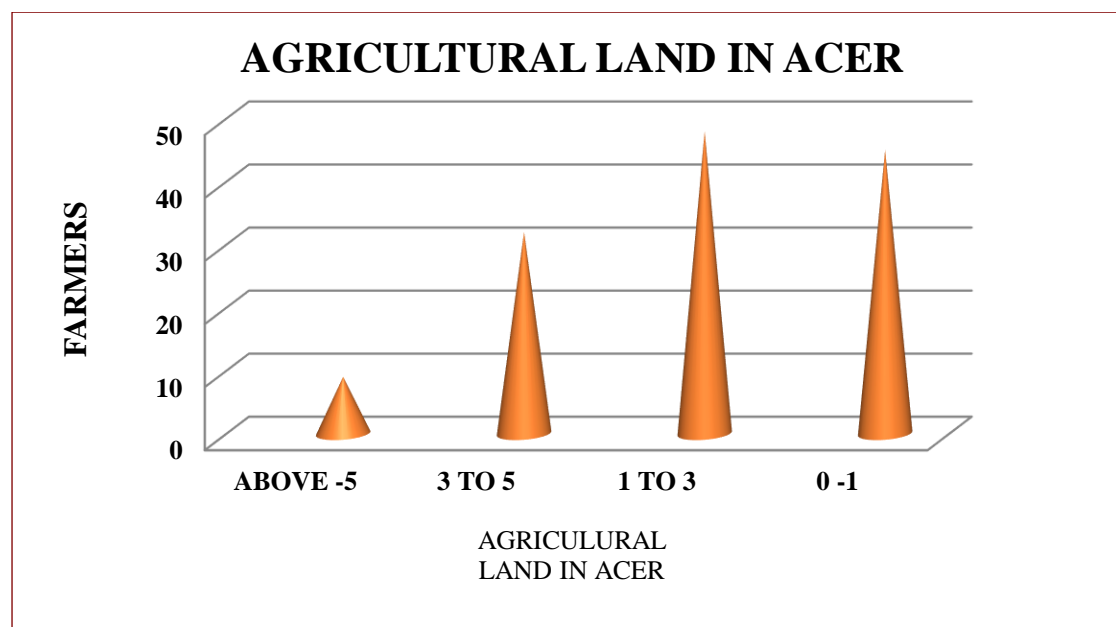
2) Kinds of Agricultural Land: -

Farmers of Rampur (Chak) cultivate farms by both irrigated and non-irrigated method there are 87 farmers who does non-irrigated farming and 47 farmers do both.



3) Ration of Agricultural Land (in acres): -

At Rampur 45 marginalized who have 0-1 acres of land, 48 farmers with 1-3 acres, 32 farmers with 3-5 acres, and there are 9 farmers who possess more than 5 acres of land



4) Information of the crop to taken every season in the field: -

From the survey conducted at Rampur. It is seen that in Kharip season rice crop is activated in maximum amount. In that RPN variety of paddy is cultivated, 1010 variety is in 51.50 acres, and Jai shreeram is grown in 31.25 acres.

In Rabbi Season Chan, Watana and Wheat etc. types of crops are cultivated. In along with in Rabbi Season. RPN variety is cultivated in 38 acres. Chana in 9 acres and Watana is cultivate in 1.50 acres of land.

5) Expense of tillaging the farm: - (Fertilizers, Labor etc.)

In Kharip Season tillaging expense for 150 acres is Rs. 4,42,300, for labour Rs. 3,26,000 for sowing Rs. 3,37,000 for pesticide Rs. 2,21,500 for fertilizers Rs. 3,78,900 and for harvesting the crops Rs. 3,53,500 and for all this collectively the cost is Rs. 20,59,200.

In Rabbi season village expense in Rs. 1,25,500 for 38 acres for labour Rs. 42,700 sowing Rs. 75,100, pesticides Rs. 75,000, Fertilizer expense is Rs. 1,57,700, for harvesting the crop Rs. 91,900, and total expense for all these things is Rs. 5,67,900.

6) Income from crops: -

In Kharip Season the income from RPN rice is Rs. 19,82,400 from 826 q. of rice, 448 q. of RPN rice was sold for Rs. 11,20,000 while Jai Shriram rice was sold for 9,90,600 of 381 q.

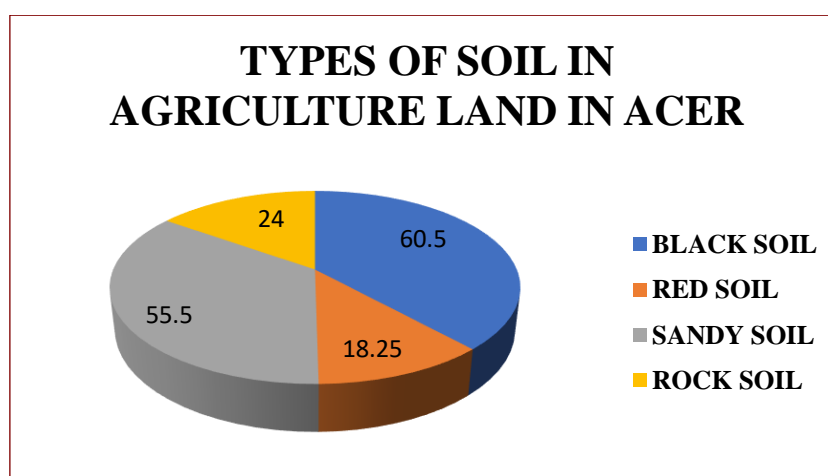
In Rabbi Season 51 q. of RPN rice was sold for Rs. 1,22,400, 1010 rice 144 q. for Rs. 36,000 and 133 q. of Jai shriram rice was sold for Rs. 3,45,800, 16 q. Chana was sold for Rs. 73,200, Watana 5 q. for Rs. 20,400 and Wheat 15 q. was sold for Rs. 22,500.

7) Use of fertilizers and expenses: -

In Kharip Season organic and chemical fertilizers cost Rs. 10,54,700 while in Rabbi Season Rs. 2,41,900 was spent for organic and chemical fertilizers.

8) Types of Soil: -

At Rampur 134 farmers possess different type of soil like Black soil in 60.20 acre, Red soil 18.25 acres, Sandy soil in 55.50 acres and Rocks soil in 24 acres.

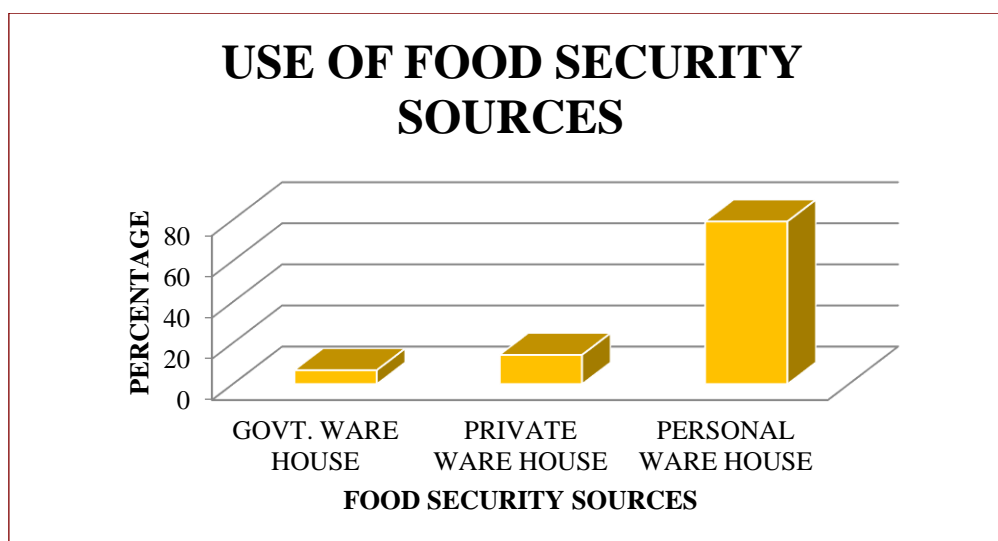


9) Use of irrigation resources for agriculture: -

Farmer in Rampur (Chak) have different types of irrigation resources like Well, Canal, River and Sprinkler etc. in Kharif Season 54.5 acres and in Rabbi Season 38 acres field was irrigated by above mention resources.

10) Use of food security sources: -

From socio - economic survey conducted at Rampur (Chak) is seen that 6.71% farmers use Government Warehouse, 14.17% farmer use Private Warehouses and remaining 79.10% farmer protect their food grains individually in their own house.

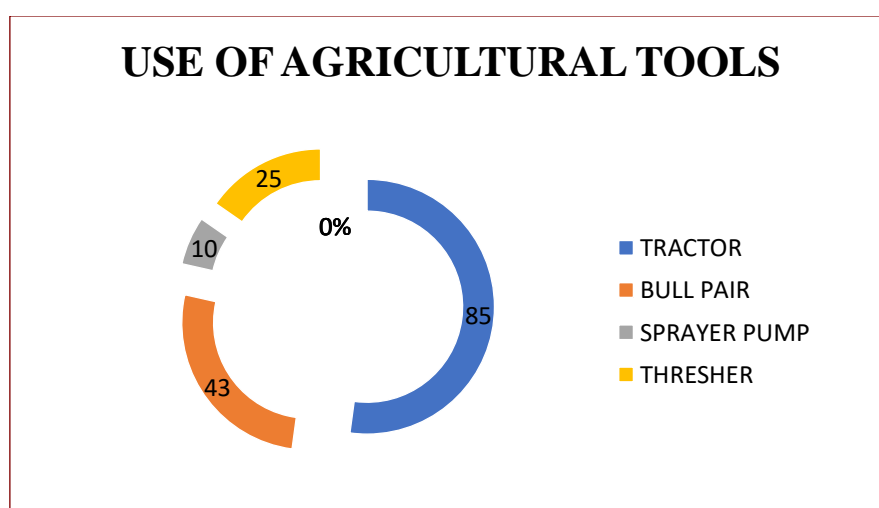


11) Types of Loan facilities for farmers: -

At Rampur farmer took Rs. 514000 loans for 34 acres, from Co-operative Bank, Rs. 108000 for 9 acres, Rs. 20000 for 2 acres from other sources in Kharip and Rabbi Season.

12) Use of Agricultural Tools: -

At Rampur (Chak) following agricultural tools 85 Tractors, 43 Bullock kart, 10 Spraying machine and 25 Thresher machine.

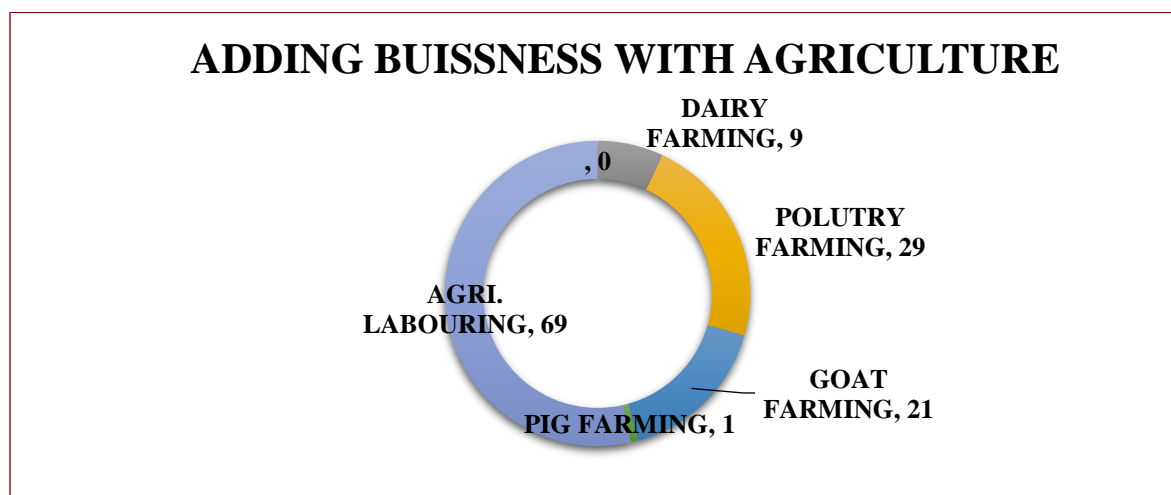


13) Ration of food - grain selling and type: -

At Rampur (Chak) maximum numbers of farmers cultivated paddy crops, selling ration of food grain is also high at Rampur. Her selling ration to the government is 478 quintals. 678 quintals. is in private sectors, and another selling ration is 78 quintals.

14) Additional Business with Agriculture: -

Maximum people are involved with additional business at Rampur. Most of the farmers are not interested towards Fisheries, Silk production. 9 farmers are involved with Dairy business, 29 with Poultry, 21 farmers with Goat farming, and other 69 farmers prefer to go for manual labor.



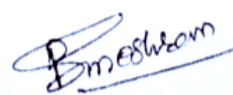
15) Types of Horticultural farming: -

Many farmers do horticultural farming along with simple farming but they don't have any interest in farming of fruit and flowers. Some farmers grew Vegetables in 22.5 acres and in 15 acres grew other crops from selling the vegetable Rs. 218000 income is gained and from other types Rs. 10000 is gained.

Conclusion: -

- 1) There are 134 farming families in Rampur Chak, out of the total family in Rampur Chak, 87 families have dry land farming.
- 2) Rampur Chak has the highest no. of house hold with 1- 3 acres of agricultural land and paddy is major crop in Rampur Chak .
- 3) In Rampur Chak, the income seen to be lower than the cost of farming.
- 4) In Rampur Chak, it is seen that organic fertilizers are being used more in agriculture than chemical fertilizers.
- 5) The total agricultural area at Rampur Chak has a high proportion of black and sandy soils.
- 6) Farmers in Rampur Chak used river water for irrigation in agriculture.
- 7) Farmers in Rampur Chak use individual warehouse to store grain.

- 8) Farmers in Rampur Chak have taken more loans from co- operative bank than from government bank.
- 9) Farmers in Rampur Chak are seen privately selling their food grains.
- 10) Farmers in Rampur Chak are engaged in poultry farming along with agricultural labor.
-



Head
Department of Geography



People Biodiversity Register Survey (Agro - Socio- Economic Survey) (B.A. II)
at (Rampur – Chak) Village – (20/01/2020)

News Paper Cutting – PBR - 2019-20

रामपूरचक, पालोरा गावाचे सामाजिक, आर्थिक सर्वेक्षण

46 विद्यार्थ्यांचा सहभाग

आरमोरी. स्थानिक महात्मा गांधी महाविद्यालयातील भूगोल विभागातर्फे प्राचार्य डॉ. लालसिंग खालसा यांच्या मार्गदर्शनाखाली बी. ए. भाग 3 च्या विद्यार्थ्यांनी रामपूर चक व पालोरा या गावाचे सामाजिक व आर्थिक सर्वेक्षण केले. यात एकूण 46 विद्यार्थ्यांनी सहभाग घेतला होता.

सामाजिक व आर्थिक सर्वेक्षणांतर्गत सामाजिक घटक व कृषी आधारित घटकांचा अभ्यास प्रश्नावलीच्या माध्यमातून विद्यार्थ्यांनी माहिती भरून दिली. यामध्ये सामाजिक व कुटुंबाविषयक माहिती, जात, धर्म, व्यवसाय, पुरुष व स्त्रियांचे प्रमाण, साक्षरता, शेतक-यांकडील शेतीचे प्रमाण, शेतीतील मृदा प्रकार, प्रत्येक हंगामात घेण्यात येणा-या पिकांची माहिती, शेती मशागतीसाठी लागणारा खर्च, पिकांसाठी मिळालेल्या उत्पन्नाची नोंद, शेतीतील औद्योगिक वसाहती, साधनांचा वापर, अन्नधान्य विक्रीचे प्रमाण व प्रकार, शेतीसाठी घातलेल्या कर्जाचा प्रकार, कृषी आधारित उद्योग, शेतीसोबत

असलेले जोडव्यवसाय, पीकपद्धती, शेतीवरील खर्च, उत्पादन, नफा-तोटा, पीक प्रारूप, पिकांची तीव्रता, शेतक-यांचे उत्पन्न आदी घटकांचा अभ्यास केला.

सदर सर्वेक्षण भूगोल विभाग प्रमुख प्रा. पराग मेश्राम व प्रा. डॉ. विजय गोरडे यांच्या मार्गदर्शनाखाली करण्यात आले. विद्यार्थ्यांनी गावातील प्रत्येक घरी जाऊन माहिती गोळा केली. त्याचे विश्लेषण करून अहवाल तयार केला.



भूगोल विभागाच्यावतीने जैवविविधताविषयक सर्वेक्षण

आरमोरी - येथील महात्मा गांधी महाविद्यालयांतर्गत भूगोल विभागातर्फे प्राचार्य डॉ. लालसिंग खालसा यांच्या मार्गदर्शनाखाली पर्यावरण अभ्यास समितीमार्फत बी. ए. भाग २ च्या विद्यार्थ्यांनी रामपूर चक व पालोरा या गावाचे जैवविविधताविषयक सामाजिक, कृषी व आर्थिक सर्वेक्षण केले. यावेळी भूगोल विभागप्रमुख प्रा. पराग मेश्राम व प्रा. डॉ. विजय गोरडे यांच्या मार्गदर्शनाखाली घेण्यात आले. विद्यार्थ्यांनी गावातील प्रत्येक घरी जाऊन माहिती गोळा केली व त्याचे विश्लेषण करून अहवाल तयार केला. या सर्वेक्षणात एकूण ६० विद्यार्थ्यांनी सहभाग घेतला होता.

(BY EUI)

Daily Lokshahi Varta

भूगोल विभागाच्यावतीने जैवविविधताविषयक सर्वेक्षण

आरमोरी - येथील महात्मा गांधी महाविद्यालयांतर्गत भूगोल विभागातर्फे प्राचार्य डॉ. लालसिंग खालसा यांच्या मार्गदर्शनाखाली पर्यावरण अभ्यास समितीमार्फत बी. ए. भाग २ च्या विद्यार्थ्यांनी रामपूर चक व पालोरा या गावाचे जैवविविधताविषयक सामाजिक, कृषी व आर्थिक सर्वेक्षण केले. यावेळी भूगोल विभागप्रमुख प्रा. पराग मेश्राम व प्रा. डॉ. विजय गोरडे यांच्या मार्गदर्शनाखाली घेण्यात आले. विद्यार्थ्यांनी गावातील प्रत्येक घरी जाऊन माहिती गोळा केली व त्याचे विश्लेषण करून अहवाल तयार केला. या सर्वेक्षणात एकूण ६० विद्यार्थ्यांनी सहभाग घेतला होता.

दैनिक पुण्यनगरी दि २२/११/२०२०

भूगोल विभागाचे जैवविविधता सर्वेक्षण



आरमोरी : महात्मा गांधी महाविद्यालयांतर्गत भूगोल विभागातर्फे प्राचार्य डॉ. लालसिंग खालसा यांच्या मार्गदर्शनाखाली पर्यावरण अभ्यास समितीमार्फत बीए भाग २ च्या विद्यार्थ्यांनी रामपूर चक व पालोरा या गावाचे जैवविविधताविषयक सामाजिक व कृषी आर्थिक सर्वेक्षण केले. जैवविविधताविषयक सामाजिक व कृषी आर्थिक सर्वेक्षणांतर्गत सामाजिक घटक व कृषी आधारीत घटकांचा अभ्यास प्रश्नावलीच्या माध्यमाने विद्यार्थ्यांनी माहिती भरून घेतली. यामध्ये सामाजिक व कुटुंबविषयक माहिती, जात, धर्म, व्यवसाय, पुरुष व स्त्रियांचे प्रमाण, साक्षरता, शेतकऱ्याकडील शेतीचे प्रमाण, शेतीतील मृदा प्रकार, प्रत्येक हंगामात घेण्यात येणाऱ्या पिकांची माहिती, शेती मशागतीसाठी लागणारा खर्च, पिकांपासून मिळालेल्या उत्पन्नाची नोंद, शेतीतील आवश्यक सिंचन साधनांचा वापर, अन्नधान्य विक्रीचे प्रमाण व प्रकार, शेतीसाठी घेतलेल्या कर्जाचा प्रकार, कृषी आधारीत उद्योग, शेतीसोबत असलेले जोडव्यवसाय, पीक पद्धती, शेतीवरील खर्च, उत्पादन, नफा-तोटा, पीक प्रारूप, पिकांची तिव्रता, शेतकऱ्यांचे उत्पन्न आदी घटकांचा अभ्यास केला. सदर सर्वेक्षण भूगोल विभागप्रमुख प्रा. पराग मेश्राम, प्रा.डॉ. विजय गोरडे यांच्या मार्गदर्शनाखाली करण्यात आले. सर्वेक्षणात ६० विद्यार्थ्यांनी सहभाग घेतला.

भूगोल विभागाचे जैवविविधता सर्वेक्षण

आरमोरी, ता. २२ : येथील महात्मा गांधी महाविद्यालयांतर्गत भूगोल विभागातर्फे प्राचार्य डॉ. लालसिंग खालसा यांच्या मार्गदर्शनाखाली पर्यावरण अभ्यास समितीमार्फत बी. ए. भाग २ च्या विद्यार्थ्यांनी रामपूर चक व पालोरा या गावाचे जैवविविधताविषयक सामाजिक, कृषी व आर्थिक सर्वेक्षण केले.

यावेळी भूगोल विभागप्रमुख प्रा. पराग मेश्राम व प्रा. डॉ. विजय गोरडे यांच्या मार्गदर्शनाखाली हा उपक्रम घेण्यात आला. विद्यार्थ्यांनी गावातील प्रत्येक घरी जाऊन माहिती गोळा केली व त्याचे विश्लेषण करून अहवाल तयार केला. यातून बरीच महत्त्वपूर्ण माहिती मिळाली. या सर्वेक्षणात एकूण ६० विद्यार्थ्यांनी सहभाग घेतला होता.

Bmeshram

Head
Department of Geography

DEPARTMENT OF ENGLISH



Mahatma Gandhi Arts, Science and Late Nasaruddinbhai Panjwani**Commerce College, Armori Dist. Gadchiroli****English Department****Language and Literature Survey****Report 2018-2020****Introduction**

The Department of English conducted one day English Language and Literature survey in the village Rampuri, Antarji, Palora, Ashta on 2nd January 2020; under the guidance of Principal Dr. L. H. Khalsa, English Department organized this innovative activity. The survey was headed by Prof. Nomesh Meshram Head, Department of English and Prof. Sneha Mohurle, Prof. Dayaram Meshram, and Prof. Anil Raut participated actively. The students of English Literature (B.A.II) conducted door to door survey of villager's interest and comprehension about English language and literature in reading, writing, and speaking.

Methodology:

Students of English Literature made an extensive survey about the people who have minimum qualification of 12th pass and about the graduate and post-graduate students from four villages Rampuri, Antarji, Palora, Ashta and Department prepared the survey format (questionnaire) and the student asked the questions from the questionnaire to the young boys, girls in the age group of 18 to 25. The questions comprising of personal information and comprehension of English language in both writing and speaking. Questionnaire consisted total 15 questions about their name, qualification, if he or she can speak, read, and write in English. The questions were also asked about their interest in literature, reading English newspaper, and their readiness in joining English speaking classes.

Total 230 students were interviewed who have passed the examination of SSC, HSC Degree and PG Degree. Students interfaced with them and filled questionnaire according to the responses given by them. The interviewed individuals were observed desire for joining the college Spoken English Classes and the faculties assured them to provide chance to get admission in the course; for upcoming academic year that is 2020-21.

Detail Analysis of the passing students of four villages

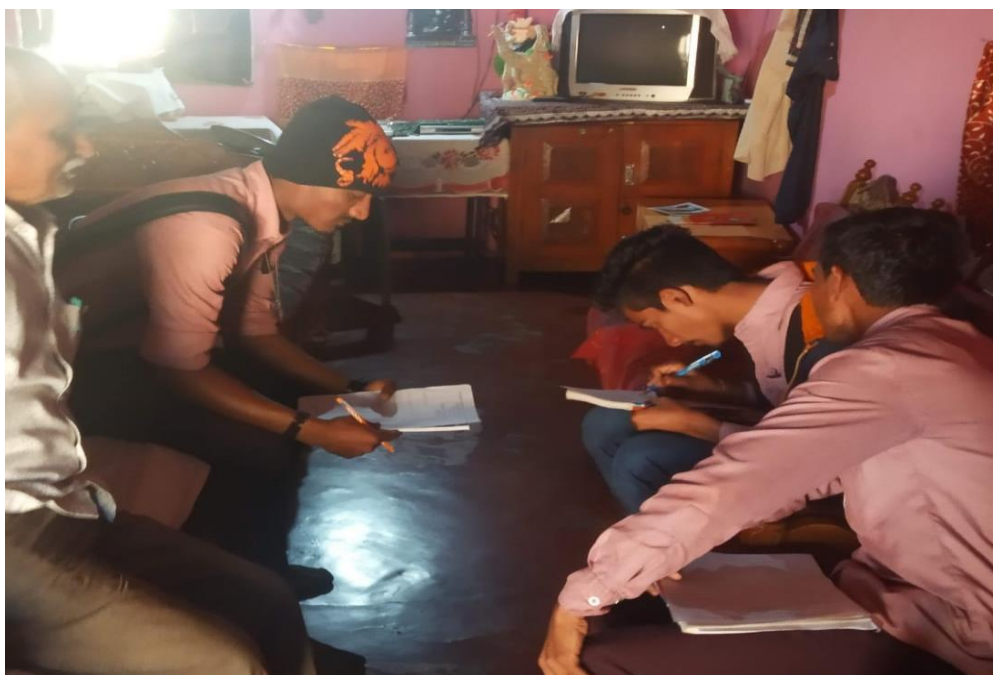
Sr. No.	Name of Village	SSC	HSC	UG	PG
1	Rampuri	70	61	12	4
2	Antarji	54	48	10	2
3	Palora	43	33	7	3
4	Ashta	63	46	11	4

List of Participants

Sr. No.	Name of the Student
1	Gauri Punghate
2	Daulat Thela
3	Pawan Kokode
4	Praful Shende
5	Madhuri Harami
6	Bhavin Tiwade
7	Subodh Sakhare
8	Manisha Ingale
9	Shilpa Babanwade
10	Umesh Bhandarkar
11	Sandhya Sahare
12	Triveni Narule
13	Sakshat Shende
14	Shital Ghodmare
15	Pritam Raut

Conclusion:

On the basis of Language and Literature survey conducted by the Department of English in the villages Rampuri, Antarji, Palora and Ashta; it is observed that the individuals who were interviewed lack the knowledge of English language in writing, reading and speaking. Also it is observed that they don't have interest in reading English Literature and Newspapers but they possess kin interest in learning English language and the faculties have promised them to give chance to fulfill their interest.



Students Conducted door to door Survey at Antarji



Students Conducted door to door Survey at Antarji

**Mahatma Gandhi Arts, Science & Late N. P. Panjwani
Commerce College, Armori**

English Department

PBR : 2019 - 20

**Language and Literature Survey (Rampuri)
Questionnaire**

1) What is your name?

Avinash kisan thakre

2) How many members are there in your family?

4

3) What is your qualification?

B.A. III

4) Do you Know English?

Yes

5) Can you understand English?

Yes

6) Can you speak English?

yes

7) Can you write English?

yes

8) How many English words do you know?

500

**Mahatma Gandhi Arts, Science & Late N. P. Panjwani
Commerce College, Armori**

English Department

PBR : 2019-20

Language and Literature Survey (Antarji)

Questionnaire

1) What is your name?

Roohan Waghade

2) How many members are there in your family?

6

3) What is your qualification?

B A II (APPEAR)

4) Do you Know English?

yes

5) Can you understand English?

yes

6) Can you speak English?

yes

7) Can you write English?

yes

8) How many English words do you know?

100

**Mahatma Gandhi Arts, Science & Late N. P. Panjwani
Commerce College, Armori**

English Department

PBR : 2019 - 20

Language and Literature Survey (Ashta)

Questionnaire

1) What is your name?

Mahesh Pralhad Shambharkar

2) How many members are there in your family?

5

3) What is your qualification?

12th Pass

4) Do you Know English?

Yes

5) Can you understand English?

Yes

6) Can you speak English?

Yes

7) Can you write English?

Yes

8) How many English words do you know?

90

**Mahatma Gandhi Arts, Science & Late N. P. Panjwani
Commerce College, Armori**

English Department

PBR : 2019 - 20

Language and Literature Survey (Palora)

Questionnaire

1) What is your name?

Vinayak Bhojraj Lingayat

2) How many members are there in your family?

4

3) What is your qualification?

B. A.

4) Do you Know English?

Yes

5) Can you understand English?

Yes

6) Can you speak English?

Yes

7) Can you write English?

Yes

8) How many English words do you know?

150

**Mahatma Gandhi Arts, Science & Late N. P. Panjwani
Commerce College, Armori**

English Department

PBR: 2019 – 20

Language and Literature Survey

Questionnaire

1) What is your name?

.....

2) How many members are there in your family?

.....

3) What is your qualification?

.....

4) Do you Know English?

.....

5) Can you understand English?

.....

6) Can you speak English?

.....

7) Can you write English?

.....

8) How many English words do you know?

.....

9) What is the meaning of

.....

10) Which English newspapers are read in your village?

.....
11) How many members of you family know English?

.....
12) Is there anyone in your family who attends English medium school?

.....
13) Do you like to read English? Then what literature do you read (Poetry,
Drama, Novel, Short story)?

.....
14) Mention any English book recently read by you.

.....
15) Do you want to join spoken English classes?

Date – 02/01/2020

Signature

DEPARTMENT OF MARATHI



मनोहरभाई शिक्षण प्रसारक मंडळ, आरमोरी द्वारा संचालित
महात्मा गांधी कला, विज्ञान व स्व. न. पं. वाणिज्य महाविद्यालय,
आरमोरी, जि. गडचिरोली.

आरमोरी तालुक्यातील मराठी बोलीभाषेच्या म्हणी व वाक्प्रचारांचा अभ्यास



मराठी विभाग व संशोधन केंद्र

२०१८-२०२०

मनोगत

महात्मा गांधी कला, विज्ञान व स्व. न. पंजवाणी वाणिज्य महाविद्यालय, आरमोरी द्वारा ग्राम अंतरजी हे गाव दत्तक घेण्यात आले. गावातील सर्वच स्तरांचा अभ्यास करून विकास आराखडा व कृतिकार्यक्रम महाविद्यालय राबवित आहे. त्याचाच एक भाग म्हणून लोकांचे जैवविविधता नोंदवही अंतर्गत दत्तक ग्राम अंतरजी, ता. आरमोरी, जि. गडचिरोली तसेच आष्टा, रामपुरी, पालोरा या आरमोरी तालुक्यातील ग्रामवासीयांच्या मराठी बोलीभाषेतील म्हणी व वाक्प्रचार यांचा अभ्यास हा प्रकल्प मराठी विभाग व संशोधन केंद्राच्या वतीने राबविण्यात आला. सदर अभ्यासप्रकल्प महाविद्यालयाचे प्राचार्य मा. डॉ. लालसिंग खालसा यांचेकडे सुपूर्द करताना आनंद होत आहे.

बोलीभाषांचे संकलन, संवर्धन व साहित्यिक अभिरुची हा या प्रकल्पाचा हेतू होता. सदर प्रकल्प पूर्णत्वास जाण्याकरिता दत्तक ग्राम अंतरजी येथील नागरिकांनी आनंदाने सहकार्य केले. अंतरजी सह आष्टा, रामपुरी, पालोरा येथील ग्रामवासीयांच्या अनेक कुटुंबातील ज्येष्ठ नागरिकांनी सुद्धा उत्स्फूर्तपणे प्रतिसाद देताना आम्हाला मराठी बोलीभाषेतील अनेक म्हणी व वाक्प्रचारांची भरपूर माहिती दिली. त्यांनी सांगितलेल्या बोलीभाषेतील म्हणी व वाक्प्रचारातील शब्दयोजना, वाक्यरचना यासंदर्भात माहिती घेतांना त्यातून त्यांची लोकसाहित्याबद्दलची आवड व ओळख याविषयीची महत्त्वपूर्ण प्राप्त झाली. त्याद्वारा मातृभाषेचा सांस्कृतिक ठेवा निदर्शनास आणून देण्याचा प्रयत्न केला. म्हणी, वाक्प्रचार संकलनाच्या या कार्यात अंतरजी, आष्टा, रामपुरी, पालोरा इत्यादी ग्रामवासीयांकडून माहितीसाठी 'लोकांचे जैवविविधता नोंदवही' (PBR) अंतर्गत सहभागी बी. ए. भाग २ च्या विद्यार्थ्यांनी मौलिक सहकार्य केले. म्हणूनच आम्ही हा प्रकल्प यशस्वीपणे पूर्ण करू शकलो.

या अभ्यासातून आम्हाला म्हणीसोबत अनेक शब्दरूपे प्राप्त झाली. जसे 'नाही आहे' या सहायक क्रियापदाऐवजी 'नसे' हा शब्दप्रयोग, 'मला' या सर्वनामाचे 'मालं' हे रूप, 'याला' या ऐवजी 'याचा' असे शब्दप्रयोग लोक वाक्प्रचारात वापरताना दिसले. प्राप्त म्हणींचे संकलन करून ते जातीगट, व्यवसायगट व हंगामानुसार वर्गीकृत करण्यात आले. बोलीभाषेच्या म्हणीतील एक नमुना 'बोलाचा बोल, कांद्याचा फोल', 'बाप मने आधार झाला, भाऊ मने एकर गेला' इत्यादी.

महाराष्ट्र राज्याची राज्यभाषा मराठी असून याच मराठी भाषेच्या जवळपास पंचेवीस पेक्षाही अधिक मुख्य पोटभाषा—बोलीभाषा अस्तित्वात आहेत. यातील काही बोलीभाषा आपल्या वैशिष्ट्यांनी अजूनही टिकून आहेत तर काही बोलीभाषा आज लुप्त होण्याच्या मार्गावर आहेत. अशा परिस्थितीत अंतरजी, आष्टा, रामपुरी, पालोरा या आरमोरी तालुक्यातील मराठी बोलीभाषेच्या म्हणी व वाक्प्रचारांचा अभ्यास करून बोलीभाषेचा हा ठेवा भाषेच्या अभ्यासकांपर्यंत पोहचविण्याच्या दृष्टीने महत्वाचे वाटते.

महाविद्यालयाचे प्राचार्य डॉ. लालसिंग खालसा सर तसेच पी. बी. आर. चे प्रमुख प्रा. सत्येंद्र सोनटक्के यांनी आम्हाला हा प्रकल्प पूर्ण करण्याची संधी दिली त्याबद्दल मी शतशः त्यांचा आभारी आहे. यासोबतच मराठी विभाग व संशोधन केंद्राचे माझे सहकारी डॉ. विजय रैवतकर, प्रा. खगेशकुमार सहारे, प्रा. गुलाब बावनथडे, प्रा. कु. गायत्री गुरव आणि पी. बी. आर. च्या विद्यार्थ्यांनी जे मौलिक सहकार्य केले, त्याबद्दल मी सर्वांचे आभार मानतो. खरेतर विभागातील माझे सहकारी प्राध्यापक व पी. बी. आर. चे विद्यार्थी यांच्या सहकार्याशिवाय सदर प्रकल्प पूर्णत्वास जाणे अशक्य होते, या सर्वांचा मी आभारी आहे.

धन्यवाद !

प्रा. डॉ. विजय रैवतकर

संयोजक

पीबीआर मराठी विभाग

प्रा. दिलीप घोनमोडे

विभागप्रमुख

मराठी विभाग व संशोधन केंद्र

अनुक्रमणिका

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म्हणी व वाक्प्रचार

❖ म्हणीचा इतिहास :-

म्हणी आणि वाक्प्रचारांना प्राचीन इतिहास आहे. अग्निपुराणात 'आभाणक स्तु लोकोक्ति' असे या म्हणींना म्हटले जाते. यावरून लोकोक्ति या भाषेबरोबरच अवकाशातून निर्माण झाल्या. आणि जोपर्यंत लोक व्यवहार आहेत तोपर्यंत प्रत्येक लोकभाषेगणिक या विविध स्वरूपात प्राप्त होतात. भारतात, महाराष्ट्र राज्यात मराठी भाषेच्या विविध पोटभाषा आणि बोलीभाषा बोलल्या जातात. त्या प्रत्येक भाषेगणिक म्हणी निर्माण झालेल्या आहेत. म्हणी ह्या लोकसाहित्य प्रकारात येतात. विविध व्यवसाय, भावभावना, चालीरिती, वर्तणुकितील गुणदोष अशा अनेक विषयांवर लोकम्हणी निर्माण झालेल्या आहेत.

'म्हण' हा शब्द 'मण' या धातूपासून बनलेला आहे. याचा अर्थ 'जे म्हटलेले आहे' किंवा 'जे म्हणण्यात येते' असा तो होतो. जी गोष्ट लोकांच्या वारंवार बोलण्यात येते तिलाच लोक 'म्हण' किंवा 'मनवा' असेही म्हणतात. या म्हणीसाठी सुभाषित, लोकोक्ती, आभाणक, लौकिक प्रवाह इत्यादी अनेक शब्द वापरले गेले आहेत. लौकिकी गाथा, वाक संप्रदाय असेही काही शब्द वाड्मयात म्हणीसाठी वापरल्या गेल्याचे आढळतात.

म्हणी जगातल्या प्रत्येक भाषेत आहेत. किंबहुना म्हणीमुळेच भाषेला शक्ती, सौंदर्य प्राप्त होते. म्हणीलाच तेलगू भाषेत सामेतलू, कन्नड भाषेमध्ये गादे, ओडिया भाषेमध्ये पहळी, तामीळ भाषेमध्ये पळमोळी, गुजराती भाषेमध्ये केहवन, उडिया भाषेमध्ये प्रवचन, काश्मिरी भाषेमध्ये मिसल, हिंदी भाषेमध्ये कहावत असे अनेक शब्द भारतीय भाषेत वापरण्यात येतात. या व्यतिरिक्त इंग्रजी भाषेत Proverb, इटालियन भाषेत Proverbio, रशियन भाषेत Polsovista, स्वडिश भाषेत Ordspark, स्पनिश भाषेत Refra असे विविध शब्द जागतिक पातळीवर वापरले जातात.

ज्याप्रमाणे बागेत फूल, भोजनात मिष्ठान, पोषाखात अलंकार, आकाशात तारका त्याप्रमाणे संभाषणात म्हणी गुंतलेल्या असतात. म्हणूनच स्पॅनिश लोक म्हणीला 'बोधवाक्य' म्हणतात. तर स्वित्झर्लंडचे लोक 'बटव्यात ठेवलेला सुवर्ण' असे म्हणतात.

हिबू भाषेत म्हणींना तत्त्वज्ञान कथनाचा भावार्थ म्हटलेले आहे. मुळात जो म्हणींच्या उपदेशानुसार चालणार नाही, तो जीवनात चुका केल्याशिवाय राहणार नाही. अशा या भाषेला समृद्ध करणाऱ्या म्हणींविषयी

र. वि. हेरवाडकर म्हणतात, “म्हण म्हणजे सर्वमान्य झालेल्या वैशिष्टपूर्ण अर्थाचे संपूर्ण वाक्य होय.” यासोबतच न. चि. केळकर, “चिमुकले, चटकदारपणाचे चतुर वाक्य म्हणजे म्हण.” असल्याचे सांगतात. तर महाराष्ट्र वाक्संप्रदाय कोष लिहिणार श्री. दाते — कर्वे यांच्या मतानुसार, “प्रत्येक भाषेमध्ये असे काही शब्दप्रयोग किंवा शब्दसमूह रूढ असतात की, ज्यांचा अर्थ त्यातील शब्दांच्या वाच्यार्थाहून भिन्न काही विशेष असा असतो.” विश्वकोषात मात्र आटोपशीरपणा, शहाणपणा, लोकप्रियता, लघुता, व्यवहारिकता, चित्ताकर्षकता आणि लोकमान्यता अशी अनेक लक्षणे म्हणींविषयीची सांगितली आहेत.

❖ झाडीपट्टीतील मराठी म्हणी व वाक्प्रचार :-

म्हणी ह्या भारतात अस्तित्वात असलेल्या प्रत्येकच भाषा व पोट भाषेत वापरल्या जातात. यादृष्टीने झाडीपट्टीचा विचार करता महाराष्ट्रातील चंद्रपूर, भंडारा, गोंदिया, गडचिरोली इत्यादी जिल्ह्यांच्या परिसराला झाडीपट्टी म्हणून संबोधल्या जाते. या परिसरात हलबी, कोष्टी, गोंडी, परधानी, कोसरी अशा अनेक बोलीभाषा बोलल्या जातात. झाडीपट्टीत बोलल्या जाणाऱ्या मराठी बोलीला झाडीबोली म्हटले जाते. ही बोलीभाषा स्वतःचे काही वैशिष्ट्ये घेऊन अस्तित्वात आहे. ज्यात बोलीशैली, शब्दशैली, म्हणी व वाक्प्रचार यांचा समावेश करता येईल.



❖ आरमोरी तालुका परिसरातील म्हणी व वाक्प्रचार :-

पूर्वी बलुतेदार व अलुतेदारांकडून गावाचा आर्थिक व्यवहार चालत असे. विशेषतः झाडी परिसरात विभिन्न जातीसमूह शेकडो वर्षांपासून वास्तव्याने आहेत. त्यांचा प्रदेश, पीकपाणी, नाते—गोते, देव—देवता इत्यादी सांस्कृतिक संबंधाचा गुंता आपल्याला या परिसराच्या भाषेतील म्हणीतून दिसतो. गडचिरोली जिल्ह्याच्या आरमोरी तालुक्यातील अंतरजी, आष्टा, रामपुरी, पालोरा इत्यादी परिसरात महाविद्यालयीन विद्यार्थ्यांनी संकलित केलेल्या म्हणीतून विविध जातीसमूह, नातेसंबंध, जनावरे, शेती, खाणेपिणे, उद्योगधंदे, हास्य, श्रृंगार, कारुण्य, रूढी, परंपरा, उपहास, श्रद्धा, अंधश्रद्धा असे अनेक विषयांच्या अनुषंगाने विविधता दिसून येते.

भारतीय कहावत संग्रहात म्हणीबद्दल म्हटले आहे की, युगायुगाच्या अनुभवातून तावून सुलाखून निघालेले सोने म्हणजे म्हणी होत. ‘‘विनोद, विवेक, बुद्धिमानी और कल्पकता से भरपूर ये कहावते सदियोंसे बहते हुए कालप्रवाह के साथ बहते बहते यहाँ तक पहुँचे... तर्क और अनुभव की कसोटी पर घिसकर उन्होने अपनी उपयुक्तता इतनी साबित कर रखी है की समय के पलटते पन्ने उन्हें मिटा न सके।।’’

वेदात जशा ऋचा असतात. तशा गावात म्हणींना महत्त्व आहे. याचाच अर्थ वेद—पुराणांपासून शेतीचे, इंद्राचे, वरूणाचे उल्लेख येतात. ते म्हणींमध्ये सुद्धा आलेले आहेत. उदा. ‘ज्याच्या हाती भाकर, त्यानच वाहाव वखर’ किंवा ‘ज्याच्या शेताला काटी, त्याच्या ताटात तुपाची वाटी’ इत्यादी. तसेच ‘सांग पाटला काय लावू, उपट पन्हाटी पेर गहू’. शेतीचा व्यवसाय मुखपणाने न करता तो हंगाम पाहून केला पाहिजे हे याद्वारा सूचित केले गेले आहे. ‘आऊत पाळ्या, लगन मोळ्या’ तसेच ‘अरगाई शेत, परगाई मारा’, ‘उबा तवरीक सोबा’, ‘पयले खाल्लन हाडागुडा, आता बसला तुरसी पुडा’ (तरुणपणी आतताई आणि म्हातारपणात देवदेव) अनेक सांस्कृतिक म्हणींची रेलचेल आरमोरी परिसरात आढळली.

अशा प्रकारचे मोठे तत्त्वज्ञान सांगून जाणाऱ्या किती तरी म्हणी आरमोरी तालुक्यातून विद्यार्थ्यांना प्राप्त झाल्या. याशिवाय लत लगना, सास लगने (विश्वास बसणे) असे वाक्प्रचार सुद्धा या संकलनातून मिळाले. डोक्सा (डोके), भिमटी (पापणी), आंगरी (करंगूल) अशी प्रमाण भाषेपेक्षा निराळी शरीर अवयवाला दिलेली बोली भाषेतील नावे सुद्धा प्राप्त झाली. एकूणच आरमोरी परिसरातील म्हणीतून झाडीबोली भाषेच्या अनेक म्हणी व वाक्प्रचार प्रत्ययास आले. या म्हणी संकलित करून त्यांना वर्गीकृत करण्यात आले.

❖ झाडी बोलीतील म्हणी व वाक्प्रचार :-

➤ झाडी बोलीतील म्हणी :-

- १) आप राबे, घोडा चाबे.
- २) खाइन न हांडी, रीतीना हगीनत पोट रीता.
- ३) गोष्टीत गोष्टी मेला कोस्ती.
- ४) गरा कापला, खोकला गेला.
- ५) नाई तुलं नाई मालं, घाल कुठ्याल.
- ६) मांजरीच्या दैवान, सिका टुटन.
- ७) बाप तसा लेक, मसाला एक.
- ८) माय तसी बेटी, कनिक तसी रोटी.
- ९) मुकीस झवला, हाक ना बोंब.
- १०) आयत्या बिळात नांगोबा.
- ११) साजच्या बाईचा, हेंबट रांदा.
- १२) उची बसावा अन उची नेसावा.



➤ झाडी बोलीतील वाक्प्रचार :-

१) अ इन चैन रायना	—	सुखात राहणे
२) अक्सेदा देना	—	आमंत्रण देणे
३) अडसून भाव घेणे	—	अधिक दर घेणे
४) अन खावाच्या टोंडान सेन खाना	—	खोटे बोलणे
५) आनाकानी करना	—	टाळाटाळ करणे
६) उंबर फोडून सांगना	—	गौप्यस्फोट करणे
७) कनपुटीत देना	—	मारणे
८) खान खान करना / खाण्यासाठी तोंड	—	वेंगाडन
९) गांडीचा सोडून डोक्सीलं गुंडना	—	निर्लजपणाने वागणे
१०) चुलील आवतन रायना	—	सर्वाना जेवणाचे निमंत्रण

➤ नागपुरी बोलीतील म्हणी व वाक्प्रचार :-

- १) हाळ्या अंगीवर बसला हाये (अमरावती) — (कावळा फांदीवर बसला हाये)
- २) येनी बस नं गा
- ३) कामावकती आईबाई काम सरल नातं नाई (कामापुरता मामा या अर्थाने)
- ४) कामाले दंदी खायाले आंदी
- ५) हेल्याच्या टकरीत वावराचा नास (वन्हाडी)
- ६) इचिभिन मह्य काम काई झालच नाई (वन्हाडी)
- ७) हात तिया मायले तं
- ८) मी काम करून राहयलो
- ९) मी काम करतो न जी (चंद्रपूर)
- १०) तू उद्या गावाले जाजो
- ११) आमच्या येच्या लग्नाले येजो
- १२) मी नं हे काम केलं

१३) कोठे चाल्ले जी, कोटी गेल्ली जी

१४) कुठीसा गेल्ली व (वन्हाडी)

❖ आरमोरी तालुक्यातील गोंडी म्हणी व वाक्प्रचार :-

➤ गोंडी बोलीभाषेतील म्हणी व वाक्प्रचार :-

१) मामा भास्याना जोळी, मुळंगीता होळी (मामा भास्याकडून नदी पार होऊ शकत नाही)

२) रेतोर नय (आपल्या घरी शेर)

३) जीवाते जीवा वायाना (धैर्य होना, जीवात जीव येणे)

४) अपलो पोगा डेंगी कियाना (आपलीच बढाई मारणे)

५) नुल्लेंग जियाना (बिना कारण बसून राहणे)

६) आभाळ खसे मायाना (अनर्थ होणे, संकट कोसळणे)

७) गरा सुडसी पटवा, जावा सुडी नेदवा (काम पाहून झोकू नये, अन्न पाहून जागू नये)

❖ विविध हंगाम व ऋतूवर आधारित म्हणी व वाक्प्रचार :-

➤ पाऊसपाणी पडावा म्हणून देवाला साकडे :-

“धोंडी बाई धोंडी, धोंडी गेली हाटा। पाउस आला मोठा

धोंडीच्या भाकरी भिजल्या आमच्या कण्या शिजल्या

भिजू द्या गं भिजू द्या चारा पाणी पिकू द्या।

खंडीभर दाणा पिकू द्या”

“आल्या अरदळा त भरतीन गरदम

उतरा भात ना खाये कुतरा

ना लागती मघा त वर्त बघा नाई त चुलीपासी हागा

पळला जर हस्त कुणबी मस्त”

➤ शेती :-

- १) ज्याच्या हाती भाकर त्यानच वाहाव वखर.
- २) सांग पाटला काय रोऊ, उपट पराटी पेर गहू.
- ३) खांद्यावर जुपनं उभ्यानच मुतनं.
- ४) भरोशाचा गळी, पेरण्यावर घात करी.
- ५) माया घरामांग सांबाराचा तास, त्याचा कुटनीले गेला वास.
- ६) बोलस बोल कांद्याचा फोल.
- ७) लाळा नवसाच पिक कापसाच.
- ८) आउत पाळ्या, लगन मोळ्या.
- ९) गोष्टीच पेव धसलं, घरात कुत्र घुसलं.
- १०) नसान्या नारीले शेजार साहिना, चिलाटीच बन तेती पाखरू राहिना.
- ११) बकरी जाते जीवानिशी, खानारा मंते वातळ झाली.
- १२) गध्यालं टेंप घोड्यालं इशारा.
- १३) सोकली मेंढी, तेरा रान दुंडी.
- १४) सकाडनच्या पारी चिमण्याची चिवचिव.
- १५) बेलांच्या डांगीवर पोथी वाचे सदाशिव.
- १६) देवान कुरपा केली, गांडीऊन गंगा गेली.
- १७) देवाची करणी नारळात पाणी.
- १८) आला चेव त केला देव, नाइ त हरहर महादेव.
- १९) आधी हिंडली वाळेधोळे, आता बसली गंगेपुढे.

❖ जाती व व्यवसाय विषयक म्हणी व वाक्प्रचार :-

भारतात जाती व्यवस्थेचा उगम वर्ण व्यवस्थेच्या परिणामातून आणि व्यवसायातून झाला. पुढे जन्मावरूनच जात ठरविली गेली. महाराष्ट्रात बलुतेदारी व अलुतेदारी पद्धत शेकडो वर्ष चालली. त्यातून जाती व व्यवसाय विषयक म्हणी व वाक्प्रचार जन्माला आले.

➤ पाटील :- (गावचा श्रेष्ठ पुरुष)

- १) सारा इर चरते, अन सोमवार धरते.
- २) सर्व केला बेपार, फुटकं निंघालं कपार.
- ३) पाटलाच पोर दवळी हागे, गांड पुसाले महादेव मांगे.
- ४) तीर्थात तीर्थ लोणार, सा बामण एक सोनार.
- ५) येसीपासून केली घिशी, तरी मने मी पाटलाची भासी. (नाकाने कांदे सोलने या अर्थाने)
- ६) घरात नाई दाना, अन मने मले बाजीराव मना.
- ७) सोनार, शिंपी, कुळकर्णी अप्पा, यांची संगत नकोर बाप्पा.

(कारण, सोनार – सोने चोरतो, शिंपी – कापड चोरतो, कुळकर्णी – कपट कारस्थान करतो.)

- ८) गावचा रांड्या, घरचा देशपांड्या.

➤ महार :-

- १) माजला महार, कुटक्याले जोहार.
- २) महार मेला इटाळ गेला.
- ३) माहार कुपाच्या बाहार.
- ४) बामना घरी लेवण, शिंप्या घरी शिवण, महारा घरी गान.
- ५) मान घे मानाई, महारा घरची इनाई.



➤ **मांग :-** (लग्नात वाद्य वाजंत्री, गावातली हलकी कामे करणारा)

- १) पाटलाच लगीन मांगालं हरीक.
- २) घोळ पाटलाच, ओवाळणी मांगाची.
- ३) मांग भाई मांग, उलट डफड टांग, नाइ त भलतीच गोष्ट सांग.
- ४) मांगाची जात अन् वाकाच चन्हाट.

➤ **सुतार :-** (वाढई किंवा वाळी म्हणतात)

- १) नरम लाकडावर सुतारालं जोर.
- २) रिकामा वाळी, झिलप्या झाळी.
- ३) कामाचा कामठा, म्हातारा दामटा. (गरीबाला सारे दाबतात या अर्थाने)

➤ **कुंभार :-**

- १) कुंभाराच्या घरी, गध्याचा बाजार.
- २) कुंभाराच कस धरता खरं, फुटक्या घागरीत पाणी भरं.
- ३) आवळीन केला भरतार, तो निघाला जातीनं कुंभार.
- ४) कुंभारीनचा दाल्ला, डोळे पुसत चाल्ला.

➤ **चांभार :-** (चर्म व्यवसाय, चप्पल जोडे शिवणे, बुटपालीस करणे)

- १) चाल चाल चांभारा, साथ भरली, खेटरं इकता रात सरली.
- २) हे दगड न वाध्या रगळ.
- ३) गांडी खाली आरी, चांभार पोर मारी.
- ४) चांभाराच्या देवाले खेटराची पूजा.
- ५) चांभाराच ध्यान जोळ्यावर.

➤ **म्हाली :-**

(हजामत करून देणारा, जावळ काढणारा, म्हशी भादरणारा तसेच सगळ्या गावची खबरबात ठेवणारा)

- १) एक मेला न्हाली, न बात गई खाली.
- २) म्हाल्यान ताव केला, वस्तन्यावर पाय देला.
- ३) संसार केला बारीक, घरात घातला वारीक.
- ४) रिकामा न्हावी, वस्तरा लावी.
- ५) आल्या गेल्याची, गावच्या म्हाल्याची.
- ६) म्हाल्याची झाली, वठ्याची वली.

➤ **ब्राम्हण :-**

- १) तीन शेंड्या बामन, देवपुजेची लामन.
- २) लग्नाची घटका, बामन झाला फुटका.
- ३) बामन ना जोशी, सन करावं भलत्या दिशी.
- ४) बामनाले देली वसरी, ब्रामन हातपाय पसरी.
- ५) बोली बामनाची, करणी कसाबाची.
- ६) भटजीबोवा लालची, पोर्णिमा झाली काळची.
- ७) मरी गाय बम्मनको दान.
- ८) बामनाच काम, सहा मयने थांब.
- ९) बामनाची मजा, भाकरीवर भजा.

➤ **कासार :- (बांगळ्या भरून देणारा, विकणारा)**

- १) एक नाई धळ, मन कासारची मोळ.

➤ **तेली :- (तेलाची घाणी चालविणारा, आज जात बनली)**

- १) तेलनीवर रूसली, अन अंधारात बसली.
- २) कहाँ राजा भोज, कहा गंगू तेली.
- ३) खुदा मारे एक बार, तेली मारे धारोधार.

➤ **वट्टी :- (धोबी, वरठी, कपडा धुणारा)**

- १) म्हाल्याची मुंडी, धोब्याची लंगोटी.
- २) गरीब गाय, जाण्या वट्ट्याची माय.
- ३) राजाच नेसन, धोब्याच गांड पुसन.
- ४) फाटे फुटे धोब्याले काय वाटे.

➤ **धनगर :- (शेळ्या, मेंढ्या, गुरेढोरे पाळणारे)**

- १) धनगर बसला जेवाया, ताकासंग शेवया.
- २) धनगराची जात येडी, चिनयान कांदा फोडी.
- ३) धनगराचा जावई, ताकासंग शेवया खाई.
- ४) आयरी ना पायरी, धनगराची वायरी.
- ५) हिरा सापडला धनगरा, घाल मेंढीच्या गळा.



➤ **मारवाडी :- (मारवाड, गुजरातकडील व्यापारी हे व्यापारासाठी भारतभर पसरले)**

- १) आपली चालते शेटमारी, मारवाड्याच पोट भरी.
- २) हाती घेऊन आला शिवाई न लोटा, मारवाडी कंजुषच मोठा.
- ३) चमडी जाय पर दमडी ना जाए.

➤ **कसाब :- (मुलानी / गाय, बैल, बकऱ्या कापणारे मुसलमान खाटिक)**

- १) कसाबाची गाय, सदा केविलवाणी पाह्य.
- २) कसाबालं देल्ली गाय, तिची आशा काय.
- ३) बोली बामणाची, करणी कसाबाची.

➤ **कोस्ती :- (हातमागावर कापड विणणारे, लुगडी वाकर कापड शिवणारे)**

- १) गोष्टी गोष्टी मेला कोस्ती.
- २) गावातले कोस्ती हुशार असते तर फाटकं हुंगन घेऊन कायलं फिरलो असतो.

➤ **मुसलमान :-**

- १) मुसलमान भाई, नळसाफ नाई.
- २) काळं घोळं कादराच, वन्ही बसल चिद्राच.
- ३) आपटला धोंडा त पयला बांडा.
- ४) घासापुट विस्मिल्ला, केसापुट राखोंडी.
- ५) नवाच मुसलमान झाला, रोजाचा मयना आला.
- ६) जातपात वैरी, मुसलमान सोयरी.

➤ **सोनार :-**

- १) सोनार सग्या बहिणीच खानार.

➤ बेलदार :- (गावात बांधकाम करणारे गवंडी)

२) बेलदाराचा हेला, पाणी वाहू वाहू मेला.

➤ कलाल :- (कलार, मोहाची दारू काढणारे)

१) सौ दलाल, एक कलाल.

२) सर्पाले नाई दर, कलालालं नाई घर.

➤ माळी :- (मराळ, शेती, फुल, फळे बागायती करणारा)

१) माजला माळी, गांड पुसे केळी.

२) माळ्याचा उस, कोल्ह्याच भांडण.

➤ कैकाडी :- (गाढव पाळणारा, गाढवाकडून कामे करून घेणारा)

१) मांग ना पुढ कैकाड्याच घोळ.

२) नितानल्याले बुरा, कैकाडी केला नवरा.



❖ नातेसंबंधावर आधारित म्हणी व वाक्प्रचार :-

➤ माय :- (स्वामी तिन्ही जगाचा आईविना भिकारी)

- १) माय गेली मरून, गोत गेलं सरून.
- २) माय तुही कासी, डोक्स ठेवय पायापासी.
- ३) माय तशी बेटी, कनिक तशी रोटी.
- ४) अळानी माय घर वाया जाय, शिकेल माय तर घर पुढ जाय.
- ५) पाचा पुताची माय, खाटल्यावर जीव जाय.

➤ बाप :-

- १) बाप मने आधार झाला, भाऊ मने एक्कर गेला.
- २) बाप तसा लेक, मसाला एक.
- ३) बाप शिमगा, माय तिरसंक्रांत.
- ४) माय जेऊ घालीना, बाप भिख मागू देईना.
- ५) पुत्र व्हावा ऐसा गुंडा, त्याचा तिही लोकी झेंडा.

➤ मुलगा :-

- १) पैसा गाठचा, पोरगा पोटचा. (मुलगा धनाचा साठा या अर्थाने)
- २) पोर ना सोर, जिवाले घोर.
- ३) हौस केली मोठी, दगड्या आला पोटी.
- ४) नौसा सायासाच, अपेक्षा पायाच.
- ५) माय माली, बाप तेली, बेटा निघला सय्यद अली.
- ६) लेकरू पापाचं, नाव बापाचं.

➤ **मुलगी :-**

- १) पहली बेटी, तुप रोटी, धनाची पेटी.
- २) लाडका पोरगा, आळ्यावर हुरडा भाजे.
- ३) लाडकी पोरगी, पावण्यासंग निजे.
- ४) लोक दिली कसाबाले, लळन आलं नसिबाले.
- ५) लाळाच्या लेकीच कौतुक भारी, हिडगा जावई नाचते दारी.
- ६) मोठ्याचं लेकरू जावई झाल गरीबाचं, लेकरू गावचा साला.

➤ **जवाई :-**

- १) दुखन आला भलत्या जागी, वैदू आहे जवाई.
- २) चिचगावचा जवाई, त्याले मिरचीची नवाई.
- ३) पावना म्हणून आला, घरजावई झाला.

➤ **सासू :-**

- १) सासूची माय होत नाही, नंदेची बहीण होत नाही.
- २) माहा दुखते उर, मालेच मने ऊंडा चूर.
- ३) सासू बसली भांडाले, सून बसली कांडाले.

➤ **साळा — साळी :- (पत्नीचा भाऊ — बहीण)**

- १) सारी खुदाई एक तरफ, जोरू का भाई एक तरफ.
- २) तनाचा भात होत नाही, साळीच गोत होत नाही.
- ३) सासरा मेला, साला झाला.

➤ **जाऊ :- (दिराची पत्नी)**

- १) घरात नाई जाऊ, हेवा कोणाचा पाहू
- २) जावा जावा मांडला हेवा

➤ नवरा बायको :-

१) अळेल नवरा खोळेल बायकू, ईर गेला आयकू आयकू.

➤ मामा :-

१) सारा गाव मामाचा कोणी नाई कामाचा

➤ इहीन — इवाई :- (व्याहीन — व्याही)

१) इवायाच आल घोडं सासूच गेल मढं

➤ सवत :- (पतीची दुसरी पत्नी)

१) सवत असो पन सवतीची जार नसो

२) सवतीच्या पोराची काय ग मया

३) पायलीभर धान कांड ग बया

➤ सून :-

१) सासू मेली बरा झाला, घरदार सारा हाती आला



❖ समारोप :-

महात्मा गांधी महाविद्यालय आरमोरीच्या मराठी विभागातील मराठी व मराठी वाङ्मय विषयाच्या विद्यार्थी आणि प्राध्यापकांनी आरमोरी तालुक्यातील गावोगावी फिरून या म्हणी संकलित केल्या आहेत. त्यात जाती, शेती, गुरे, देव—देवता, नातेसंबंध अशा कितीतरी विषयांचे म्हणींच्या दृष्टीने वर्गीकरण करता येईल.

प्रा. दिलीप घोनमोडे, प्रा. डॉ. विजय रैवतकर, प्रा. खगेशकुमार सहारे, प्रा. गुलाब बावनथडे आणि प्रा. गायत्री गुरव यांच्या मार्गदर्शनात महात्मा गांधी महाविद्यालयातील विद्यार्थ्यांच्या चमूने प्रत्यक्ष मुलाखतीतून या म्हणींचे संकलन केलेले आहे. मराठी विभागाची ही बहुमूल्य अशी संपत्ती आहे.

❖ निष्कर्ष :-

या अभ्यासातून आम्हाला म्हणीसोबत अनेक शब्दरूपे प्राप्त झाली. जसे 'नाही आहे' या सहायक क्रियापदाऐवजी 'नसे' हा शब्दप्रयोग, 'मला' या सर्वनामाचे 'मालं' हे रूप, 'याला' या ऐवजी 'याचा' असे शब्दप्रयोग 'म्हणून' या अव्ययाऐवजी 'मनूनशानी' अशी शब्दरूपे लोक वाक्प्रचारात वापरताना दिसले. प्राप्त म्हणींचे संकलन करून ते जातीगट, व्यवसायगट व हंगामानुसार वर्गीकृत करण्यात आले. बोलीभाषेच्या म्हणीतील एक नमुना 'बोलाचा बोल, कांद्याचा फोल', 'बाप मने आधार झाला, भाऊ मने एकर गेला' इत्यादी. याशिवाय या म्हणीसोबत 'याचा झोडतो रे, पैसई नसत मनतो तरी मालस पैस मांगते' अशा अनेक बोली आणि वाक्प्रचारातून आरमोरी परिसरातील भाषेची रूपे दिसून आली.

PBR
Peoples Biodiversity Register
2017 to 2018



MANOHARBHAI SHIKSHAN PRASARAK MANDAL ARMORI'S
**MAHATMA GANDHI ARTS, SCIENCE &
LATE NASARUDDINBHAI PANJWANI COMMERCE COLLEGE,**
ARMORI, Dist. Gadchiroli (M.S.) 441208

Re-accredited by NAAC 'A' with 3.02 CGPA
Affiliated to Gondwana University, Gadchiroli

Study on Agro-Biodiversity

**Academic Session
2017-18**



Study Report of Kasvi (Adopted Village)
Prepared by
Environment Study Centre



Observation and collection of weed in Groundnut/Mungphali (*Arachis hypogaea*) field and discussion with farmer.



Study and Observation of Animals Diversity



Discussing advantages of SRT method on paddy field.



PBR Survey conducted by students



✓ *From the Desk of Principal*

Bio-diversity actually refers to the whole set of life forms that exist on the earth. Varieties exist at genetic as well as species level. Genetic meaning that there are genetic variations between individuals of same or different populations of the same species. Variety at the level of species means existence of different species that are inter-related by taxonomy. Ecosystem diversity or biodiversity is thus clearly not definable as there are not distinct boundaries between the ecosystems and they merge into each other. There are close to 1.4 million species known to exist on earth and certain ecosystems that are rarely discovered continue to be added to this count.

Extinction is a law of nature and as a result some species have evolved while others have died ever since life originated on earth. But this extinction has come to an alarming rate due to human activities that affect the eco-system. As human population continues to grow and per capita consumptions has grown higher, Earth's biological diversity is being exploited at an uncontrolled rate.

Since 2014, Kasvi village is adopted by our college as a social commitment. We plan and organized bunch of programs for the development of village such as **Prashasan Aplya Dari, Socioeconomic survey, National social scheme camp and People Biodiversity register** on different aspect.

Mahatma Gandhi College of Arts, Science and Late N. P. Commerce College Armori is the leading educational hub in Gadchiroli District. Our college is unique in the field of preparation of Peoples Biodiversity Register in Gondwana University Gadchiroli as well as honored with "A" Grade by NAAC Bangalore.

This project has been started to get enforced information about how 90% people living in rural area face different problems. This type of project plays an important role to make such people aware about nature. This is one step forward towards social awareness, hopping to reach the goal.



✓ *From the Desk of Coordinator*

Forests play a major role in conserving biodiversity. Climate of a place and the species inhabited by it are regulated by the forests. An increase of the amount of Carbon Monoxide is the most common consequence of forest depletion resulting both from cutting and burning of trees. It is this carbon dioxide which reaches the upper layer of atmosphere and gives rise to the greenhouse effect resulting in global warming. Flooding and erosion of soil also result from deforestation as roots of trees assist in keeping the soil from being washed away.

Other indirect effects include the melting of snow and ice cover over the Polar Regions and as a result sea levels have risen by as much as 100-200mm in last 100 years. The disturbed weather conditions like drought, floods, acid rain, hurricanes causing havoc to human race as well as plants and animals species on the earth clearly indicate imbalance in ecological systems. Since climatic changes also affect the life forms that sustain, many species are under the threat of being lost with climatic changes taking a drastic shape.

In present scenario world is enclosed in technology and internet. We are using maximum natural resources for our progressive life style but in invalid way. Due to developing globalization and industrialization, air, water and land is getting trapped under pollution.

If we won't put any barrier to stop this, then we will be only responsible to provide polluted future to our next generation. According to declaration of Supreme Court environmental education has been made compulsory at university level.

We formulate by gentle communication with local people and make them aware of their relation with water, forest, land and fauna & flora and to prepare PBR on Agro-biodiversity

M.G. College of Armori, the Unique College in the Gondwana University preparing people's biodiversity registers on communication with local people. As a coordinator of environmental study center I am glad and much thankful to the principal Dr. L.H. Khalsa for implementing such a project work in our college for a national development.

CERTIFICATE

This is to certify that as per Maharashtra University act 1994, 14(7) of Gondwana University and Biodiversity Act 2008, the project of People's Biodiversity register (PBR) has been completed by student of Second year studying in the college under the guidance of concern teacher of respective department and submitted to college in academic session 2017-18.



A handwritten signature in black ink, consisting of a series of loops and a long horizontal stroke extending to the right.

Principal

Dr. Lalsingh H. Khalsa

Principal

**Mahatma Gandhi Arts,
Science & Late
N. P. Commerce College,
Armori, Dist - Gadchiroli**

CERTIFICATE

This is to certify that Environment Study Center of Mahatma Gandhi Arts, Science and Late N.P. Commerce College Armori of various departments with their respective guides have successfully completed the project of people biodiversity register under the supervision of environment study center committee of the college in the academic session 2017-2018.



Coordinator

**Environmental Study Centre
M.G. College Armori**

ACKNOWLEDGEMENT



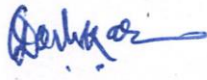






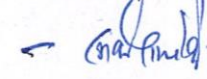


We the students of Mahatma Gandhi Arts, Science and Late N.P. Commerce College Armori of various department under Gondwana University, Gadchiroli studying in 2nd years B.A., B. Com and B.Sc. (2017-2018), feel very fortunate to ourselves, being a student of enforced environmental education program started by Gondwana University.

Also, we are very grateful to get the chance to prepare People Biodiversity register and to study different factors of environment.

Under this project we have been divided in to fourteen departments and study various factor regarding Botany, Zoology, Chemistry, Geology, and Geography as well as Socio-economic survey in kasvi village. We could complete this project with the great support of Principal Dr. L. H. Khalsa, Prof. S.M. Sontakke; coordinator of environment Study Centre committee and concerned guides of the various departments.

UNDERTAKING

We all the Guides of concerned departments have undertaken to all the necessary data collection, figures, and resources given in this PBR are best of our Knowledge and Information available with us and solemnly responsible.

1. Department of Botany 
2. Department of Chemistry 
3. Department of Zoology
4. Department of Geology 
5. Department of Physics 
6. Department of Computer Sc. 
7. Department of Geography 
8. Department of English 
9. Department of Marathi 
10. Department of History & Soc. 
11. Department of Economics 
12. Department of Political Sc. 
13. Department of Commerce 
14. Department of Home-economics

PEOPLE'S BIODIVERSITY REGISTER
2017 – 18

SR NO	DEPARTMENTS	PAGE NO.	
SCIENCE STREAM			
1.	Department of Botany		
2.	Department of Chemistry		
3.	Department of Zoology		
4.	Department of Geology		
5.	Department of Physics		
6.	Department of Computer Science		
7.	Department of Geography		
HUMANITIES			
1.	Department of English		
2.	Department of Marathi		
3.	Department of Commerce		
4.	Department of Economics		
5.	Department of History & Sociology		
6.	Department of Home Economics		
7.	Department of Political Science		

**DEPARTMENT OF
BOTANY**



Department of Botany

PBR Study Report on

**Weed Flora Associated with Agriculture Crops in Kasvi village of Armori
Tahsil, Gadchiroli (M.S.)**

PBR submitted by: -B. Sc. II (Department of Botany) students' group 2017-18

Under the supervision of Prof. S.T. Nagdeve and Dr. V.I. Kahalkar

Introduction

Undesirable plants grow and quite often grow in agricultural field are known as weed. Weeds are the plant species, which are not useful and interfere with agricultural operations, increase the labour cost and reduce the agriculture production. During the study of plant diversity of Kasvi village and surrounding area V. I. Kahalkar and Seema Nagdeve and team observe the competition between unwanted plant species or weeds grown in agriculture field.

Weeds cause problem due to

1. Competition with crops for nutrients, water and light.
2. Create a favorable habitat for other pests like arthropods, mites and other pathogens serving as hosts for them.
3. Generate the problems during normal harvesting process and contamination of produce.

It needs of time that for the effective control of weeds enough information about their systematic, phenology, time of their appearance, flowering, seed setting and dispersal distribution and their competition with different crops should be available to the farmers in planning a better crop with higher yields. Agriculturists have to completely depend upon the taxonomist for the correct identity of the weeds. No systematic information is available for the study. Therefore, keeping in view the composition of weed flora association with different agriculture crops were taken up.

Material and Methodology : -

The present study is being undertaken with local people a view to explore weed flora associated agriculture crops of kasvi village of Taluka Armori, District Gadchiroli. The study was carried out by arranging study tour in all season. Entire agriculture field is explored by random survey and collection all plant species and identified with the help of floras.

Aim and Objective:-

1. To collect and identify weeds.
2. To enlisting the weed flora.
3. To find out the association with crops.

Importance of correct identification of weed.

1. The correct identification of the plant species plays vital role in assessment of weed Population.
2. The plants are given names by local people of different regions in their own Languages and they are not universal, which may create some confusion when using Common name.
3. To avoid these problems, a local herbarium should be prepared jointly by Plant taxonomy and farmers. In this case, a clear list of common names presently used along with their scientific name (Botanical Name) should be prepared. A weed assessment carried out frequently and to establish a technically useful program for weed control.

Characteristics of weeds

Weeds are also like other plants but have some special characters that tend to place them in the group of unwanted plants.

1. Most of the weeds especially annuals produce huge number of seeds.
2. Weeds have the capacity to survive adverse conditions in the field, because they can modify their seed production and growth according to the environment. They can germinate under unfavorable conditions, have short period of plant growth, usually grow faster and produce seed earlier than most of the crops growing in association.
3. Weed seeds remain viable for longer period without losing their viability.
4. Weed seeds have a capacity to scatter from one place to another through wind, water and animals.

Morphology:

***Achyranthes aspera* L.**



Herbs, woody, 30-80 cm high, erect. Leaves simple, opposite, elliptic, oblong, ovate or obovate, apex acuminate. Inflorescence of elongate terminal spikes. Flowers greenish-white. Utricles oblong, cylindric, truncate, enclosed in hardened perianth. **Fls. & Frts.** : September-February.

***Aerva sanguinolenta* (L.) Bl.**



Herbs, small, branched, erect or suffrutescent. Leaves simple, opposite, margin entire, elliptic, lanceolate, appressed hairy. Flowers white. Seeds black.

Fls. & Frts. : October-May.

***Ageratum conyzoides* L.**



Annual herbs, 30 cm high, erect, hairy. Leaves ovate, more or less hairy on both sides, apex subacute. Heads small, in dense terminal corymbs, white or pale blue. Pappus paleaceous, awned or aristate little longer than achenes, pappus scales 5, aristate, Achenes long, sharply 5. angled, black, sparsely spiculate on angles.

Fls. & Frts. : July- February

***Alternanthera sessilis* (L.) R. Br. ex DC.**



Herbs, spreading, rooting at nodes. Leaves simple, linear. Flowers white. Utricles 0.15 cm long, with thickened margins. Seeds orbicular.

Fls. & Frts. : Throughout the year.

Amaranthus viridis L.



Herbs, much branched, 30-60 cm tall. Leaves simple, ovate or deltoid, apex obtuse, usually notched, base truncate or cuneate. Flowers pale green in axillary clusters and also in terminal and axillary paniced spikes. Fruits ovoid, 1.5 mm long, shortly beaked. Seeds compressed, smooth, black, shining.

Fls. & Frts. : September- December.

Ammannia baccifera L.



Erect, annual herbs, 15–40 cm tall; stems and branches slender. Leaves small linear–oblong or lanceolate, base attenuate–cuneate. Flowers reddish, in axillary clusters forming whorls. Capsules depressed–globose, red.

Fls. & Frts.: December–March.

Anagallis arvensis L. Sp.



Herbs, annuals, 10-30 cm tall; stems and branches tetragonous. Leaves simple, opposite, Ovate, elliptic, acute, amplexicaul. Flowers axillary, solitary. Capsules globose. Seeds brown, trigonous.

Fls. & Frts. : August-May.

Blumea lacera (Burm. f.) DC.



Herbs, 25-80 cm tall, erect, aromatic; stem grooved, glandular, pubescent. Leaves 4 x 3 cm, obovate. oblong, incised or sometimes lyrate lobed, silky pubescent on both sides, margins serrate. dentate. Heads yellow; involucral bracts long, slightly longer than corolla. Achenes oblong, sparsely hairy, subangulate, terete.

Fls. & Frts. : October.May.

Caesullia axillaris Roxb.



Herbs, prostrate or suberect, annual. Leaves sessile, oblong. lanceolate, acute at apex. Heads compound, globose, white or purplish. Pappus of 2 ovate scales. Achenes flat, obovate, slightly notched.

Fls. & Frts. : September.- February.

Celosia argentea L.



Herbs, erect or procumbent, 30-90 cm high. Leaves broadly ovate, lanceolate, elliptic or linear. Inflorescence of dense, terminal spikes. Flowers white or pink. Utricles ellipsoid, tapering at apex into style.

Fls. & Frts. : August. February.

Chenopodium album L.



A tall herb, erect or ascending; stems often striped. Leaves variable in size, oblong, deltoid or lanceolate, margins entire or toothed. Flowers in clusters forming panicle. Spikes; tepals oblong. lanceolate; stigmas 2. Fruits enclosed by tepals, depressed. globose, Seeds orbicular, compressed, smooth; embryo completely annular.

Fls. & Frts. : November.- February.

Coldenia procumbens L.



Spreading herbs, white hairy. Leaves ovate, oblong or obovate, oblong, hairy on both sides, crisped, apex obtuse, base acute, oblique, margins crenate.dentate. Flowers white, subsessile, tetramerous; calyx lobes ovate; corolla lobes oblong, spreading. Drupes beaked, 4 lobed and breaking into 4.

Fls. & Frts. : Throughout the year.

Cynodon dactylon (L.) Pers.



Stoloniferous perennial herbs. Culms terete, rooting at the nodes. Leaves linear-lanceolate; ligule a short ciliolate rim. Spikes 4- 6, whorled. Spikelets sessile, oblong, 1-flowered.

Fls. & Frts. : Throughout the year.

Cyperus rotundus L.



Perennials; stolons slender, wiry ending in ellipsoid or sub-globose tubers; stems slender, trigonous, arising from tuberous base. Leaf sheaths glabrous; blades linear, crowded little above the base, shorter than or as long as the stems. Umbels compound. Spikelets linear, compressed, erect, pale to dark reddish-brown, acute; rachilla broadly winged. Glumes elliptic-oblong; keel with 3-nerves ending little below the apex, recurved at the tips. Stamens 3; anthers linear with reddish appendage at the tips. Nuts rarely developed, the immature ones acutely trigonous, smooth or faintly reticulate, greyish, apiculate, sessile. Styles 3-fid, longer than the nuts.

Fls. & Frts.: June- February.

***Dactyloctenium aegyptium* (L.) Willd.**



Annual herbs, erect or ascending culms, rooting at the lower nodes or sometimes stoloniferous. Leaves linear, spikes 2- 6, digitate, equal or unequal terminal; rachis stout, glabrous, bearded at base, mucronate at the tip. Spikelets sessile, laterally compressed, 3- 5 flowered, spreading at right angle to the rachis. Grains red rugose.

Fls. & Frts. : June- January.

***Eclipta alba* (L.) Hassk.**



Annual herbs, erect or prostrate. Leaves sessile, oblong.lanceolate or oblong.elliptic, sparsely strigose on both surfaces. Heads solitary or 2.together, on unequal, axillary peduncles, yellow. Achenes oblong.obovate, tubercled all over, trigonous, brown to black.

Fls. & Frts. : July - February.

***Emilia sonchifolia* (L.) DC.**



Herbs, erect or diffuse, sometimes decumbent. Leaves variable, lower with petioles, lyrate. Pinnatifid, cauline. Heads small, in terminal, lax corymbose panicles, with purplish flowers. Pappus copious, white. Achenes narrow, 5.ribbed, obtuse with scabrid ribs, brown.

Fls. & Frts. : August.-January.

Euphorbia hirta L.



Herbs, perennial, erect, diffuse or prostrate; branches densely or sparsely clothed with spreading hairs. Leaves serrate, elliptic or ovate-oblong. Capsules appressed hairy. Seeds reddish, brown, faintly transverse, rugose.

Fls. & Frts. : July.- December.

Evolvulus alsinoides (L.) L. Sp.



Herbs, suffrutescent, prostrate or suberect, pubescent. Leaves simple, elliptic. oblong, subsessile, appressed silky, acute to obtuse at base and also at apex. Flowers axillary, pedunculate in 1 to several flowered dichasia or solitary; calyx lanceolate, acute or acuminate, pubescent; corolla blue, 3.7 mm across. Fruits capsular, 4 mm long, ovoid, 4 valved. Seeds 4, black.

Fls. & Frts. : July.- January.

Gnaphalium polycaulon Pers.



Herbs 20 cm high, densely white, pilose. Leaves simple, narrowly linear, obovate or spatulate. Heads in clusters of terminal spikes. Achenes oblong, papillose.

Fls. & Frts. : December.- May.

Hygrophila schulli (Buch..Ham.) M.R. & S.M. Almeida



Herbs, 1-2 feet high, erect, stout; branches subquadrangular. Leaves sessile, appear whorl with 6 sharp, yellow spines, oblong.lanceolate or oblanceolate, sparsely hispid on both surfaces. Flowers purple.blue in a whorl at each node. Capsules linear.oblong, pointed. Seeds orbicular.

Fls. & Frts. : November.- June.

Hyptis suaveolens (L.) Poit.



Undershrubs, erect, much branched, 1.5 m high, strongly aromatic; stems hirsute, quadrangular. Leaves ovate, sparsely pubescent above, densely pubescent beneath, apex acuminate, base acute, margins serrulate. Flowers bluish-violet, in contracted. calyx 10 ribbed, mouth villous; corolla bluish-violet ovoid, rugose.

Fls. & Frts. : October.- February.

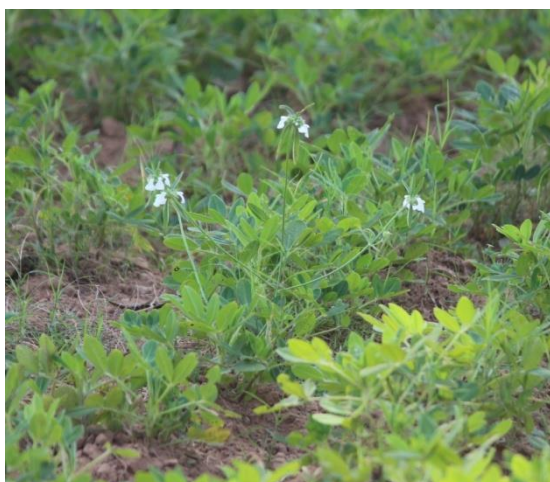
Launaea procumbens (Roxb.) Ramayya & Rajagopal



Procumbent herbs. Stems with yellow juice. Leaves in a basal rosette, obovateoblong, repand dentate or pinnately lobed; lobes obtuse, spinulose-dentate with cartilaginous teeth, glabrous. Heads on short bracteate peduncles, solitary or clustered, along terminal, subracemose inflorescence. Pappus hairs white. Achenes oblong, rugulose, black, truncate at apex.

Fls. & Frts. : October- February.

Leucas cephalotes (Roth) Spr.



Herbs, erect; stems short, pubescent; branches obtusely 4 angled, hairy. Leaves simple ovate or ovate.lanceolate or broadly elliptic, softly hairy above, pubescent beneath, apex subacute, base tapering, margins crenate.serrate. Flowers white, sessile, in globose heads; bracts foliaceous, 1.5-2.5 cm long; corolla up to 2.5 cm long, lower lip slightly longer than upper. Nutlets obovoid, smooth, brown.

Fls. & Frts. : September.-November.

Leonotis nepetiifolia (L.) R. Br.



Herbs or undershrubs, 2-3 m high; stems stout, slightly angled, with long internodes, pubescent. Leaves broadly ovate, membranous, pubescent on both sides, apex acute, base cuneate, margins coarsely serrate. Flowers in axillary, many flowered, dense whorls; calyx up to 1.9 cm long, ribbed, incurved, teeth very unequal, tipped with slender spines; corolla 2.0-2.5 cm long, tube glabrous at base, hairy in the upper half. Nutlets ovoid, pitted at apex.

Fls. & Frts. : October.- February.

Ludwigia perennis L.



Annual, erect herbs, subglabrous or minutely puberulent on young parts. Leaves narrowly elliptic to lanceolate, base cuneate; petioles winged. Flowers solitary or clustered, axillary, minutely puberulent; petals yellow, elliptical; stamens rarely more than 4; disc slightly elevated. Capsules 0.3–1.6 cm long, thin walled, irregularly dehiscent. Seeds pluriseriate in each locule, free.

Fls. & Frts.: July–December

Melochia corchorifolia L.



Herbs, upto 1 m tall. Leaves simple, ovate-oblong, sometimes obscurely 3-lobed, glabrous or with a few scattered stellate hairs, apex acute, base acute, obtuse or truncate, margins serrate. Flowers in terminal densely crowded clusters. Capsules depressed-globose, hispid. Seeds angled, mottled black-grey.

Fls. & Frts.: July –February.

Parthenium hysterophorus L.



Herbs up to 1 m high; stems hairy, angular, branched. Leaves alternate, irregularly much dissected, margins entire, pubescent on both surfaces. Heads white, in terminal or axillary peduncles, bracteate. Achenes compressed, triquetrous, puberulous along sides.

Fls. & Frts. : September.-January.

Polygonum plebeium R. Br.



Herbs, diffuse; stems branched, slender, stout or with woody root stock. Leaves simple, sessile or subsessile, acute or apiculate at apex, often recurved along margins, with bulbous based hairs; ocreae small, laciniate. Flowers in axillary clusters, sessile, among stipules rarely exerted; perianth pink. Nuts c 0.1 cm long, trigonous.

Fls. & Frts. : More or less throughout the year.

Saccharum spontaneum L.



Perennial rhizomatous herbs. Culms terete, hard; nodes glabrous or pilose. Leaves linear-lanceolate. Panicle oblong-lanceolate, silky white hairy. Spikelets lanceolate.

Fls. & Frts.: October - February.

Sphaeranthus indicus L.



Herbs, highly branched, spreading. Leaves thick pubescent, obovate-oblong, glandular, hairy, narrowed at base. Heads c 1 cm across on solitary glandular peduncles; florets purple. Achenes stalked.

Fls. & Frts. : November.-May.

Spilanthus paniculata Wall ex DC.



Herbs, decumbent, glabrescent. Leaves ovate, base narrowed into petiole, serrate along margins. Heads yellow, in panicles, axillary; involucre bracts 2-seriate, elliptic-lanceolate, sparsely pubescent. Achenes obovoid, sparsely scabrid.

Fls. & Frts. : September -January.

Tonningea axillaris (L.) O. Ktze.



Procumbent, glabrous annual herbs, often rooting at the lower nodes; stems slender. Leaves often linear-lanceolate flat, glabrous, subsucculent or membranous; sheaths striate. Cymes reduced to axillary fascicles which are enclosed in inflated. Sepals ovate-lanceolate, sparsely pubescent, winged on the back. Corolla blue or purple, with petals united above the base; filaments densely bearded with moniliform hairs. Capsules oblong-ellipsoid, beaked, 3-valved, with valves 2 fid. Seeds cylindric, truncate at base, rounded at apex with short, conical tip.

Fls. & Frts.: Aug. - December.

Trichodesma indicum (L.) Lehm.



Annual herbs, erect; branches stems sparsely or densely hairy. Leaves ovate.oblong to oblong or ovate, ovate.lanceolate to lanceolate, hairy on both sides, apex acute or obtuse, base auriculate. Flowers pale blue, solitary or in few flowered terminal cymes; calyx deeply divided, hispid hairy; corolla infundibuliform, lobes ovate to rounded. Nutlets ovoid, smooth on outer face, rugosely pitted on inner face.

Fls. & Frts. : October.- February.

Tricholepis amplexicaulis C. B. Cl.



Herbs, annual, erect. Leaves oblong, semi.amplexicaul at base. Heads purple, spiny, in terminal, leafy peduncles. Achenes oblong.obovoid, smooth. Pappus paleaceous, caducous in fruiting.

Fls. & Frts. : October.- January.

Tridax procumbens L. Sp.



Annuals or perennials, erect or procumbent herbs, branched at base. Leaves opposite, ovate or lanceolate, margins serrate to coarselybincised dentate or trilobed. Heads heterogamous, produced on erect,bretorsely hirsute and sparsely glandular peduncles, ray florets white, ligules mostly bilabiate, disc florets tubular. campanulate, yellow. Pappus of many aristate bristles, unequal in length. Achenes narrowly obconical, blackish, terete or ribbed, sparsely scarious, truncate at apex.

Fls. & Frts. : Throughout the year.

Vernonia cinerea (L.) Less.



Herbs, 30.50 cm high, erect. Leaves petioled, elliptic or lanceolate, pubescent on both surfaces, obtuse orbacute at apex. Heads terminal or axillary, inbcorymbose cymes. Outer pappus small, connate at base, inner longer than achenes, plumose. Achenes terete.

Fls. & Frts. : July.-February.

Vicoa indica (L.) DC.



Perennial herbs, erect, suffruticose, upto 90 cm high. Leaves sessile, linear or linear, lanceolate, appressed hairy. Heads yellow, 1.2 cm across, on slender peduncles. Pappus of disc florets scanty. Achenes brown, sparsely hairy.

Fls. & Frts. : November - February.

Xanthium indicum Koen.



Herbs, annual; stem rough with short hairs. Leaves broadly ovate, triangular, appressed hairy. Heads green (young), in terminal and axillary spikes. Fruits having 2 erect mucronate beaks, covered with hooked prickles. Achenes oblong or ovoid, compressed, black.

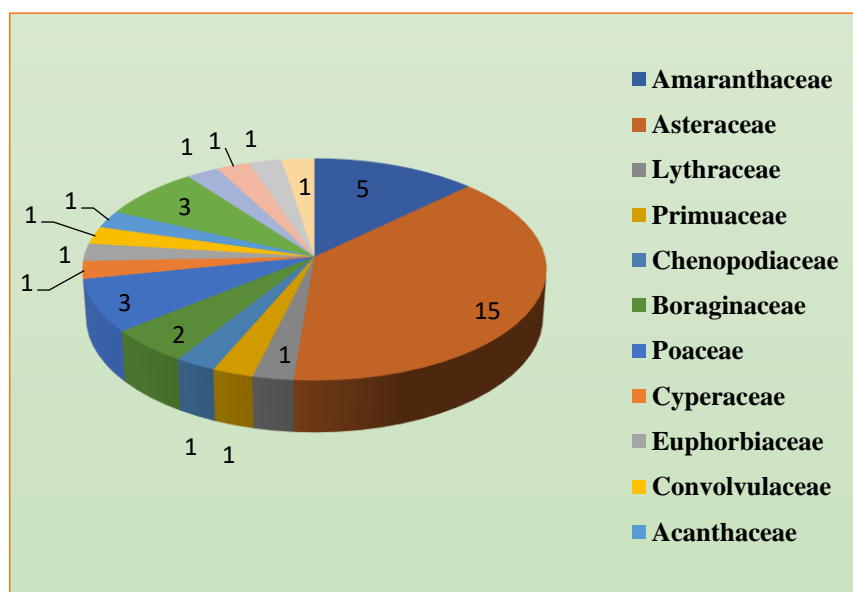
Fls. & Frts. : January- May.

Result and Discussion:

The assessment of weed flora association with crop in the study area enlisted total 39 species belonging to 39 genera and 16 families of flowering plants. All the enlisted 39 weed species enumerated in the table, where in data about association with crop and season incorporated. The predominant families of weed in order of number of species are Asteraceae (15) Amaranthaceae (05) and Lamiaceae (03). Of these weed members of Asteraceae and Amaranthaceae offer server competition with the crop because of their high percentage of seed germination and frequency. Rest of the species have been found to grow along field margins as well as within the field.

Sr. No.	Botanical Name	Local Name	Family	Fls. & Frts. Season	Associated crop
1.	Achyranthes aspera L.	Kutri	Amaranthaceae	Sept.-Feb.	Chana, Lakhori, Tur, Popat
2.	Aerva sanguinolenta (L.) Bl.	-	Amaranthaceae	Oct.- May	Tur, Mohari
3.	Ageratum conyzoides L.		Asteraceae	July- Feb.	Chana, Lakhori
4.	Alternanthera sessilis (L.) R. Br. ex DC.		Amaranthaceae	June- April	Chana, Bhuimung, Lakhori, Rice
5.	Amaranthus viridis L.		Amaranthaceae	Sept.- Dec.	Mohari, Chana, Mirchi
6.	Ammannia baccifera L.	--	Lythraceae	Dec.- March	Mohari, Chana, Mirchi
7.	Anagallis arvensis L. Sp.	--	Primulaceae	Aug.- March	Kotimber, Methi
8.	Blumea lacera (Burm. f.) DC.	Gangawan	Asteraceae	Oct.r.-May.	Mohari, Chana, Mirchi
9.	Caesullia axillaris Roxb.	--	Asteraceae	Sept.- Feb.	Mohari, Rice, Chana, Mirchi
10	Celosia argentea L. Sp.	Kombda	Amaranthaceae	Aug.- Feb.	Mohari, Chana, Mirchi
11	Chenopodium album L. Sp.	Math	Chenopodiaceae	Nov.- Feb.	Mohari, Popat, Chana, Mirchi
12	Coldenia procumbens L.	--	Boraginaceae	Throughout year	Mohari, Chana, Mirchi
13	Cynodon dactylon (L.) Pers.	Durva	Poaceae	Throughout year	Mohari, Rice, Chana, Mirchi, Popat
14	Cyperus rotundus L.	--	Cyperaceae	June- Feb.	Mirchi, Allium
15	Dactyloctenium aegyptium (L.) Willd.	--	Poaceae	June- Jan.	Mohari, Popat, Rice, Chana, Mirchi
16	Eclipta alba (L.) Hassk.	Bhrungraj	Asteraceae	July- Feb.	Mohari, Rice, Chana, Mirchi
17	Emilia sonchifolia (L.) DC.	--	Asteraceae	Aug.-Jan.	Mohari, Rice, Chana, Mirchi
18	Euphorbia hirta L. Sp.	Sikani	Euphorbiaceae	July- Dec.	Mohari, Chana, Mirchi
19	Evolvulus alsinoides (L.) L.	--	Convolvaceae	July-Jan.	Mohari, Chana, Mirchi
20	Gnaphalium polycaulon Pers.	--	Asteraceae	Dec.- May.	Mohari, Chana, Mirchi
21	Hygrophila schulli (Buch..Ham.) M.R. & S.M. Almeida	Katekoranti	Acanthaceae	Nov.- June.	Mohari, Chana,

22	<i>Hyptis suaveolens</i> (L.) Poit.	Rantulasi	Lamiaceae	Oct.- Feb.	Mohari, Tur Chana,
23	<i>Launaea procumbens</i> (Roxb.) Ramayya & Rajagopal	--	Asteraceae	Aug.- Jan.	Mirachi, Chana
24	<i>Leucas cephalotes</i> (Roth) Spr.	Kumba	Lamiaceae	Sept.- Nov.	Mohari, Tur, Mirchi, Arachi
25	<i>Leonotis nepetiifolia</i> (L.) R. Br.		Lamiaceae	Oct.- Feb.	Tur
26	<i>Ludwigia perennis</i> L.		Onagraceae	July-Dec.	Chana, Lakhori
27	<i>Melochia corchorifolia</i> L.		Sterculiaceae	July- Feb.	Tur, Chana, Mohari
28	<i>Parthenium hysterophorus</i> L.	Congres grass	Asteraceae	Sept.- Jan.	Tur, Wange, Mirchi, Mohari, Popat
29	<i>Polygonum plebeium</i> R. Br.		Polygonaceae	Throughout the year	Wange, Jawas, Mirchi, Mohari
30	<i>Saccharum spontaneum</i> L.	Padar	Poaceae	Oct. – Feb.	Tur
31	<i>Sphaeranthus indicus</i> L. Sp.	Godri	Asteraceae	Nov.- May	Chana, Popat. Mohari, Lakhori
32	<i>Spilanthus paniculata</i> Wall ex DC.	Akkalkara	Asteraceae	Sept.- Jan.	Jawas, Chana, Lakhori
33	<i>Tonningea axillaris</i> (L.) O. Ktze.	--	Commelinaceae	Sept. –Jan.	Rice,
34	<i>Trichodesma indicum</i> (L.) Lehm.	--	Boraginaceae	Aug. – Dec.	Bhuimung, Popat, Chana, Tur
35	<i>Tricholepis amplexicaulis</i> C. B. Cl.	--	Asteraceae	Oct.- Jan.	Chana, Lakhori, Bhuimung
36	<i>Tridax procumbens</i> L. Sp.	Kambarmodi	Asteraceae	Throughout the year	Mohari, Tur, Mirchi,
37	<i>Vernonia cinerea</i> (L.) Less.		Asteraceae	July.-Feb.	Mohari, Tur, Mirchi, Chana
38	<i>Vicoa indica</i> (L.) DC.		Asteraceae	Nov. – Feb.	Mohari, Tur, Mirchi, Lakhori
39	<i>Xanthium indicum</i> Koen.	Chikati	Asteraceae	Jan.- May	Tur, Mirchi



Weed flora in field.

Recommendations:-

1. Arrange regular surveys to evaluate the level of weed flora and losses caused to the crops.
2. Conduct awareness workshop on the control and management of weed species.
3. Cultural methods like crop rotation, land preparation, uprooting and water management for weeding during the crops life cycle.
4. Use of Herbicides with expert advice.

Photo Plates



Observation and collection of weed in Popat (*Lablab purpureus*) field.



Observation and collection of weed in Popat (*Lablab purpureus*) field.



Observation and collection of weed in Groundnut/Mungphali(*Arachis hypogaea*) field and discussion with farmer.



Observation and collection of weed in Groundnut/Mungphali(*Arachis hypogaea*) field and discussion with farmer.



Observation and collection of weed in Mirchi (*Capsicum annuum*) field.



Observation and collection of weed in Mohari (*Brassica campestris*) field.



Collection of weed flora by the student



Student PBR Team with Supervisor (Department of Botany)

News

दत्तक ग्राम कासवी येथे विद्यार्थ्यांनी केला शेतपिकामध्ये वाढणाऱ्या तणांचा अभ्यास

तालुका प्रतिनिधी / १४ फेब्रुवारी
आरमोरी : स्थानिक महात्मा
गांधी महाविद्यालयातील
वनस्पतीशास्त्र विभागाच्या वतीने
महाविद्यालयाचे प्राचार्य तथा दत्तक
ग्राम विकास कार्य समितीचे अध्यक्ष
डॉ. लालसिंग खालसा यांच्या
मार्गदर्शनाखाली दत्तक ग्राम कासवी
येथे शेतपिकामध्ये वाढणाऱ्या तणांचा
नुकसान अभ्यास करण्यात आला.

सदर अभ्यासदौरा प्लांट
टॅक्सनॉमीचे तज्ज्ञ प्रा. डॉ. वसंता
कहालकर यांच्या मार्गदर्शनात ४२
विद्यार्थ्यांनी केला. या अभ्यासदौऱ्यात
शेतातील नुकसानकारक तणांचा
शोध घेण्यात आला. त्यात प्रामुख्याने
अल्टरननथेरा, पार्वेनियम,
शिलोसिया, विकोवा, यचिरेंधस,
ऑनगॅलीस, लिंडरनिया इत्यादी
तणांचा समावेश होता. या तणांना



गोळा करून त्याची ओळख
विद्यार्थ्यांनी शेतकऱ्यांना करून दिली.
तसेच ते कोणत्या पिकासोबत वाढत
असतात याचीही माहिती दिली.

सदर अभ्यासात निदर्शनास
आलेल्या तणांची माहिती कृषिविभाग
व शेतकरी यांना देण्यात आली.
शेतीविकासाच्या दृष्टीने तणांचे
व्यवस्थापन आवश्यक असून तणांच्या
व्यवस्थापनाच्या दृष्टीने शेतकऱ्यांना
व कृषिविभागाला ही माहिती उपयुक्त
ठरणारी आहे. तणांचे व्यवस्थापन

करण्याच्या दृष्टीने प्राप्त झालेली
नुकसानकारक तणांची माहिती
याबद्दल शेतकऱ्यांनी आनंद व्यक्त
केला.

यशस्वीतेसाठी पर्यावरण
अभ्यास समिती प्रमुख प्रा. सत्येंद्र
सोनटक्के, प्रा. सीमा नागदेवे,
बाबुराव शेंडे, महादेव ठाकरे,
कानतोडे, स्वाती दुगा, सुमन
अडभैय्या, राहुल त्रिमुखे, कृष्णा
गावळे व वनस्पतीशास्त्र विभागाच्या
विद्यार्थ्यांनी सहकार्य केले.

पुढील तपशील

16-2-18

विद्यार्थ्यांकडून शेतपिकात वाढणाऱ्या तणांचा अभ्यास

आरमोरी : दिवसेंदिवस शेतीमध्ये
अनावश्यक व नुकसानकारक अशा
तणांचे सावट निर्माण झाले आहे.
त्यामुळे शेत उत्पादनाच्या दृष्टीने
फार मोठ्या नुकसानीचा सामना
करावा लागतो. शेतपिकातील
नुकसानकारक तणांचा अभ्यास
करून व्यवस्थापन करण्याच्या
हेतूने जैवविविधता नोंदवही अंतर्गत
येथील महात्मा गांधी कल, विज्ञान व



स्व.न.पं. वाणिज्य महाविद्यालयातील
वनस्पतीशास्त्र विभागाच्या वतीने
प्राचार्य डॉ. लालसिंग खालसा यांच्या
मार्गदर्शनाखाली दत्तक ग्राम कासवी

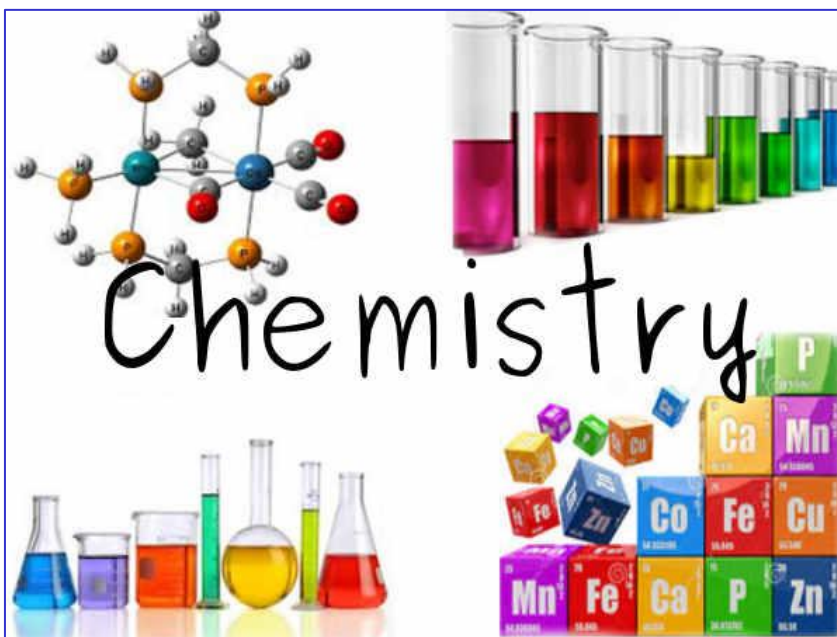
येथे शेतपिकामध्ये वाढणाऱ्या तणांचा
नुकताच अभ्यास करण्यात आला.
अभ्यासदौरा प्रा.डॉ. वसंता कहालकर
यांच्या मार्गदर्शनात ४२ विद्यार्थ्यांनी

केला. यात अल्टरननथेरा, पार्वेनियम,
शिलोसिया, विकोवा, यचिरेंधस,
ऑनगॅलीस आदी तणांचा समावेश
होता. या तणांना गोळा करून त्यांची
ओळख विद्यार्थ्यांनी शेतकऱ्यांना
करून दिली. यशस्वीतेसाठी प्रा. सत्येंद्र
सोनटक्के, प्रा. सीमा नागदेवे, बाबुराव
शेंडे, महादेव ठाकरे, कानतोडे, स्वाती
दुगा, सुमन अडभैय्या, राहुल त्रिमुखे,
कृष्णा गावळे आदींनी सहकार्य केले.

❖ List of Student participate in PBR-2017-18

(PBR)		Mahatma Gandhi Arts Commerce & Science College		Armori, Dist. Gadchiroli		SESSION : 2017-2018	
CLASS: BSC - II (BOTANY)		(46)					
SR.NO.	NAME OF STUDENT	Grade	Sign	Sign	Sign	Sign	Sign
1	✓ KU ANEESFATEMA AKBARKHAN PATHAN	A	Anees	Anees	Anees	Anees	Anees
2	✗ MR ANIL BUCHCHA WADDE	C	ABSENT	ABSENT	ABSENT	ABSENT	ABSENT
3	✓ KU APURVA ANIL BAMBOLE	A	Bambale	Bambale	Bambale	Bambale	Bambale
4	✓ KU ARATI RAJKUMAR SHENDE	A	ARShende	ARShende	ARShende	ARShende	ARShende
5	✓ KU ASHWINI GOPAL RAUT	A	ARaut	ARaut	ARaut	ARaut	ARaut
6	✓ KU BHAGYASHRI HIRALAL PATRE	A	BHPatre	BHPatre	BHPatre	BHPatre	BHPatre
7	✓ KU CHANDA ASHOK KAMBALE	A	Chambole	Chambole	Chambole	Chambole	Chambole
8	✓ KU DAMINI BANDU UIKEY	A	DKikey	DKikey	DKikey	DKikey	DKikey
9	✓ MR DHARMENDRA LUNKARAN ADBHAIYA	A	DhLunkaran	DhLunkaran	DhLunkaran	DhLunkaran	DhLunkaran
10	✓ MR HITESH NARENDRA TETU	A	H.N.Tetu	H.N.Tetu	H.N.Tetu	H.N.Tetu	H.N.Tetu
11	✓ MR JANI JAGDISH CHATALE	B	JChatale	JChatale	JChatale	JChatale	JChatale
12	✓ KU KAJAL PURUSHOTTAM DHAKATE	A	KDhakate	KDhakate	KDhakate	KDhakate	KDhakate
13	✓ KU KARISHMA DOMA BAMBOLE	A	Kambale	Kambale	Kambale	Kambale	Kambale
14	✓ MR KRUSHNA ANTARAM GAWALE	A	KGawale	KGawale	KGawale	KGawale	KGawale
15	✓ KU LINA LOKMITRA BARSAGADE	A	LBarsagade	LBarsagade	LBarsagade	LBarsagade	LBarsagade
16	✓ MR MAHENDRASHAHA RAVINDRASHAHA SAYAM	C	MSayam	MSayam	MSayam	MSayam	MSayam
17	✓ KU MANISHA DAMODHAR CHILBULE	A	MChilbule	MChilbule	MChilbule	MChilbule	MChilbule
18	✓ KU MINAKSHI PRAKASH KARPATE	A	MPkarpate	MPkarpate	MPkarpate	MPkarpate	MPkarpate
19	✓ KU MINAL MANIK MATE	B	M.M.Mate	M.M.Mate	M.M.Mate	M.M.Mate	M.M.Mate
20	✓ KU PALLAVI BALKRUSHNA SELOTE	B	PSelote	PSelote	PSelote	PSelote	PSelote
21	✓ KU PALLAVI GOVARDHAN NAKADE	A	PNakade	PNakade	PNakade	PNakade	PNakade
22	✓ KU POOJA SURESH BAWANE	A	PBawane	PBawane	PBawane	PBawane	PBawane
23	✓ KU POOJA VILAS LONARE	A	PLonare	PLonare	PLonare	PLonare	PLonare
24	✓ KU PRANALI DEVENDRA LADE	A	PLade	PLade	PLade	PLade	PLade
25	✓ KU PRIYANKA MOHAN HULKE	A	PHulke	PHulke	PHulke	PHulke	PHulke
26	✓ KU PUJA KRISHNAJI RAUT	A	PRaut	PRaut	PRaut	PRaut	PRaut
27	✓ MR RAHUL GANESH TRIMUKHE	A	RTrimukhe	RTrimukhe	RTrimukhe	RTrimukhe	RTrimukhe
28	✓ MR ROHIT VIJAY SHAHARE	B	RShahare	RShahare	RShahare	RShahare	RShahare
29	✓ MR RUDRAKSH PRAKASH PATRANGE	A	RPatrang	RPatrang	RPatrang	RPatrang	RPatrang
30	✓ KU SAKSHI SANJAY LANGARE	A	SLangare	SLangare	SLangare	SLangare	SLangare
31	✓ KU SHITAL GOPAL KUTHE	A	SKuthe	SKuthe	SKuthe	SKuthe	SKuthe
32	✓ KU SHRUTI RAJENDRA PIPARE	A	SPipare	SPipare	SPipare	SPipare	SPipare
33	✓ KU SONALI SURESH MADAVI	A	SMadavi	SMadavi	SMadavi	SMadavi	SMadavi
34	✓ KU SUJATA NAKTU LADE	A	SLade	SLade	SLade	SLade	SLade
35	✓ KU SUMAN LUNKARAN ADBHAIYA	A	SLunkaran	SLunkaran	SLunkaran	SLunkaran	SLunkaran
36	✓ KU SWATI MAHESH DUGA	A	SDuga	SDuga	SDuga	SDuga	SDuga
37	✓ KU VISHAKHA BABAN PATRE	A	VPatre	VPatre	VPatre	VPatre	VPatre
38	✓ MR ANKUSH ANIL KUNGHADKAR	B	AKunghadkar	AKunghadkar	AKunghadkar	AKunghadkar	AKunghadkar
39	✓ KU ASHWINI RAMKRUSHNA VIKHAR	A	AVikhare	AVikhare	AVikhare	AVikhare	AVikhare
40	✓ KU MONIKA GULAB GUNURKAR	A	MGunurkar	MGunurkar	MGunurkar	MGunurkar	MGunurkar
41	✓ MR OMPRAKASH ARVIND SAHARE	B	OSahare	OSahare	OSahare	OSahare	OSahare
42	✓ MR OMPRAKASH MUNNA GURNULE	B	OGurnule	OGurnule	OGurnule	OGurnule	OGurnule
43	✓ MR PAVAN MANOHAR POHANKAR	B	ABSENT	ABSENT	ABSENT	ABSENT	ABSENT
44	✓ MR RUSHIKESH SUDHAKAR PARDHI	B	ABSENT	ABSENT	ABSENT	ABSENT	ABSENT
45	✓ KU SAKSHI VINAYAK GUMFALWAR	A	SGumfalwar	SGumfalwar	SGumfalwar	SGumfalwar	SGumfalwar
46	✓ KU SONALI TILAKCHAND LAKHANKAR	A	SLakhankar	SLakhankar	SLakhankar	SLakhankar	SLakhankar
47	Rakesh Antaram madavi	B	RMadavi	RMadavi	RMadavi	RMadavi	RMadavi

DEPARTMENT OF CHEMISTRY



Department of Chemistry

Chemistry PBR Study Report 2017-18

**Implementation of Organic Farming Network in Kasvi Village of Armori
Tehsil of Gadchiroli District, Maharashtra**

PBR submitted by: -B. Sc. II (Department of Chemistry) students group 2017-18

Under the supervision of Prof. S.M. Sontakke and Prof. G.P. Juare

Introduction:-

Since 2014, department of chemistry studying adopted village *Kasvi* in different aspect such as sampling and analysis of water parameter, sampling and analysis soil parameter, study of *kasvi* regarding agriculture information, Agriculture audit etc. Day by day agriculture sector is degrading and farmer annual income decreasing, expenditure on field increasing.

This year we think on **development of sustainable environment in agriculture field**, for that we conducted three day workshop on **Modern Agriculture Practices** in *Kasvi* village with the help of Government Agriculture College and Agriculture Technology Management Agency (ATMA) Gadchiroli. As a result we success to turned people for **Organized Organic Farming**.

Methodology

The complete PBR project consists of two parts.

1. Sampling and Analysis of water parameter of *Kasvi* village water resources used in irrigation purpose of their field.
2. Implementation of Organic farming in communication with local people and in co-ordination with ATMA Mr. Vinod Rahangdale.

In first part, we made two group of B.Sc. II student for collection of water sample from agriculture field, some water parameter such as TDS, Electrical Conductivity, Temperature were directly recorded in the field and remaining parameter were analyzed in chemistry laboratory under the supervision of expert.

Second part of PBR worked out with Mr. Vinod Rahangdale of ATMA Armori unit, Students of Department of Chemistry and people of *Kasvi*.

Result and Discussion:-

Department of chemistry in association with chemical society and Environment study Centre visited *Kasvi* village on 17/01/2018 as per direction given by president of adopted *kasvi* village for the purpose of water sampling. Our team of chemical society collected five water samples from agriculture field of the area and parameter like temperature, TDS are directly recorded in the field with the help of thermometer and TDS meter available with us.

Remaining parameters were analyzed in the laboratory by Water Monitoring Committee of Chemistry department. Parameter such as Hardness, Alkalinity P^H , Fluoride, Iron, Residual free chlorine are analyzed with the help of water sampling kit and prepare a report.

Sr. No.	TDS	Hardness	Alkalinity	Iron	PH	Temp.	Fluoride
DW1	495	265	305	0.1	5.64	28	0.5
DW2	581	292	316	0.2	5.81	28	0.5
DW3	632	346	296	0.1	5.26	29	0.5
DW4	565	230	245	0.1	4.90	29	0.5
Canal Water	321	190	210	0.1	5.50	28	0.5

- 1) The entire well water samples are in good agreement with standard specification with respect to hardness (190-346 ppm)
- 2) The Concentration of iron is constant in all well water samples (0.1 ppm)
- 3) TDS of all well water are in borderline of standard specification IS-10500 (321-632ppm)
- 4) P^H of all well water samples are in the range of slightly acidic (4.90-5.81)
- 5) The concentration of fluoride in all well water are constant (0.5ppm) whereas chloride concentration is negligible in all the samples.
- 6) It is observed that canal water is in good agreement with respect to all parameter of standard specification (IS-10500).

❖ Organized Organic Farming Network: -

Chemistry department organized visit to *kasvi* to implement organic farming with the help of krushimitra Mr. Dipakji Dupare and villagers and expert Mr.Vinod Rahangdale. We made three Group of farmer according to field selection.

I) Paddy field of 20 Acre consisting of twelve Farmers

Sr. No.	Name of Farmers	Land area (Acre)
1.	Dipak Vishvanath Dupare	1.25
2.	Teema Bhiva Sadmake	1.50
3.	Dhondur Jayram Sadmake	1.25
4.	Sheshrav Vasudev Kumare	2.25
5.	Goma Bhiva Sadmake	2.50
6.	Uddhav Patwari Dighore	2.25
7.	Dilip Dhonduraji Kantode	3.25
8.	Ramdas Faktu Bande	1.25
9.	Manoj Maroti Bande	1.50
10.	Narayan Padam Meshram	3.50
11.	Gopinath Paiku Sayam	1.50
12.	Keshav Sakharan Thakre	2.50

II) Groundnut Field of 30 Acre consisting of 35 Farmers

Sr. No.	Name of Farmers	Land area (Acre)
1.	Dhondur Jayram Sadmake	1.25
2.	Bhaurao Vithoba Pradhan	1.50
3.	Sheshrao Wasudeo Kumare	1.25
4.	Aabaji Vikram Puram.	1.50
5.	Vaktu Vikram Puram.	0.50
6.	Nanaji Vikram Puram.	1.00
7.	Tateram Balkrushna Sayam.	1.50
9.	Lalji Tulshiram Gurnule.	1.25
10.	Urmila Remaji Sayam.	2.00
11.	Keshav Sakharan Thakre.	1.25
12.	Tatoba keshav Bhoyar.	0.50
13.	Gulab Keshav bhoyar	1.00
14.	Damodhar Dodku Donadkar	1.50
15.	Namodhar Dodku Donadkar	2.00
16.	Dnyaneshwar Dodku Donadkar	1.25
17.	Ashok Ganu Thakre	1.50
18.	Mahesh Jagan Sayam	1.25
19.	Mukaru Domaji Sayam	2.00
20.	Kusumbai Narayan Athole	1.50
21.	Fagoji and Shravan Kawdu Mathe	1.50

22.	Isan and Gopinath Paiku sayam	1.25
23.	Ghanshyam Bisan sayam	1.50
24.	Gomaji and Teema Bhiva Sadmake	1.25
25.	Asaram Tulshiram Bande	1.50
26.	Murari Dama Uike	1.25
27.	Vijay and Sukhdev Paiku Lingayat	1.50
28.	Namdeo Rushiji Chafle	2.00
29.	Pralhad Urkuda Shambharkar	1.25
30.	Dipak Vishvanath Dupare	1.50
31.	Shamrao and Ganesh Murari Bande	1.25
32.	Hemant and sukhdeo Murari bande	1.50
33.	Ramdas Fuktu Bande	1.25
34.	Manoj Maroti Bande	1.50
35.	Narayan Domaji Sayam	2.00

III) Fruit Farming of Two farmers in Kasvi

Sr. No.	Name of Farmers	Land Area (Acre)	Mango Tree	Jack fruit Tree
1.	Teema Bhiva Sadmake	02	105	10
2.	Gopinath Paiku Sayam	01	45	04

❖ Practical Demonstration on Manure Decomposition: -

On 30th April 2018, Department of Chemistry organized practical demonstration of manure decomposition with ATMA Field Officer Mr. vinod Rahangdale. Rice straw is decomposed using organic decomposer Jivamrut (It is prepared by mixing 25kgGobar,25 litre urine of cow, 5kg flour of pulses ,500g soil under tree and 500 litre water in PVC plastic drum kept for a week). This demonstration was proceeding in farm of shri. Naktode , farmers of kasvi ,Prof. G.P. Juare HOD of chemistry, Prof. S.M. Sontakke Coordinator of Environment Study Centre and Krushimitra Shri. Dipakji Dupare.

Conclusion: -

In the era of advanced chemical technology we are using maximum resources for the benefit of mankind in invalid way due to which we are getting award of global warming, flood, draught, storm, soil degradation etc. Therefore a little effort has been taken by our department towards nature using organized organic farming network in kasvi village where 49 farmers agree to proceed by this technique.

❖ Field Photography: -

Mr. Vinod Rahangdale presenting demonstration on decomposition of manure using Jivamrut



❖ List of Student participated in PBR 2017-18

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विलास

Mahatma Gandhi Arts Commerce & Science College
Armori, Dist. Gadchiroli

CLASS: BSC - II (CHEMISTRY) 17/01/2018 (45) PBR
SESSION : 2017-2018

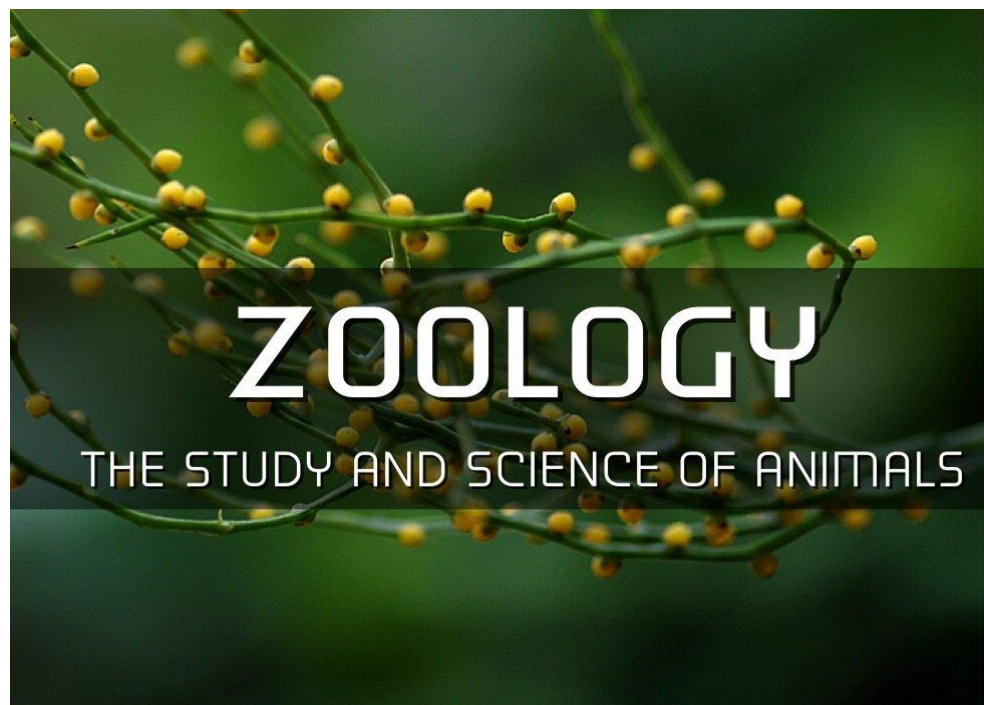
SR.NO.	NAME OF STUDENT			
1	✓ KU AKSHATA DEVIDAS KALBANDHE (23)	23	0	
2	MR AKSHAY HARIDAS KUMBHARE (20)	20		
3	KU ANEESFATEMA AKBARKHAN PATHAN			
4	✓ KU ASHISH ANANTRAO SAMARTH (20)	20	A	✓
5	✓ KU ASHWINI GOPAL RAUT	NA		
6	MR BUDHANAND ISHWAR MESHRAM		C	✓
7	KU CHANDA ASHOK KAMBALE	NA		
8	KU DAMINI BANDU UIKEY	NA		
9	MR DHARMENDRA LUNKARAN ADBHAIYA		C	
10	MR JAGDISH VITTHAL RAUT (20)	20	A	✓
11	✓ KU JAYASHREE MANIK GONNADE (20)	20	O	✓
12	✓ KU JAYASHRI NILKANTH SAPATE (20)	20	A	✓
13	MR KRUSHNA ANTARAM GAWALE		C	
14	KU LINA LOKMITRA BARSAGADE		C	
15	MR MANGESH ARUN NIMBEKAR		C	✓
16	✓ KU MONIKA DIWAKAR KANTODE (20)	20	A	✓
17	✓ KU PARVATI DEVAJI DHAKATE (20)	20	A	✓
18	✓ KU PRACHI LAXMIKANT NAITAM (20)	20	A	✓
19	KU PRANALI DEVENDRA LADE		C	
20	✓ KU PRIYANKA SURESH SHEBE (20)	20	O	✓
21	✓ KU PUJA KRISHNAJI RAUT		C	
22	✓ KU PUJA PRAMOD DUFARE (20)	20	A	✓
23	MR RAJAT KHEMRAJ NAWGHARE		B	
24	✓ KU ROHINI BHASKAR KAWADKAR (20)	20	A	✓
25	MR RUDRAKSH PRAKASH PATRANGE		C	
26	KU SAKSHI SANJAY LANGARE		C	
27	KU SHRUTI RAJENDRA PIPARE		C	
28	✓ KU SWATI DURYODHAN HALAMI (20)	20	A	✓
29	✓ KU SWETANGI NAMUDEO JAMBHURE (20)	20	A	✓
30	MR VIJAY VYANKAT RANGARI		C	✓
31	✓ KU VISHAKHA NATTHU AKARE	NA		
32	✓ MR ASHITOSH MAHENDRA KATENGE (20)	20	A	✓
33	✓ MR ASHVIN HARICHANDRA BHOYAR (20)	20	O	✓
34	✓ KU JAGRUTI MORESHWAR MADAVI (20)	20	A	✓
35	✓ MR MAYUR NANDLAL BARSAGADE (20)	20	A	✓
36	✓ MR NIKHIL MORESHWAR MAGARE (20)	20	A	✓
37	✓ KU NIKITA LOKMANYA THAKARE (20)	20	A	✓

38	✓	KU PUJA GANGADHAR MESHRAM (20)	Gangadhar	O	✓
39		MR RUSHIKESH SUDHAKAR PARDHI		C	
40	✓	KU SAKSHI VINAYAK GUMFALWAR		C	
41	✓	KU SAROJ ARUN HEMKE (20)	Hemke	A	✓
42	✓	MR SAURABH DEORAO MADAVI (20)	Madavi	A	✓
43	✓	MR SHUBHAM SHRIRAM THENGARE (20)	Thengare	A	✓
44	✓	KU SONALI TILAKCHAND LAKHANKAR	NA		
45	✓	MR YATIM DNYANESHWAR SHENDE		C	✓

46. ✓ Ku. Msuganayani Giridhar Inkane. (20) ~~Inkane~~ (A) ✓
47. ✓ Ku. ADITI Narendra Kohade. (20) ~~Kohade~~ ~~Absolude~~ (A) ✓
48. ✓ Haresh Dhanraj Borkute (20) ~~Borkute~~ (A) ✓

S. M. Santakke
S. M. Santakke.
23/4/2018

**DEPARTMENT OF
ZOOLOGY**



Department of Zoology

PBR Study Report on

Study of plant diseases and insect pests at adopted village Kasvi of their agricultural field"

PBR submitted by: -B. Sc. II (Department of Zoology) students group 2017-18

Under the supervision of Prof. Dr. Jayesh Papadkar and Prof. Dr. Rajendra Chavhan

Introduction

Agriculture is one of the principal economic sources of the villages of the Gadchiroli district of Maharashtra state. Over 90% of the Kasavi village inhabitants depend on agriculture for their livelihood. Paddy (*Oryza sativa*) cultivation contributes to the gross income of the farmers. Such Paddy crops are affected by the attack of insect pests. Therefore paddy field insect pest identification is an important task to the sustainable agricultural development in this area. Kasavi village farmers also cultivated vegetables and others crops. The second main crop is groundnut observed as per the survey and it is also affected by insect pest.

A pest is a living organism that survives at the expense of other living organism resulting in physical damage and economic loss. The effect of killing caterpillars feeding on the crop brings the primary benefit of higher yields and better quality of vegetables. For example the higher yield might bring additional revenue that could be put towards children education or medical care, leading to a healthier, better educated population. There are various secondary benefits identified, ranging from appropriate people to conserved biodiversity.

Purpose of study: - During 2017-18, paddy crops mostly affected by *Nephotettix nephotettix* (Paddy leaf hopper-tudtuda) resulting in major economic loss of farmers of Kasavi village hence our Zoology department focused on such study through PBR.

Aim of study: - To study the harmful insect pest of paddy crops and other crops which are cultivated by farmers.

Materials and methods:--

This PBR – environmental study offers a framework to classify images of paddy field. Images of **twenty classes of paddy field insect pests** were obtained from light trap and hand picking methods, organism preserved in 10% formalin and photographs taken by using mobile and high megapixel cannon camera. The images were then classified through the system that involves identification and specific characters.

Observation:

In this PBR study, **eleven** species of paddy field insect pests are identified that are prominently found in agricultural fields of *Kasvi* village. Along with paddy crops, vi inhabitants livelihood depend on cultivated vegetables and others crops like *Lablab purpureus* (*Popat*), *Lycopersicum esculentum* (*Tomato Bhedru*), *Cicer aerientinum* (*Chana*), *Cajanus cajan* (*Tur*), *Solanum melongena* (*Wanga, Baigan*), *Capsicum annum* (*Mirchi*), *Trigonella foenumgraecum* (*Methi*), *Arachis hypogaea* (*Bhuimung*), *Zea mays* (*Maize*), *Brassica compestris* (*Mohari*), *Coriandrum sativum* (*Sambhar*), *Cauliflower and Cabbage etc.* Groundnut (*Arachis hypogaea*) is second most important crops of this area. These crops are also affected by insect pest. Some of the insect pest are observed as sucking pest of paddy *Nephotettix nigropictus*, *Nephotettix virescens*, *Nephotettix nephotettis*, Borer pest of paddy- Yellow stem borer – *Scirpophaga incertulas*, *Gall midge or gall fly - Orselia oryzae*, White leaf hopper(WLH) – *cafana spectra*, Brown plant hopper(BPH) – *Nilaparvatha lugens*, *Earhead bug-Leptocorisa oratoria*, *Thrips- Stenchaetothrips biformis*, *Mealy bugs-Brevennia rehi*, *Chilo acutus*, *Papilio demolius*, *Raphidopalpa foveicollis*, *Earias vittella*, *Dysdercus cingnallatus*, and *leucinodes orbonalis etc.*

Pesticides can contaminate soil, water, and other vegetation. In addition to killing insects or weeds, pesticides can be toxic to a host of other organisms including birds, fish, beneficial insects, and non-target plants. Insecticides are generally the most acute toxic class of pesticides, but herbicides can also pose risks to non-targeted organisms. “If little is good, a little more will be better” has played havoc (great disorder) with human and other life forms.

Loss caused due to pests in Rice: -

Rice is essentially a crop of warm, humid environments to the survival and Proliferation of insects. More than 20 species were recorded as pests of rice and have major significance. The insects act as vectors of virus diseases and are a major factor responsible for low yield of rice.

Control: -

1. Integrated pest management depends on the need, availability and feasibility of implementation.
2. No single method is adequate to suppress pest population.
3. Control measures are mainly Cultural, Mechanical, chemical and Biological. Among these different methods the farmer is inclined more for chemical method of control as this method gives quick results.

Advantages of Chemical Control:-

1. It is very effective in most cases.
2. It is comparatively cheap and within the reach of many farmers.
3. It usually involves less labour than mechanical methods.
4. Infestation over large areas can be treated and in less time than by other methods.

Disadvantages of Chemical control:-

1. The insecticides are more indiscriminate in killing insects.
2. Thus, not only harmful insects are killed, but some of the beneficial insects as well.
3. This leads to ecological imbalance leading to secondary infestation of certain pests.
4. Most of the insecticides are poisonous to mammals, particularly human being & birds.
5. Contribute to environmental pollution.
6. Several insecticides are toxic not only to insects but to plants as well leading to phytotoxicity.
7. Indiscriminate use of pesticides leads to the development of resistance in pests.
8. The residues in edible parts of the plant are harmful to consumers.
9. Because of these draw backs one should not rely on unilateral chemical control, but has to adopt integrated pest management by utilizing all possible methods of control.
10. The total Eradication of pests is almost impossible with available agricultural technology.

FIELD STUDY PHOTOGRAPHY BY THE STUDENT

Plate no. 1. Environment study-PBR Zoology student groups of M. G. College, Armori district- Gadchiroli Observed crops affected by Insect pest at adopted village *Kasvi* during 2017-18



Cauliflower leaf affected by insect pest pests



Rice and Tur affected by insects



Cauliflower affected by insect pest



Groundnut affected by insects pests

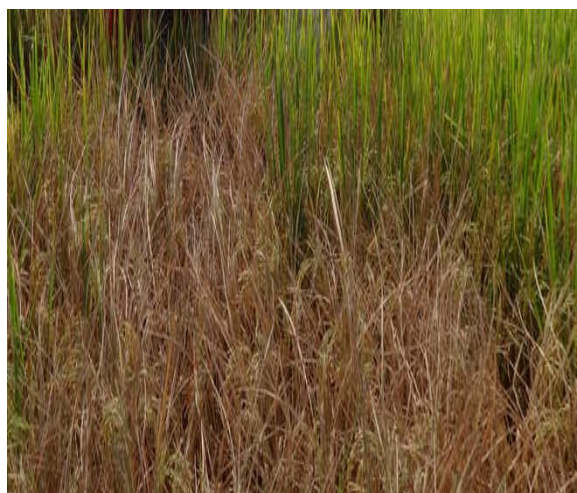


Student PBR Zoology group visited to *Kasvi* with Supervisor

Study on Agro-Biodiversity (Kasvi Village)

Table:-1. Showing plants (vegetables and main crops) cultivated by Kasvi farmers in their agriculture lands.

SN.	Crops-botanicals names	Common names	Class	Orders	Family
1.	<i>Oryza sativa</i>	Dhan	magnoliopsida	fabales	fabaceae
2.	<i>Arachis hypogaea</i>	Groundnut	magnoliopsida	fabales	fabaceae
3.	<i>Cajanus cajan</i>	Tur	magnoliopsida	fabales	fabaceae
4.	<i>Cicer arietinum</i>	Chana	magnoliopsida	fabales	fabaceae
5.	<i>Capsicum annuum</i>	Mirchi	magnoliopsida	solanales	solanaceae
6.	<i>Lycopersicon esculentum</i>	Tomato	magnoliopsida	solanales	solanaceae
7.	<i>Solanum melongena</i>	Wanga	magnoliopsida	solanales	solanaceae
8.	<i>Lablab purpureus</i>	Popat	magnoliopsida	fabales	fabaceae
9.	<i>Trigonella foenumgraecum</i>	Methi	magnoliopsida	fabales	fabaceae
10.	<i>Brassica compestris</i>	Mohari	magnoliopsida	lapparales	brassicaceae
11.	<i>Coriandrum sativum</i>	Sambhar	magnolipsida	apiales	apiaceae



Affected Dhan (Oryza sativa)



Oryza sativa (Dhan)



Cajanus cajan (Tur)



Lablab purpureus (Wall Falli)



Lablab purpureus (Popat)



Solanum melongena (Brinjal, Wanga)



Capsicum annum (Mirchi)



Cajanus cajan (Tur)



Cicer arietinum (Chana)



Trigonella foenumgraecum (Methi)



Arachis hypogaea (Bhuimung)



Arachis hypogaea (Groundnut)



Oryza sativa (Dhan)



Zea Mays (Maize)



Brassica Campestris (Mohari)



Affected Coriandrum sativum (Sambhar)



Leaf affected by beetle



leaf of brinjal affected by insect pest



Crop affected by Stem borer



leaf affected by insect caterpillar

Additional Enemies of Crops:-

Crops can also be affected by other living organisms like rats and fungus as well as by non-living factors such as wind, water, temperature, radiation and soil acidity.

Different types of pests that cause damage to the rice crop and other crops. The following insects (sucking and biting insects), Plant diseases (fungi, bacteria, virus, and micro plasma), Nematodes, Rodents and Snails were mostly observed during PBR study on agricultural fields of Adopted village, *Kasavi*.

1. **RATS** breed at an alarming rate when food is abundant. One female rat can produce 35 rats in a season. Rat management is critical before the breeding cycle, otherwise, the population can explode and yields will be greatly reduced.
2. Disease damage to rice can greatly reduce yield. They are mainly caused by BACTERIA, VIRUSES, OR FUNGI. Planting a resistant variety is the simplest and, often, the most cost effective management for diseases.
3. Unfortunately, the **golden apple snail** has become a major pest of rice.



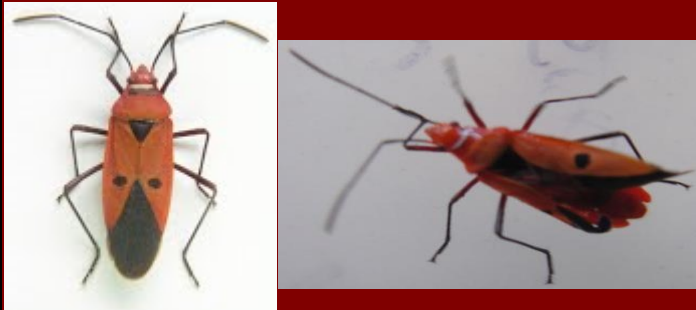


Rice affected by Golden apple snail

4. **BIRDS** are considered to be a pest of rice but little is known about exactly how much damage is caused by birds. Only a few species of birds are grain eaters and others eat insects, worms, or snails.
5. **NEMATODES** such as the root-knot nematode infect plant roots, causing root knot galls that drain the plant's photosynthetic and nutrients. It can even cause complete yield loss.

6. More than **100 species of INSECTS** are considered pests in rice production systems globally, but only about **20 species** cause significant economic damage. The recommended control of insect pests is to develop and follow an Integrated Pest Management plan.

❖ Study of Paddy Field diseases

<p>1. Green paddy leafhopper <i>Nephotettix virescens</i> Classification Phylum – Arthropoda Class – Insecta Order – Hemiptera Family – Cicadellidae Genus – <i>Nephotettix</i> Species – <i>Nephotettix</i></p>	
<p>2. Spotted Bollworm <i>Earias vitella</i> Classification Phylum – Arthropoda Class – Insecta Order – Lepidoptera Family – Noctuoidea Genus – <i>Earias</i> Species – <i>vitella</i></p>	
<p>3. Red Cotton Bug <i>Dysdercus cingulatus</i> Fabr. Classification Phylum – Arthropoda Class – Insecta Order – Hemiptera Family – Pyrrhocoridae Genus – <i>Dysdercus</i> Species – <i>D. cingulatus</i></p>	

1. *Nephotettix virescens*

Life History – Whole life cycle takes place on plants. Female inserts her ovipositor and lays **25-34** eggs. During her life, she may lay **100-300** eggs.

Damage – Nymphs and adults suck sap from green leaves due to which the leaves turn yellowish and later the entire plant is drying up (hopper burn) losing their vigor and seedlings die. They may transmit viruses causing fatal disease to the plants.

Control –

- (i) Primary measures: Mass collection and killing by light trap as well as by avoiding summer paddy cultivation.
- (ii) Chemical measures: Spraying with 5% malathion or dusting with 5-10% BHC.
- (iii) Biological measures: The parasite, *Westwoodella nephotetticum* and *Oligosita nephotetticum* destroys eggs.

2. *Earias vitella*

Life History – Female lays **200-600** eggs singly on the flower buds, bracts, bolls and green leaves during night. Incubation period: 2-10 days.

Damage – The caterpillars bore the stem of young seedlings and feed upon the buds. Flowers and later bore the bolls causing their heavy dropping. The infested shoots wither, droop and die. Large bolls bear holes plugged with excreta of the worms. It causes 50-80% loss of the crop during infestation.

Control

- (i) Primary measures Uprooting and burning of cotton stalks soon after harvest. Destruction of wild alternate host plants from the area of cultivation. Clipping of infested seedling shoots. Destruction of dropped bolls. Burning of fallen cotton stalks, infested shoots and bolls.
- (ii) Chemical measures: Spraying with carbaryl, endosulfan, quinalphos, phosalone, malathion, monocrotophos or fenthion after every 15 days.
- (iii) Biological measures: egg parasite, *Trichogramma vanescens*, larval parasite; *Microbracon lefroyi*, *Rhogas*, *Apanteles* pupal parasite – *Chelonus rufus*. Larva-predator- bug, *Cantheconidae furcellata* and wasp, *Eumenes petiolata*.

Note: The spotted bollworm, *Earias insulana* (Biosduval) (Lepidoptera : Noctuidae) is a top-shoot borer and it occurs sporadically in North – west India.



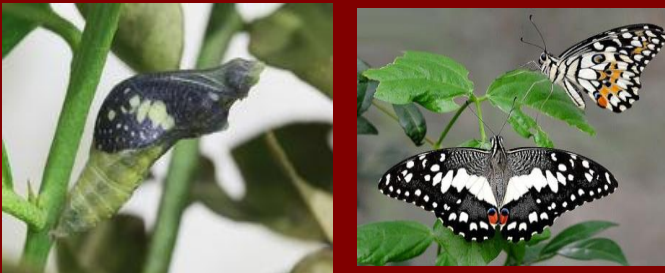
3. *Dysdercus cingulatus* Fabr.

Life History – Female lays **100-150**, spherical yellow eggs under the soil of cotton plantation. Incubation period is 4-7 days.

Damage – Nymphs and adults suck the plant sap from the leaves, shoots and bolls. The is stained red. They adversely affect the quality of ginning and oil content of the seeds. They introduce, a bacterium, *Nemato sporagossypii* into bolls causing red staining of the lint, besides depositing excreta.

Control –

- (i) Primary measures: Mass killing of the nymphs and adults by hand picking. Ploughing of the field to destroy the eggs.
- (ii) Chemical measures: Spraying with sevin, heptachlor, methyl parathion.
- (iii) Biological measures: Predators – *Antiloclus coqueberti* and *Harpactor costalis*.

<p>4. The Paddy Gallfly <i>Orseolia</i> Classification : Phylum -Arthropoda Class - Insecta Order - Diptera Family - Cecidomyiidae Genus - <i>Orseolia</i> Species - <i>Orseolia oryzae</i></p>	
<p>5. The Sorghum Stem Borer <i>Chilo</i> Classification: Phylum -Arthropoda Class - Insecta Order - Lepidoptera Family - Crambidae Genus - <i>Chilo</i> Species - <i>Chilo acutus</i></p>	
<p>6. The Lemon Butterfly <i>Papilio demoleus</i> Linn. Classification: Phylum -Arthropoda Class - Insecta Order - Lepidoptera Family - Papilionidae Genus - <i>Papilio</i> Species - <i>P. demoleus</i></p>	

4. The Paddy Gallfly *Orseolia*

Life History – Short in summer and long in winter. The female lays creamy white, oval (200-300) eggs in clusters of 50-150 on the underside of the leaves in rows along midrib, during April - May. Incubation period is 2-6 days.

Damage – It generally attacks older plants. The first instar and later larvae are internal feeder which cause death of the central shoot and formation of 'dead hearts' without showing any external sign. The larvae and adults are nocturnal. The damages are estimated to about 80% of the crop in the case of severe infestation.

Control –

(i) Primary measures – Removal and destruction of dead-hearts. Burning of stubbles and trash which becomes a source of next infestation. Collection and destruction of caterpillars. Collection and destruction of adult moths by light or pheromone traps. Use of resistant varieties of maize like Antiguo Gr I, Jawahar, hybrid Ganga etc.

(ii) Chemical measures – No insecticidal treatment is effective. 4% granules of endosulfan, 0.2% carbaryl spray 2 to 3 times at 10 days interval.

(iii) Biological measures – Introduction of *Trichogramma*, *Telenomus* as the egg parasites and *Apanteles colemony*, *Bracon chinensis* as the larval parasites and carabid *Chalaeniushamifer*, coccenellid, *Coccenillaseptempunctata* larvae as predators feeding on early stages of larvae.

Microbs : protozoan, *Tetrahymena* and nematode, *Neoplectana* on laevae :

5. The Sorghum Stem Borer

Chilo

Life History – The female lays about **15-25** eggs in cracks, crevices or glued to the bark. Incubation period: 8-11 days during May & June.

Damage – Larvae feed on bark, excavate tunnels in the stem and destroy internal tissues of the plants. Older trees are more susceptible.

Control –

- (i) Primary measures : Removal of silken webs.
- (ii) Chemical measures : open holes and galleries treated with CS₂, kerosene and followed by 0.5% BHC spraying.

6. The Lemon Butterfly




Papilio demoleus Linn. (Lepidoptera :Papilionidae)

Life History – The female lays **80-120** yellowish white spherical eggs singly on the under-surface of the young leaves. Incubation period : 3-7 days.

Damage – The caterpillar feeds on tender leaves completely causing heavy defoliation.

Control:

- (i) Primary measures – Hand picking of caterpillars and pupae.
- (ii) Chemical measures : Spraying with any contact insecticide, like 0.05% malathion.
- (iii) Biological measures : Introduction of predators like *Polister herebreus* and *crebrator gemmatus* and parasites – *Trichogramma evanescens*, *Pteromalus*, *Telenomus* destroy eggs. Similarly, *Erycianympalidaephaga*, *Charops*, *Brockymeria* destroy larvae effectively.

<p>7. The Pumpkin Beetle Raphidopalpa Classification: Phylum -Arthropoda Class - Insecta Order - Coleoptera Family - Chrysomelidae Genus - Raphidopalpa Species - R. foveicollis</p>	
<p>8. The Brinjal Shoot and Fruit Borer Leucinodes orbonalis Classification: Phylum -Arthropoda Class - Insecta Order - Lepidoptera Family - Crambidae Genus - Leucinodes Species - L. orbonalis</p>	
<p>9. Groundnut Stem Borer Sphenoptera perotetti Classification Phylum:- Arthropoda Class:- Insecta Order:- Coleoptera Family:- Buprestidae Genus:- Sphenoptera Species:- perotetti</p>	

7. The Pumpkin Beetle (Raphidopalpa)

Life History – Short and long life cycles, Female lays about 150-300 oblong, orange coloured eggs in cracks under soil near plants. Incubation period – 5-7 days.

Damage – Grubs bore into the roots and may reach upto middle of the stem and also feed on flower buds, leaves and fruits whenever come in contact with soil.

Control –

- (i) Primary measures: Hand picking and killing the adults. Ploughing of fields to kill the soil grubs and pupae. Burning of old creepers.
- (ii) Chemical measures – Similar to the Hadda beetles. 0.02% methyl parathion or 0.1% lindane spraying give satisfactory control.

8. The Brinjal Shoot and Fruit Borer - Leucinodes orbonalis

Life-History – Eggs – Female lays singly about **150-250** eggs of white colour, on underside of the leaves, buds, calyces of the fruits etc. Incubation period is 3-5 days

Damage – Being stem borer, larvae are internal feeders of the stem causing shoots to bend down and wither. One fruit may be infested by large number of larvae. Large holes are the exit openings of the last instar caterpillar for pupation.

Control-

- (i) Primary measures: Removal and destruction of infested fruits and bended shoots. Cropping of tomato and potato by rotation. Cropping of a variety with long tubular fruits in the place of that with spherical fruits.
- (ii) Chemical measures – Spraying with 0.1% carbaryl, quinalphos, Endosulfan, chlorpyrifos at regular intervals of 7-10 days.
- (iii) Biological measures – Larval parasites, *Bracon*, *Pristomerus cremastus* etc. lower down the pest level.

9) Groundnut-

Like other crop, groundnuts are attacked by various pests and diseases, the table below shows how different pests can damage host and can be controlled without using chemicals.

Pest/Diseases	Stage Attacked	Types of Damage	Control Measures
White grubs	All stages	Roots,pods,young nuts	Well decomposed manure
Termites	All stages	Roots,stem based,pods	Early planting ,field hygiene, timely harvesting
Millipedes	Seedling and plants	Pods and flowers	Cover exposed pods, closed soil cracks
aphids	Early growing stages	Vector of rosette virus	Early planting conserve natural enemy eg. ladybird
Leaf spot	Leaves	Brown ring spot shedding leaves	Crop rotation
Rust	All aerial parts except flower	Leaves and stem	Remove volunteer GN plant Crop rotation
Bacterial wilt	All stages	Plant wilting	Rotation with cereals
Groundnut rosette virus	All growth stages	Yellowing mottling, stunting	Early planting control of vector aphids

Conclusion: -

The present study concluded that changing environment is favorable for breeding of insect pest. Humidity, temperature and cloudy environment were observed during study period. 70 to 80% crops were affected by borer pest and sucking pest of paddy in studied area. In the field study, nine attacking insect pest on the paddy field were identified by the student with help of supervisor. In addition to this eleven insect pest damaging other crop are noted, Such type of study helps in proper management of crops and accurate diagnosis can significantly reduce economic loss of the farmers.

Recommendations: -

Farmer should be careful about the management of insect pest and sowing of rice and other crops. Farmer should attend the awareness camp organized by expert agriculture officer. Utilize all possible methods of control of insect pest. Proper guidance is necessary to them from proper expert farmers and officer of agriculture. Agency like ATMA leading a key role in the development farmers by giving proper knowledge to people regarding crop management, disease control, advanced technique with natural farming.

News-paper cutting:

शकाळ
14-1-18



आरमोरी : कासवी येथे आलेले महाविद्यालयाचे विद्यार्थी.

विद्यार्थ्यांनी केला कासवीचा अभ्यास

आरमोरी, ता. १३ : जैवविविधता नोंदवही 'पीबीआर' अंतर्गत स्थानिक महात्मा गांधी कला, विज्ञान व स्व. न. प. वाणिज्य महाविद्यालय, आरमोरी येथील प्राणीशास्त्र विभाग व पर्यावरण विकास समिती यांच्या वतीने प्राचार्य डॉ. लालसिंग खालसा यांच्या मार्गदर्शनाखाली दत्तक ग्राम कासवीतील शेतकऱ्यांचा अभ्यास करण्यासाठी विद्यार्थ्यांनी ग्राम कासवी येथे नुकताच अभ्यास दौरा केला.

या अभ्यास दौऱ्यात प्राणीशास्त्र विभागाचे प्रमुख प्रा. डॉ. जयेश पापडकर, प्रा. डॉ. राजेंद्र चव्हाण, प्रा. शेख, प्रा. स्नेहल शेखे, प्रा. शुभांगी इंदुरकर, खुशाल रामटेके यांच्यासह एकूण ५२ विद्यार्थ्यांनी सहभाग घेतला. यावेळी विद्यार्थ्यांनी शेतीशी संबंधित विविध प्रश्नांची प्रश्नावली तयार केली व शेतकऱ्यांशी त्या प्रश्नांवर हितगुज केली. यादरम्यान विद्यार्थ्यांनी ट्रॅप मेथड आणि हॅन्ड पिकिंग मेथडच्या सहाय्याने शेतकी परिसरामध्ये हानिकारक कीटकांना प्लॅस्टिक पिशवीत गोळा केले आणि त्याचा शास्त्रीय दृष्टीने अभ्यास केला. कीटकांचा प्रादुर्भाव कमी व्हावा व उत्पन्नात वाढ होण्याच्या दृष्टीने अभ्यास दौऱ्यानिमित्त शेतकऱ्यांना उपाययोजना सांगितल्या.

दैनिक भास्कर
11-1-18

प्राणीशास्त्र के विद्यार्थियों ने दी दत्तक ग्राम कासवी को भेंट

संवाददाता | आरमोरी. महात्मा गांधी कला, विज्ञान व स्व. न.प. वाणिज्य महाविद्यालय आरमोरी के प्राणीशास्त्र विभाग और पर्यावरण विकास समिति के संयुक्त तत्वावधान में महाविद्यालय के प्राचार्य तथा दत्तक ग्राम विकास कार्य समिति के अध्यक्ष डा. लालसिंग खालसा के मार्गदर्शन में दत्तक ग्राम कासवी के किसानों का अभ्यास करवाने के लिए विद्यार्थियों ने ग्राम कासवी में अभ्यास दौरा किया। इस अभ्यास दौरे में 52 छात्र व प्राणीशास्त्र विभाग के प्रमुख प्रा. डा. जयेश पापडकर, प्रा. डा. राजेंद्र चव्हाण, प्रा. फातेहीन शेख, प्रा. स्नेहल शेखे, प्रा. शुभांगी इंदुरकर और खुशाला रामटेके ने हिस्सा लिया। इस अवसर पर विद्यार्थियों ने खेती से संबंधित विभिन्न विषयों की प्रश्नावली तैयार की व किसानों से उन प्रश्नों पर चर्चा कर प्रश्नावली भरी। इस वक्त छात्रों ने ट्रैप मेथड व हैंड पिकिंग मेथड के सहयोग से खेती के लिए हानिकारक कीटों को प्लास्टिक

बैग में जमा किया व इसका शास्त्रीय दृष्टि से अभ्यास किया गया। निरंतर नाफसल व कीटों के प्रकोप से होनेवाले नुकसान से कासवी के किसान चिंताग्रस्त होने की बात ध्यान में आई। कीटों का प्रकोप कम करने और उत्पादन में वृद्धि करने के लिए अभ्यास दौरे में किसानों को उपाययोजना बतायी गयी। शास्त्रीय पद्धति पर भी उन्हें मार्गदर्शन किया गया। आयोजन की सफलता के लिए प्रा. सतेन्द्र सोनटक्के, रश्मी कापकर, हिना खान, श्रद्धा, स्वाती, आशिष वनकर, खुशाल रामटेके समेत प्राणी शास्त्र विषय के विद्यार्थियों ने परिश्रम किया।

देशोल्लंती
10-1-18

प्राणीशास्त्र विषयाच्या विद्यार्थ्यांची दत्तक ग्राम कासवीला भेट

तालुका प्रतिनिधी/ ९ जानेवारी
आरमोरी : नैसर्गिक बदलांचा प्रभाव व शेतकऱ्यांचे होणारे आर्थिक नुकसान या विषयाबद्दल विद्यार्थ्यांमध्ये जिज्ञासा निर्माण व्हावी आणि त्यांच्यात वैज्ञानिक दृष्टीची विकास व्हावा या हेतूने लोकांचे जैवविविधता नोंदवही (पी.बी.आर.) अंतर्गत स्थानिक महात्मा गांधी कला, विज्ञान व स्व. न.प. वाणिज्य महाविद्यालय, आरमोरी येथील प्राणीशास्त्र विभाग व पर्यावरण विकास समिती यांच्या संयुक्त विद्यमाने महाविद्यालयाचे प्राचार्य तथा दत्तक ग्राम विकास कार्य समितीचे अध्यक्ष डॉ. लालसिंग खालसा यांच्या मार्गदर्शनाखाली दत्तक ग्राम कासवीतील शेतकऱ्यांचा अभ्यास करण्यासाठी विद्यार्थ्यांनी ग्राम कासवी येथे अभ्यासदौरा केला.

या अभ्यास दौऱ्यात एकूण ५२ विद्यार्थी व प्राणीशास्त्र विभागाचे प्रमुख प्रा. डॉ. जयेश पापडकर, प्रा. डॉ. राजेंद्र चव्हाण, प्रा. फातेहीन शेख, प्रा. स्नेहल शेखे, प्रा. शुभांगी इंदुरकर, खुशाल रामटेके यांनी सहभाग घेतला. यावेळी विद्यार्थ्यांनी शेतीशी संबंधित विविध प्रश्नांची प्रश्नावली तयार केली व शेतकऱ्यांशी त्या प्रश्नांवर हितगुज केली आणि

प्रश्नावली भरून घेतली. यादरम्यान विद्यार्थ्यांनी ट्रॅप मेथड आणि हॅन्ड पिकिंग मेथडच्या सहाय्याने शेतकी परिसरामध्ये हानिकारक कीटकांना प्लॅस्टिक पिशवीत गोळा केले आणि त्याचा शास्त्रीय दृष्टीने

अभ्यास करण्यात आला. सततची नापिकी व कीटकांच्या प्रादुर्भावाने होणारे नुकसान ह्यामुळे कासवीचा शेतकरी चिंताग्रस्त असल्याचे लक्षात आले. कीटकांचा प्रादुर्भाव कमी व्हावा व उत्पन्नात वाढ होण्याच्या

दृष्टीने अभ्यासदौऱ्याच्या निमित्ताने शेतकऱ्यांना उपाययोजना सांगितल्या गेल्या. शास्त्रीय पद्धतीविषयी माहिती देण्यात आली. सहभागी विद्यार्थी व प्राध्यापकांनी अभ्यासदौऱ्यादरम्यान दिलेल्या माहितीविषयी शेतकऱ्यांनी समाधान व्यक्त केले.

यशस्वीतेसाठी प्रा. सतेंद्र सोनटक्के, रश्मी कापकर, हिना खान, श्रद्धा, स्वाती, आशिष वनकर व खुशाल रामटेके व प्राणीशास्त्र विषयाच्या विद्यार्थ्यांनी परिश्रम घेतले.

Field Photography



List of Participating Student

B.Sc.II B (ZOOLOGY)		SESSION : 2017-2018	
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13	KU RUTUJA RAVINDRA BHANDEKAR	ZOO	B
14	KU SAMIKSHA GOPAL KHEWALE	ZOO	A
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20	KU SONAM RUSHI CHAPLE	ZOO	A
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DEPARTMENT OF GEOLOGY



Department of Geology

PBR Study Report on Improvement in Quality and Moisture of Soil for crop fertility by using SRT method of Kasvi area

PBR submitted by: -B. Sc. II (Department of Geology) students group 2017-18

Under the supervision of Prof. Dr. C. P. Dorlikar and Prof. P. S. Ganvir

Introduction: -

Saguna Rice Technique is a unique new method of cultivation of rice and related rotation crops without ploughing, puddling and transplanting (rice) on permanent raised beds. Rice cultivation method evolved at Saguna Baug, Neral, Dist. Raigad, Maharashtra, hence known as Saguna Rice Technique. The permanent raised beds used in this method facilitates ample of oxygen supply to root zone area while maintaining optimum moisture condition.

- SRT insists that all roots and small portion of stem should be left in the beds for slow rotting.
- Weeds are to be controlled with weedicides and manual labor. No plugging, peddling and hoeing is to be done to control weeds.
- This system will get the crop ready for harvesting 8 to 10 days earlier. Take this into consideration while choosing a variety to avoid getting harvesting caught in receding rain.
- While working towards promoting organic farming, the farmers shared that the major challenge they face is the scarcity of water in the region. Keeping this in mind, a series of trainings were provided to the farmers as per their demand to gain inputs which can furnish their knowledge of innovative farming under dry land or with less irrigation facility. The resource person in the training suggested inputs on the Broad Bed Furrow (BBF) System.

A raised land configuration 'Broad Bed Furrow' (BBF) system helps the soil to preserve the water level for a longer period. Holding moisture intact, the bed stimulates crop's growth. This system would not only help in water conservation for better crop

yield but also help adapt to the ever changing climate. The crops will respond better to fickle rain durations and survive longer.

In this method we have to till the soil and make the raised beds only once. The same permanent beds will be used again and again to grow various rotation crops after rice in one season. Draw parallel lines with help of rope and lime or wood ash at 136 cm i.e 4.5 feet apart. Use tractor drawn 'Bed maker' or any other means to open furrows at marked lines and make raised beds.

Worldwide, farmers are losing an estimated 24 billion tones of topsoil each year. To scope up with the ever rising soil erosion problem many new techniques are introduced in accordance with the locality. Study area Kasavi which is in Armori Taluka Dist. Gadchiroli is basically a paddy field. Majority of agricultural land is engaged in rice cultivation.

Agriculture background of Kasvi area

Soil use pattern is nothing but the study of various activities depending on soil cover around village. Survey of 158 families with special reference to cropping pattern, production of crops and type of irrigation used is done to understand soil use in Kasavi.

- a. Total land owner for agriculture – 77.00 %
- b. Total land used under food grains (paddy) – 80.00 %
- c. Share of land for agricultural use – 60 % uses 1 acre, 25 % uses 2 acre, remaining uses more than 2 acres.
- d. Total land under irrigation for food grains – 40.00 %
- e. Types of irrigation available – Dug well (10 %), Pond (30 %), Canal (50 %) and remaining goes for drip.
- f. Cropping Pattern – 90.00 % engaged in single crop pattern.

Form above data it is clear that maximum residential are engaged in agricultural practices that to an irrigated agriculture. As per capita belongings are less each and every farmer makes his own arrangement of irrigation and other work. This de-centralized work method cause maximum use of water resource.

Improper irrigation practice by each and every individual cause's soil to wash out or water logged during irrigation. Agricultural land located nearby Gadhavi river is more sensitive to soil erosion as gradient is towards river channel.

Geology and Geomorphology of Kasvi:-

For exploration purposes, published maps of the area may be used or if none is available, mapping may be required. This may be done using remote sensing techniques. A suitable map scale for such an exercise is 1: 50,000. Maps of this scale may help in locating the most probably and potential geologic environments. In the initial stages of the exploration program, geological maps help in the interpretation of geophysical and geochemical anomalies. In the advanced stages of exploration of more detailed map, perhaps on scales of 1: 2000 or 1:1000 may need to be prepared. For the purpose of study of given area Toposheet No – 64D/2, 64D/3 have been used.

The traverses line along these latitude and longitude passes through many political benchmarks like villages (Jogisakhara, Kasvi, Astha). Some topographic benchmarks like hillocks trending in specific direction river called Nala, also act as benchmarks in topography of given area. The traverse line will proceed from the point located at latitude and longitude. After proceeding from kasvi, Ashta and Jogisakhara area is traced via crossing Gadhvi Nala.

First of all grid pattern is prepared for the sake of sampling, following pattern is prepared of which 100 m interval distance is maintained. This interval is because of preliminary survey, if it would have been detailed survey then distance was supposed to be 50 m.

Methodology of Geological Mapping

It is a basic geological survey, which actually operates on the field area. Generally maps of 1:50000 to 1: 25000 are used. Survey on field is done with the help of base line and traverse line, which is described below.

- **Base line:** It is the reference line assumed along the regional strike of Formation. The position from where the survey is initiated is considered as zero.

Assuming the North direction east and west segments of base line are considered. The segments can be of any interval as per the requirement. The points along East are considered as E₁, E₂, and so on whereas along west will be W₁, W₂ and so on.

- **Traverse line:** It is a line perpendicular to base line and will be complimentary to direction of base line, for above case say north and south with points placed at specified intervals say N₁, N₂, so on and S₁, S₂, so on respectively.



N ₃ W ₃	N ₃ W ₂	N ₃ W ₁	N ₃	N ₃ E ₁	N ₃ E ₂	N ₃ E ₃
N ₂ W ₃	N ₂ W ₂	N ₂ W ₁	N ₂	N ₂ E ₁	N ₂ E ₂	N ₂ E ₃
N ₁ W ₃	N ₁ W ₂	N ₁ W ₁	N ₁	N ₁ E ₁	N ₁ E ₂	N ₁ E ₃
W ₃	W ₂	W ₁	O	E ₁	E ₂	E ₃
S ₁ W ₃	S ₁ W ₂	S ₁ W ₁	S ₁	S ₁ E ₁	S ₁ E ₂	S ₁ E ₃
S ₂ W ₃	S ₂ W ₂	S ₂ W ₁	S ₂	S ₂ E ₁	S ₂ E ₂	S ₂ E ₃
S ₃ W ₃	S ₃ W ₂	S ₃ W ₁	S ₃	S ₃ E ₁	S ₃ E ₂	S ₃ E ₃

The position shown on the grid points are the sites of grab sampling in Kasvi area.

Various factors affecting soil erosion

Soil formation depends on various factors including like climate, relief, parent material, vegetation, soil biota and most important one is time.

a) **Climate** – Climate of any area includes precipitation, temperature, moisture, wind velocity etc. different sets of condition develops different type of soil. For example dry climate gives sandy soil where as tropical humid climate gives residual soil type.

b) **Relief** – Topography is a very important factor in soil development as stability of land surface is very important for soil formation. In hilly areas a very thin layer of soil is formed because of unstable slopes, whereas thick layer is formed over stable and planner lands.

Relief is not static, it is a dynamic system. Relief influences soil formation in several ways:

- It influences soil profile thickness i.e. as angle of slope increases so does the erosion hazard
- It has an effect on climate which is also a soil forming factor
- Gradient affects run-off, percolation and mass movement
- It influences aspect which creates microclimatic conditions



c) **Parent Material** – The underlying rock decides the type of soil and time required to degradation as every rock degrades on its own speed. Few rock types like limestone weather easily whereas some like sandstone takes long time to do so. Different rock types give different soil texture and structure. Chemistry of soil also depends on parent rock type.

The parent material can influence the soil in a number of ways:

- colour
- Texture
- Structure
- Mineral composition
- Permeability/drainage

d) Vegetation and Soil biota - Humus is a degraded biotic component of soil. Humus plays very crucial role soil fertility. Local vegetation and soil biota are the major deciding factors for humus quantity and quality. Leaf litter, fermenting leaf litter and humus exists over top layer of soil.

Organisms influencing soil development range from microscopic bacteria to large animals including man. Microorganisms such as bacteria and fungi assist in the decomposition of plant litter. This litter is mixed into the soil by macro organisms (soil animals) such as worms and beetles. Soil horizons are less distinct when there is much soil organism activity. Higher plants influence the soil in many ways. The nature of the soil humus is determined by the vegetation cover and resultant litter inputs. Roots contribute dead roots to the soil, bind soil particles together and can redistribute and compress soil.

e) Time – Time is the key role player in soil formation because for its formation very long period of time is required. During its long time of formation whole assemblage should be in a stable state. Less time may hold soil formation is a immature stage which cannot give fruitful results.

Soils are complex and dynamic systems, in which many processes are taking place. Its formation follows weathering, decomposition & humification, capillary action, leaching and translocation.

f) Weathering - This refers to the breakdown and decomposition of rocks and minerals by factors including air, water, sun and frost. Physical weathering involves continual

breakdown of rocks into smaller and smaller particles. Chemical weathering involves alteration of the chemical composition of rock minerals by various processes like oxidation, reduction, solution, hydration and hydrolysis.

g) Decomposition & Humification - Decomposition is the breakdown of plant derived material into its simpler organic constituents. This is accomplished by enzymes, earthworms, mites and other organisms. Humification is the breakdown of plant remains leading to the formation of different types of humus. It is probably the most important biological process taking place in soils.

h) Capillary Action - Where evaporation exceeds precipitation, moisture moves upwards within the soil profile by capillary action. It is therefore in the reverse direction to leaching.

i) Leaching - Wherever rainfall exceeds evaporation and there is free downward movement of water through the soil pore system, soluble minerals are leached or removed from the soil profile. Continual leaching tends to impoverish the upper mineral horizons by removal of basic cations (Cations are ions having a positive electrical charge e.g. Ca^{2+}). Leaching is most active in sandy soils with high porosity and is least in fine-textured soils such as clays which have restricted pore spaces.

j) Translocation – The movement of material in solution or suspension from one horizon to another is referred to as translocation. The upper mineral horizon losing the material is the ELUVIAL or E horizon. This is where maximum leaching or eluviation takes place. The E horizon near the surface of a podzol is a good example of an ELUVIAL horizon. The lower horizon gaining the material is the ILLUVIAL horizon (often a subsoil or B horizon). This is the zone of maximum accumulation. After completion of reconnaissance survey, we get assured with our area of interest. Hence, we start detail survey in interest area. Following are the procedures,

Sampling methodology

The rock sampling is the collection of representative sample from the bulk of rock, to understand the character like, mineralogy, texture, genetic aspects, etc. There are two types of fundamental importance

- **Grab Sampling**

It is a random sample collection of rock fragments, along the line of traverse. It generally represents the bulk of rock body.

- **Channel Sampling**

It is done by sample collection along small trenches and Pitts in accordance with the dip and across the strike of ore body. Intervals of specific distance are maintained.

Soil Sampling

Soil is nothing but the weathered product of bed roc, therefore mineralogy content of bed rock and soil cover over it will be probably equivalent. Soil generally develops in stages which can be observed along soil profile.

Stage	Composition
A	Regolith and Humus.
B	Fresh Soil without Humus.
C	Weathered Bed Rock.
D	Compact (unweather) Bed Rock.

B horizon of the soil is very much preferred for sampling, as it does not content humus and rock fragments. An instrument known as “Auger” is used to dig out the fresh soil of B horizon.

Geology of Kasvi Area

The point of initiation was located at an undulating topography. The Gadhavi Nala act as a natural benchmark to understand the position more precisely. The prominent rock types which we encountered were of Gondwana Age and are as follows:

- **Sandstone** - This one is gritty sandstone as it contains coarse grains of feldspar and quartz. It is classified under arenaceous group. In appearance rock is reddish in color. Sorting is poor due to gritty constitution.
- **Quartzite** – It is a meta-sedimentary rock formed by metamorphism of sedimentary rock.
- **Laterite Soil** - It is a Residual Sedimentary soil indicating chemical weathering. Its red color signifies iron content..
- **Sandy Soil** – It is a weathered product of sandstone. This soil is probably yellow in colour and possesses good water holding capacity.

Hydrogeomorphology:-

In field observation following geomorphic units were observed;

Hydrogeomorphic units	Description (Field observation)	Slope (degrees)	Drainage density
Alluvial plain	Gently sloping tract produced by deposition of alluvial. Material consisting of gravel, sand, silt and clay of varying lithology.	Gentle (0 - 7)	Low
Ravenous/Gullied land	Ravine is usually associated not with an isolated gully but an intricate network of gullies formed generally in deep. Alluvium and entering a nearby river, flowing much lower than the surrounding tablelands.	Gentle (0 - 7)	Moderate high
Buried pediment	Unconsolidated alluvial materials fill irregularities on the sandstone surfaces. Mostly vegetated or cultivated lying at foot hills.	Gentle moderate (8 - 14)	Low moderate
Hills and ridges	Acts as barrier as well as carrier for ground water flow represents areas of high runoff.	Moderate-Steep (15 - 21)	Low

Soil can be defined as the solid material on the Earth's surface that results from the interaction of weathering and biological activity on the parent material or underlying hard rock. The study of soils is called pedology (from the Greek word pedon, meaning soil or earth). Pedology takes into account:

- Factors and processes of soil formation
- Soil characteristics
- Distribution of soil types

Causes of erosion of soil

In developing countries erosion rates per acre are twice as high as the standard, partly because population pressure forces land to be more intensively farmed. Although soil erosion is a physical process, it also affects productivity and growth. Reductions in yield of up to 50% have been documented on severely eroded soils. When soils are depleted and crops receive poor nourishment from the soil, the food provides poor nourishment to people. Losses of soil take place much faster than new soil can be created. It takes thousands of years to form just a few centimeters of soil. The difference between creation and loss represents an annual loss of 7.5 to 10 tons per acre worldwide.

Topsoil contains most of the soil's nutrients, organic matter, and pesticides. Soil erosion causes these substances to move also. What is left behind is soil with poorer structure, lower water-holding capacity, different pH values, and low nutrient levels. Therefore, fertilizers and organic matter must be added in an attempt to restore the soil to its original composition. The soil also has a lower resistance to drought.

a) Destination of Eroded Soil - Much of the eroded soil is deposited either in low areas of the field or it moves off the farm or eventually enters drainage ditches, streams or rivers. Soil that enters a watercourse reduces water quality, reduces the efficiency of drainage systems and the storage capacity of lakes. Soil that settles in water systems is called **sediment**. Accumulation of sediment often requires that it be cleared out manually, which costs money. Sediment fills rivers and reservoirs and reduces their capacity to hold flood waters. Sediment is considered to be a major pollutant. It can inhibit fish spawning

and block the sunlight necessary to plant life. Increased runoff of chemical and nutrients from farmer's fields must be removed in order for water to be safe to drink.

The severity of soil erosion can vary from place to place. Wind and water are the main causes of soil erosion. The faster either moves or the amount of plant cover available for protection are two main factors associated with erosion. Wind erosion is a more common problem in dry, windy regions, with a smooth, flat terrain. Water erosion is a problem in wet regions with a sloping or hilly terrain.

b) Erosion Factor - The vulnerability of a field to soil erosion is dependent on a number of factors:

- The climatic conditions of the area
- The proportion of sand, **silt** and **clay** sized particles in a particular soil
- The organic matter level
- The **water permeability** of the soil
- The length and slope of the field
- Amount of **crop rotation**
- Direction of cultivation

d) Protection - It is vegetation that keeps soil from eroding. This is because soil is usually covered with shrubs and trees, by dead and decaying matter or by a thick mat of grass. The root systems of plants are able to hold the soil together. Plants slow down water as it flows over the land and it allows much of the rain to soak into the ground. Plants also break the impact of a raindrop before it hits the soil. This reduces water erosion. When this covering is stripped away through deforestation, over-grazing, ploughing and fire, soil erosion is greatly accelerated. Over-cultivation and compaction cause the soil to lose its structure and cohesion and it becomes more easily eroded. Soils with high clay content are more cohesive and allow soil particles to stick together. Soils with more clay are less vulnerable to erosion than soil with high sand or silt content.

e) Prevention - There are a number of other conservation practices which can be used by farmers. Any single conservation practice can significantly decrease soil erosion rates. Combining a number of soil conservation practices is often more effective. The ideal goal would be to achieve a soil loss rate of 6.7 tones/ha/year. This is roughly the rate at which soil can rejuvenate itself. Making sure there are always plants growing on the soil and that the soil is rich in organic matter are two key methods in prevention. Organic matter binds soil particles together which reduces erosion. Organic matter in soil can be increased with crop rotation or by incorporating organic fertilizers. Crop rotation is also effective at enhancing soil structure. There are also many other methods used by farmers to reduce soil erosion. Mulching is one example. It involves spreading hay or straw over a field as a substitute for a cover crop.

Conclusion: -

Kasvi area is a prominent paddy field depending on irrigation. Soil is the most used resource around this area for agricultural practice. During survey it is observed that, at many location soil is degrading due to faulty pattern of agriculture and suffering erosion at other place due to surface water runoff, gradient difference etc. In considering the future perspective we should think over the conservation of soil with new advance techniques. Following are some conclusions drawn from the study and survey;

Sandy soil is observed around paddy field.

- Porosity and permeability of available soil type is fare enough for paddy cropping.
- Due to consistent uniform crop pattern, soil is compacted with less aeration.
- Soil water quantity diminished because of surface compaction and quick runoff.

Recommendation: -

On the basis of observation following recommendation are given to villagers of kasvi for the betterment of soil quality;

- Plantation along Gadhavi river channel and along unstable area like ravenous and gullied land will hold the soil and can prevent soil erosion.
- Plantation will also help in humus development which improves quality of soil.
- Crop rotation is suggested to farmers for better fertility of soil.
- Use of SRT method for paddy cultivation instead of traditional method.
- SRT has made suitable changes in the conventional rice cultivation to ease farmers' laborious work and to prevent fertility loss during peddling.



**Dr. C. P. Dorlikar showing control of soil erosion by using SRT method along
Gadhavi River**

FIELD PICTURES



Dr. C. P. Dorlikar and P. S. Ganvir discussing advantages of SRT method on paddy field.



P. S. Ganvir showing students degradation of soil from paddy field.



A group picture of BSc II students at Gadhavi River channel.



A glimpse of student discussion over crop pattern by local villagers.

News of Kasvi visit for PBR 2018

भूगर्भशास्त्र के विद्यार्थियों ने किया अभ्यास दौरा

संवाददाता | आरमोरी

स्थानीय महात्मा गांधी कला विज्ञान व स्व. न.पं. वाणिज्य महाविद्यालय आरमोरी के भूगर्भशास्त्र विभाग व कृषि कार्यालय आरमोरी के संयुक्त तत्वावधान में महाविद्यालय के प्राचार्य तथा दत्तक ग्राम विकास कार्य समिति के अध्यक्ष डा. लालसिंह खालसा के मार्गदर्शन में दत्तक ग्राम कासवी में भूगर्भशास्त्रीय अभ्यास दौरा किया गया। खेती के उत्पादन में वृद्धि कैसे होगी इस उद्देश से यह अभ्यास दौरा किया गया। एसआरटी इस खेती विषयक नयी तकनीक की जानकारी कराकर इस तकनीक के माध्यम से उत्पादन में वृद्धि करने पर ग्रामीणों को प्रालाक्षिक कर दिखाया गया।

इस अभ्यास दौरे में 48 छात्र व भूगर्भशास्त्र विभाग के प्रमुख प्रा. डा. चंद्रकांत डोलीकर, प्रा. प्रियदर्शन गणवीर, पर्यावरण समिति प्रमुख प्रा. सतेंद्र सोनटके, प्रा. स्वाति हुलके, जितेंद्र बोदेले शामिल थे। इस अवसर पर छात्रों ने खेती से संबंधित एसआरटी पद्धति संबंधी विभिन्न प्रश्नावली तैयार कर किसानों से इस पर चर्चा की। इस अवसर पर छात्रों ने मिट्टी की सीज व उसका कस रोकने के लिए खेती विषयक नयी तकनीक एसआरटी पद्धति की जानकारी दी। रासायनिक खाद का उपयोग न कर जैविक खाद उपयोग कर उत्पादन बढ़ाने पर जोर दिया गया। सफलतार्थ कृषि मित्र दीपक दुपारे, उपसरपंच प्रवीण रहाटे, प्रियंका राऊत, श्वेता खडसे, विशाखा आकरे, प्रणाली चिलांगे, प्रिती हुलके, मनस्वी कालबांधे, अक्षय कुभारे, गुरु शिवरकर, अमोल हेटकर, निलेश निंबार्ते ने परिश्रम किया।



❖ List of Student Participate in PBR-2017-18

Department of Geology			Mahatma Gandhi Arts Commerce & Science College Armori, Dist. Gadchiroli		SESSION : 2017-2018	
BSC - II			(42)			
PBR:- List of Students						
NO.	NAME OF STUDENT		GEO			
✓	MR AKSHAY GHANSHYAM MONGARKAR	A	GEO	Agarwal	Agarwal	
✓	MR AKSHAY HARIDAS KUMBHARE	A	GEO	Kumbhare	Kumbhare	
	MR AKSHAY SURESH TUPAT ✓	A	GEO	Tupat	Tupat	
✓	MR ALKESH DNYANESHWAR MOHDURE ✓	B	GEO	Alkesh	Alkesh	
✓	MR AMOL BAPU HETKAR	A	GEO	Amol	Amol	
✓	MR ANKILESH NARENDRA SAMARTH ✓	A	GEO	Samarth	Samarth	
✓	KU ASHWINI YADAV DUMANE	A	GEO	Admane	Admane	
✓	MR GURUNANAK KAWDUJI SHIVARKAR	A	GEO	Gurur	Gurur	
✓	MR HEMANT GANGHADHAR BHOYAR ✓	A	GEO	Bhoys	Bhoys	
0	✓ KU KIRAN YADAO PILARE	A	GEO	Pilare	Pilare	
1	✓ MR KULDIP KAVALLU THAKARE ✓	B	GEO	Thakar	Thakar	
2	KU KUMUD PANDURANG SORTE	A	GEO	Kud	Kud	
2	KU MADHURI RAMCHANDRA DHOTE	A	GEO	Dhote	Dhote	
4	✓ KU MANSWI MADANKUMAR KALBANDHE	A	GEO	Kalbandhe	Kalbandhe	
8	MR MAYUR BRAMHANAND SORTE	A	GEO	Sorte	Sorte	
8	MR MICHEL SUNIL MAHAJAN	B	GEO	Mahajan	Mahajan	
7	✓ KU NABHA BHAIIYA KADHAO ✓	A	GEO	Kadhar	Kadhar	
✓	KU NAMODITA KRUPANAND SONTAKKE ✓	A	GEO	Kunte	Kunte	
✓	MR NILESH SURESH NIMBARTE ✓	A	GEO	Nit	Nit	
✓	MR PARAG CHAND PASHKHEKHAR GONDHALE	B	GEO	Gondhale	Gondhale	

Mahatma Gandhi Arts Commerce & Science College
Armori, Dist. Gadchiroli

SESSION : 2017-20

SC - II

NO	NAME OF STUDENT		GEO
1	KU PRAGATI BHASHKAR MESHAM	A	GEO Meshram Meshram
	KU PRAJKA DINESH GUNDAWAR	A	GEO
	KU PRANALI UMAKANT CHILANGE	A	GEO Chilange Chilange
	MR PRAVIN NAKTU ASTEKAR	A	GEO PNB PNB
	KU PRITI GHANSHYAM HULKE	A	GEO Hulke Hulke
	KU PRIYANKA CHANGDEO RAUT	A	GEO Raut Raut
	KU PRIYANKA KHEMRAJ PARDHI	A	GEO PARDHI PARDHI
	KU RINA PARASRAM CHAPLE		GEO
	KU ROHINI ANIL JUARE	A	GEO Juare Juare
	MR ROHIT ANIL BAWANE	A	GEO Bawane Bawane
	KU RUCHITA CHANDUJI DHORE	A	GEO Dhore Dhore
	MR SACHIN MANOHAR MORANDE	A	GEO MORANDE MORANDE
	KU SHITAL KHEMRAJ PARDHI	A	GEO PARDHI PARDHI
	KU SHIVALI DHARMAPAL BARSAGADE	A	GEO Barsagade Barsagade
	KU SHIVANI BHUPAL HEMKE	A	GEO Hemke Hemke
	KU SWETA ANIL KHADKE		GEO
	KU JAY PRAKASH KAR		GEO
	KU VANDANA SAU KIRKO		GEO
	KU VISHAKHA NATTHU AKARE	A	GEO Vishakha Vishakha
Total of BSC - II : 39			
-3			
36			
6			

Mahatma Gandhi Arts Commerce & Science College
Armori, Dist. Gadchiroli

SESSION : 2017-20

SC.II (B)

IO. NAME OF STUDENT		GEO	
MR ANKUSH DEVENDRA CHAHANDE Geo		GEO	
✓ KU KAJAL VINOD MESHAM Geo	A	GEO	<u>KAJAL</u>
✓ KU KOMAL PRADIP HUKUDE Geo		GEO	<u>KOMAL</u>
✓ MR MAYUR KASHINATH USENDI Geo	A	GEO	<u>MAYUR</u>
✓ KU PRATIKSHA BALIRAM KIRIMIRE Geo		GEO	<u>PRATIKSHA</u>
✓ KU PRIYA NAKTU PRADHAN Geo	A	GEO	<u>PRIYA</u>
Shweta Anil Khadke	A	GEO	<u>Shweta</u>
✓ KU SAHILI SURAJ WARKE Geo	A	GEO	<u>SAHILI</u>
✓ MR SHUBHAM JAYDRATH BURADE Geo	A	GEO	<u>SHUBHAM</u>
✓ MR SHUBHAM LAXMAN SORTE Geo	B	GEO	<u>SHUBHAM</u>
✓ KU SWATI HARENDRA MESHAM Geo	A	GEO	<u>SWATI</u>

total of B.SC.II (B) : 10

-4
6
Geology confirmed

Geology

**DEPARTMENT OF
PHYSICS**



Department of

Physics

Department of Physics
PBR Survey Report on

Use of Electrical Appliances in Household at Kasvi

PBR submitted by: -B. Sc. II (Department of Physics) students' group 2017-18

*Under the supervision of Prof. Dr. R.M. Thombre HOD, Prof. S.B. Gedam and Prof.
Dr. C.D. Mungmode*

Introduction:

Electricity and Electrical Appliances has played an important role in the development of human civilization. Numerous electrical appliances have made human life easy. Currently, lighting accounts for approximately 30 % of total residential electricity used followed by refrigerators, fans, electric water heaters, and TVs. Approximately 4 % of total residential electricity used is for standby power the apparently small amount of power that many modern appliances consume when they are not actively turned on. Modern electrical appliances consumes less electricity as compare to old ones which ultimately results into low carbon emission helping the environment conservation. The Department of Physics conducted survey at adopted village *Kasvi*.

The objective of this project was to carry out a survey on use of electrical appliances in household at adopted village *Kasvi*. Thirteen (13) students participated in this survey. Information of 139 families was collected. The survey was carried out using questionnaire based personal interviews in households.

Observations and Analysis:

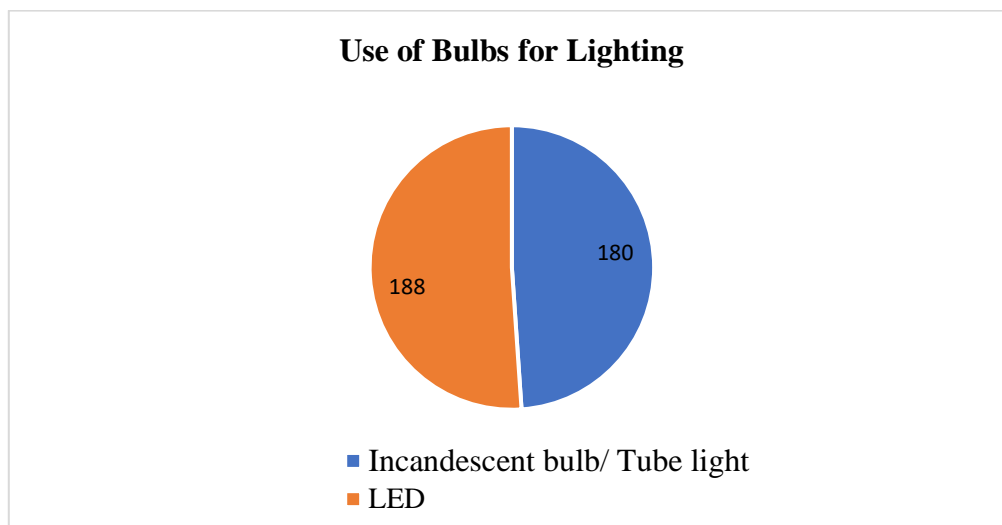
The brief analysis of the major results is presented in the following report. The tables with detailed results are included in appendices.

1. Number of Families without Electricity:

From the survey a very striking fact is observed that 16 household - 11.51% of the village still do not have electrification in their houses.

2. Use of Conventional Bulbs and LED Bulbs:

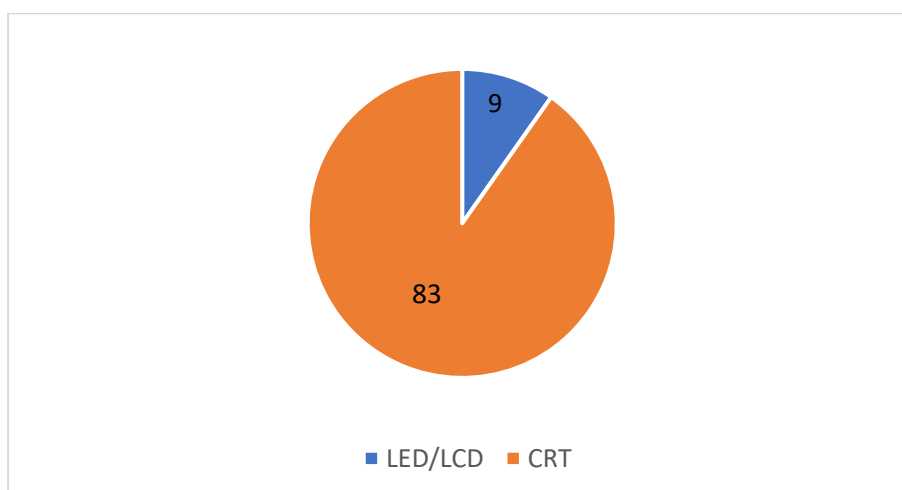
The data on lighting was collected on the type of light bulbs per household. The number of conventional bulbs/ tube light and LED bulbs used in these families are as bellow:



It is observed that 51 % household use LED bulb whereas 49 % household still use conventional bulbs for lighting purpose.

3. Use of Television:

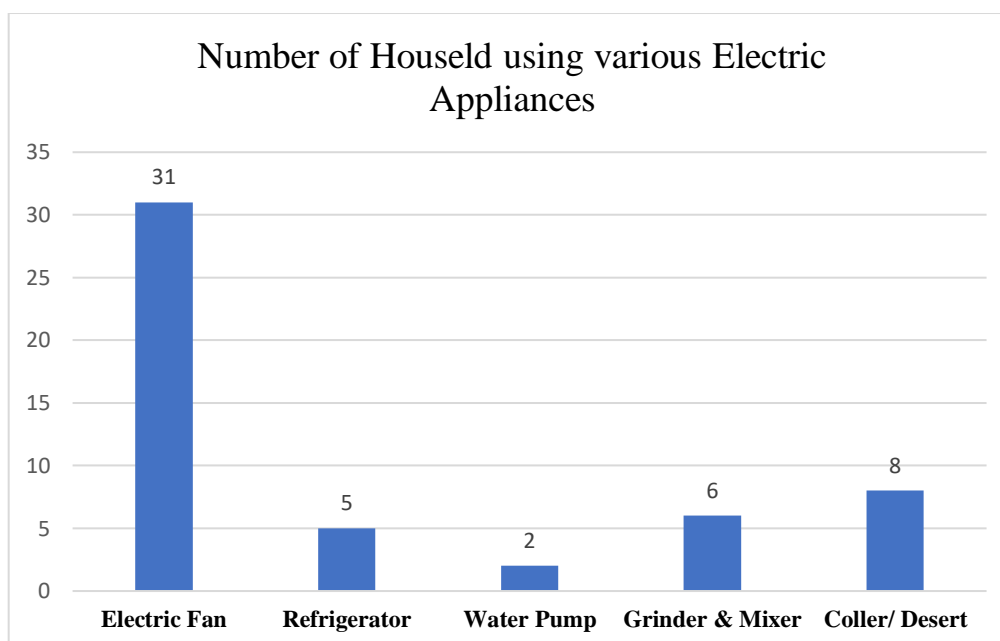
Out of 139 families 92 families has television set. The distribution of CRT and LED TV sets is as bellow:



Most of the families i.e. 90 % families use CRT TV sets which consumes more electricity whereas very few families i.e. 10 % families use LED/LCD TV sets.

4. Electric Fan, Refrigerator, Electrical Water Pump, Other Appliances:

Data on use of other electric appliances was also collected. It is found that 31 families i.e. 22.30% do not have electric fans; many families are using old table and ceiling fans. Only 05 families (3.59%) have refrigerator. Two (02) families have electric water pump. Six (06) household have Grinder and Mixer whereas 08 household have cooler/ Desert.



Other than electric appliances some questions were asked about electric consumption and monthly electric bill. Since many families are using few electric appliances, their monthly electric consumption is less but few families complained about more electric bill. The cause of more electric consumption in these families is found to be inappropriate earthing and old electric appliances.

Conclusion:

In this era where electricity and electrical appliances are very important for the survival of human being and government putting its efforts to make every household electrified, 11.51% of households are away from electrification in village *Kasvi*. Moreover, since 30% of electricity in household is use for lighting purpose, modern lighting technologies should be adopted. However, it is found that 49% household is using conventional lighting sources resulting into more consumption of electricity. Very few other electrical appliances are being used in household and some of these

Mahatma Gandhi Arts, Science & Late N. P. Commerce College, Armori, Dist. Gadchiroli

Department of Physics

Peoples Biodiversity Register (PBR)

Survey Data (Adopted Village Kasvi)
Session 2017-18

Sr. No.	Name of Head of Family	Information of Electrical Instrument in Household Use						Daily Electrical Consumption	Monthly Electrical Bill	Signature
		Bulb/ Tub light	Television	Fan	Fridge	Electrical Motor	Others Instrument			
9.	गोविंदा बगडारे	LED-01	Video-com-01	T-01	-	-	-		800-1000	गोविंदा बगडारे
10.	मिंबाबाई कान्हेरे	LED-02	Video-com-01	S-01	-	-	-		455-500	मिंबाबाई कान्हेरे
11.	गोडा श्रीराज कांदारे	LED-02 60 watt-02	Box TV-01	T-02	-	-	-		400-500	गोडा श्रीराज कांदारे
12.	मयिंद्र दिगोरे	Tub-1 LED-1	-	T-01 C-01	-	-	-		180-300	मयिंद्र दिगोरे
13.	साईनाथ दिगोरे	Tub-1 LED-02	Box T.V.-01	T-02	-	-	-		350-1000	साईनाथ दिगोरे
14.	सुर्वभान मडावी	LED-03	-	T-01	-	-	Miscure-01		200-300	सुर्वभान मडावी
15.	ममीराम कुमारे	Tub-02 60 watt-01	-	T-02	-	-	-		150-500	ममीराम कुमारे
16.	गोविंदा मडावी	LED-03	Box T.V.-01	-	-	-	-		30-50	गोविंदा मडावी

कु. तोरगातई भुसे - BB
कु. काजल शमटेके - Shamteke

Mahatma Gandhi Arts, Science & Late N. P. Commerce College, Armori, Dist. Gadchiroli

Department of Physics

Peoples Biodiversity Register (PBR)

Survey Data (Adopted Village Kasvi)
Session 2017-18

Sr. No.	Name of Head of Family	Information of Electrical Instrument in Household Use						Daily Electrical Consumption	Monthly Electrical Bill	Signature
		Bulb/ Tub light	Television	Fan	Fridge	Electrical Motor	Others Instrument			
1	Chandraprabha Chakraborty	Bulb-01	-	-	-	-	-		100/-	चंद्रप्रभा चक्रवर्ती
2	Kisan Guenule	Bulb-3	CRT-1	S-3	-	-	-		250/-	किसन गुनुले
3	Manik Kodap	LED-2	CRT-1	S-1	-	-	-		200/-	मनिका कोडाप
4	Divakar Sudam Guenule	Bulb-1 LED-1	-	-	-	-	-		250/-	DD Guenule
5	Vijay Lingayat	LED-3	CRT-01	S-1	-	-	-		400/-	विशाल निवाकर
6	Vinayak Sukanji Pusam	Bulb-3	CRT-01	S-1	-	-	-		200/-	विनोद कुसुम
7	Sukhdev Lingayat	Bulb-2	CRT-01	S-1	-	-	-		700/-	सुखदेव लिंगायत
8	Sakuntal Guenule	Bulb-3	CRT-01	S-1	-	-	-		400/-	शांतिमा मंडरे

1) Ankush Gaudkar - hys
2) Nalrik Khume - khume

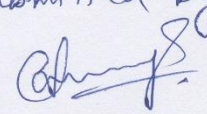


Data Collection by students at adopted village *Kasvi*

Department of Physics
Environment study

Sr. No.	Name of student	subject.	Grade
1.	✓ Mr. Ankush Moreswar Gaurkar	C/S	A
2.	✓ Ku. Gounashmi Narendra Bhoyar	-11-	A
3.	✓ Ku. Kajal Lemraj Ramteke	-11-	A
4.	✓ Mr. Nastik Shamrao Khune	-11-	A
5.	✓ Ku. Priti Ravindranath Haldar	-11-	A
6.	✓ Ku. Sadaf Moh. Wali Sheikh	-11-	A
7.	✓ Mr. Sanket Umesh Gajpure	-11-	A
8.	✓ Ku. sheeba Anjum Abdulkalam Sheikh	-11-	A
9.	✓ Ku. Suchita Suresh Khobragade	-11-	A
10.	✓ Ku. Saman Bholaram Dodani	-11-	A
11.	✓ Ku. Tornatai Someshwar Bhurase	-11-	A
12.	✓ Mr. Mohd. Faizan R. Ahmad	-11-	A
13.	✓ Mr. Jayant Pradhan	-11-	A
14.	✓ Mr. Ankush Thakkar	-11-	A
15.	✓ Mr. Ratandip Sakhare	-11-	A

Date: 11/4/2018

Submitted by


Dr. C. D. Mangmote

DEPARTMENT OF COMPUTER SCIENCE



Department of Computer Science

PBR Survey Report- 2017-18 on

Use of Internet Banking & Android Mobile Application Survey of Kasvi Village

PBR submitted by: -B. Sc. II (Department of Computer Science) students 2017-18

*Under the supervision of: -Prof. S. D. Chute, Head of the Computer Science
department*

Introduction: -

The adopted Kasvi village economy is basically agrarian. In spite of economic development, agriculture is the backbone of the village economy. Apart from those who are directly involved in the agrarian sector, a very few numbers of the population of adopted Kasavi village is also engaged in agro-based activity. Use of advanced technology like android mobile phone and computer or laptop is the need of present scenario but villages in India lack of these things. Government of India start new program like Startup India, Standup India and Digital India on this background we try to survey on this topic.

Unlike smart city, villages as well as farmer of India should be smart in respect of internet banking and banking application of android mobile. In a changing environment, banks are diversifying their role in the agriculture sector in order to get revenue from their significant contribution to agriculture. Some of the new roles that banks have adopted are Marketing, Training and Consultancy, insurance and financing for infrastructure via private-public participation. The development of information technology has an enormous effect on development of more flexible payments methods and more-user friendly banking services. Internet banking involves, consumer using the Internet to access their bank account and to undertake banking transactions in mobile banking at home.

Aim of the study: -Banking has been always a highly intensive activity that relies heavily on information technology (IT) to acquire and deliver the information to all relevant users. IT is not only critical in the processing information; it provides a way for the banks to differentiate their products and service in the market. The mobile, cell phone or smartphone is not just used for What apps, Facebook or Angry Birds; it can

be used in a multitude of ways from land information like 7/12 abstract and various government schemes for farmer.

Study area: *Kasvi*, Tah- *Armori*, District- *Gadchiroli* (M.S.)

Kasvi village is adopted by our college for five-year tenure hence this village selected for study and survey in use of internet banking & android mobile application. According to Census 2011 information the location code or village code of *Kasvi* village is 538505. *Kasvi* village is located in *Armori* Tehsil of *Gadchiroli* district in Maharashtra, India.

It is situated 7km away from sub-district headquarter *Armori* and 43km away from district headquarter *Gadchiroli*. The total geographical area of village is **289.48 hectares**. The total population of village is **937** and total houses are **224**.

Materials and Methods: -

Students of B.Sc. II Computer Science study the use of internet banking & android mobile application survey of this adopted village *Kasvi*, a questionnaire was prepared in respect to use of internet banking & android mobile by computer science department. There are **224** families in the village out of which 50 Families selected for the study by PBR groups of Computer Science. Photograph of the families with PBR students was taken with help of mobile and high megapixel canon camera.

Results and Discussion: -

Total 50 Home Survey of adopted village *Kasvi* was undertaken in various aspects such as Bank holder like Nationalized Bank, State Level Bank, Private Bank etc. Used of Internet Banking, android mobile, banking application on mobile etc.

Total No Of Home	Bank Account	Nationalized Bank Account	State Level Bank	Private Bank	No. of Android Mobile	Simple Mobile	Mobile Bank Application	Total No of Used Social Site	Total No of Used Internet Banking
50	50	20	30	00	09	27	00	08	00

In survey it is observed that all the family belonging to survey have bank account in National Bank as well as co-operative sector Bank.

In all, only 18% people have android mobile phone while remaining 54% people have simple mobile phone for communication purpose.

One of the remarkable observations is that nobody used mobile bank application as well as internet banking but 16% people used social site like Facebook or whatsapp

In agricultural sector, farmers in rural areas faced major problems because of illiteracy. They cannot take the advantage of internet to access the information related to farming.

The information represented in icons will help the farmers to take the important decisions. Also there will be additional benefit to farmer as there is speech based interaction in Indian language with icons.

Conclusion: -

In Kasvi, people are not aware about android mobile application and internet banking even those people having such android mobile phone.

The Krishi-Mitra website gives the whole information regarding crops, Weather status and also user can get the expert advice in Marathi and in English languages. Krishi-Mitra application can be used as smart system which will be more sophisticatedly working for benefit of the user.

A user can be made aware about current weather statistics and new information regarding to crops, seeds, fertilizer etc. just on single click of a button. People can even consult with experts if needed. This application can be very much helpful even if one could not read the information on the device by native language support provided in it.

This model will be a great enhancement to currently using techniques. In this way this Krishi-Mitra expert system for farmers reaches towards the implementation. Hence, difficulties faced by farmers in farming are overcome and resolved. Future scope for this system will be more native language support and dynamic query

resolution. Also, downloading various data and information provided by experts will be possible through the application.

Government of India focusing much more on used of advanced technology but instead of people partnership it is useless.

Recommendation: -

Farmers should develop a technically up-to-date use of internet banking & android mobile application with agriculture. They should aware about the dynamic agro-based sector having and producing means of production and consumer goods.

Field Photography

Students of B.Sc. Computer science taking interview with villager



Mahatma Gandhi Arts, Science & Late N.P. Commerce College Armori, Dist. Gadchiroli
Dept. of Computer Science

Date :- 31/1/18

घर प्रमुखाचे नाव :- विजय रघुनाथ लिंगाथ

प्रश्न १ तुमच्याकडे बँक अकाऊंट आहे का ?

उत्तर :- होय.

प्रश्न २ असेल तर बँकेचे नाव?

उत्तर :- कोऑपरेटिव्ह, बँक ऑफ इंडिया, ग्रामीण बँक, महाराष्ट्र

प्रश्न ३ Internet Banking चा वापर करता का?

उत्तर :- नाही.

प्रश्न ४ Android Mobile चा वापर करता का, त्यांची संख्या?

उत्तर :- होय. (पाच)

प्रश्न ५ BHIM, PAYTM चा प्रकाराचे APPS चा वापर करता का?

उत्तर :- नाही.

प्रश्न ६ Social Networking Site चा वापर करता का? (Facebook, Twitter, What's App)

उत्तर :- होय. (फेसबुक, वॉट्सअप)

प्रश्न ७ Computer Certified Courses केले आहेत का? (MS-CIT, CCC, Data Entry etc.)

उत्तर :- नाही.

प्रश्न ८ घरी संगणक हाताळताय का? (MS-CIT, CCC, Data Entry etc.)

उत्तर :- नाही.

धर्मपाल नि. लिंगाथ

List of Student Participate in PBR

Sr. No.	Name of Student	Grade
1	Ashsish D. Chibule	A
2	Rakesh M. Dahikar	B
3	Ankit H. Gedam	A
4	Aishwaraya D. Madavi	A
5	Mirza Alhasanat Gulam Ahmed	A
6	Ahefat Nawaj Pathan	B
7	Aasiyaparveen Habibkhan Pathan	B
8	Vaishnavi J. Sutsonkar	A
9	Karansingh A, Wadhwa	B
10	Sibtainraza M. Khan	C

DEPARTMENT OF GEOGRAPHY



Department of Geography
PBR Survey report on

New opportunity of household Poultry Farming in Kasvi village

PBR submitted by: -B.A. II (Department of Geography) students group 2017-18

Under the supervision of Prof. P.S. Meshram and Prof. Dr. V.P. Gorde

Introduction: -

Poultry farming is the process of raising domesticated birds such as Chicken, duck, turkeys and geese for the purpose of farming meat or eggs for food. Poultry are farmed in great numbers with chickens being the most numerous. More than 50 billion chickens are raised annually as a source of food, for both their meat and their eggs. Chickens raised for eggs are usually called layers while chickens raised for meat are often called broilers.

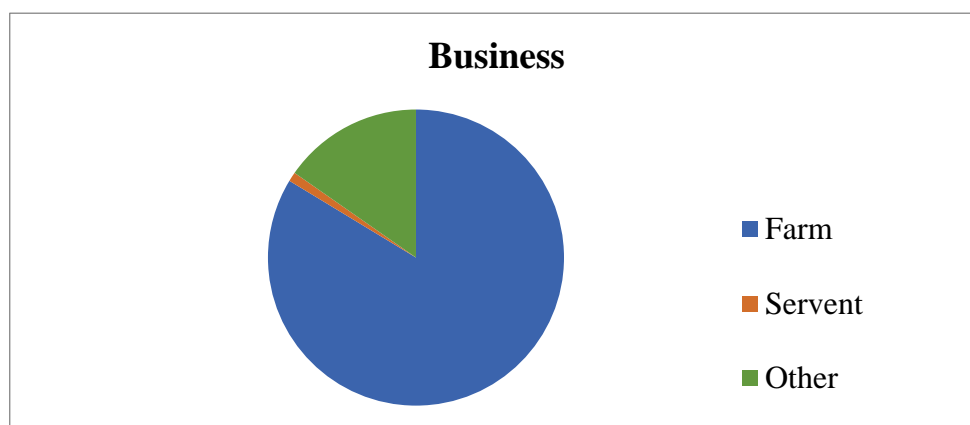
The biodiversity record of Kasvi village is recorded under studied information. Different types of Agro based business- poultry, fisheries, animal Husbandry, dairy are practiced along with regular farming. `

Among these all-side business household poultry is more emphasized, due to its increased demand. With this point of view, the student of B.A. II Geography decided to study household chicken poultry farming in Kasvi village.

1) Nature of Business: -

Business	Agriculture	Service	Agro based business	Total
Total	82	01	15	98
Percentage	83.67	1.02	15.30	100%

Survey shows most of the people in Kasavi village are engaged in agriculture (83.67%) while (1.02%) people works in the service sector. Less interest is seen in other agro based business (15.30%).

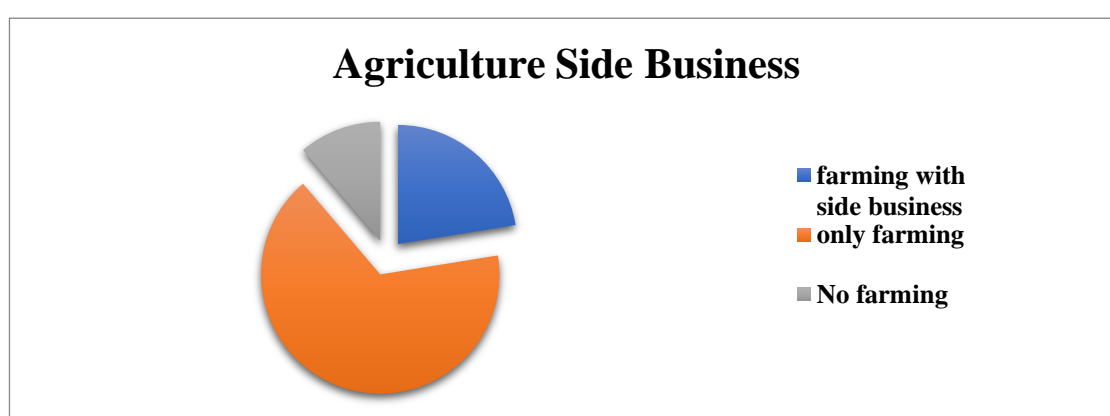


2)

Agriculture and Side Business: -

Agriculture & Side Business	Farming with side business	Only Farming	No Farming (labor)	Total
Total	22	65	11	98
Percentage (%)	22.44	66.32	11.22	100%

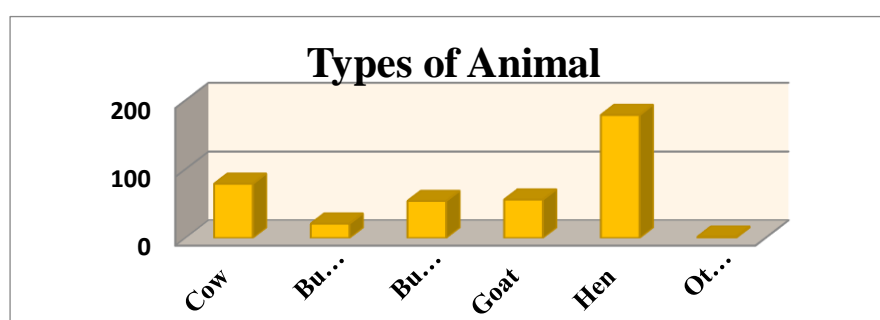
Ratio of Agriculture to the side business is 22.44%. Same study indicates about 66.32% families without side business and 11.22% families do not practice farming. They work as laborer and migrate here and there for their survival.



3) Animal Husbandry diversity: -

Animals	Cow	Buffalo	Bullock pair	Goat	Poultry	Other	Total
Total	79	21	54	56	179	02	391
Percentage	20.00	5.37	13.81	14.32	45.78	0.51	100%

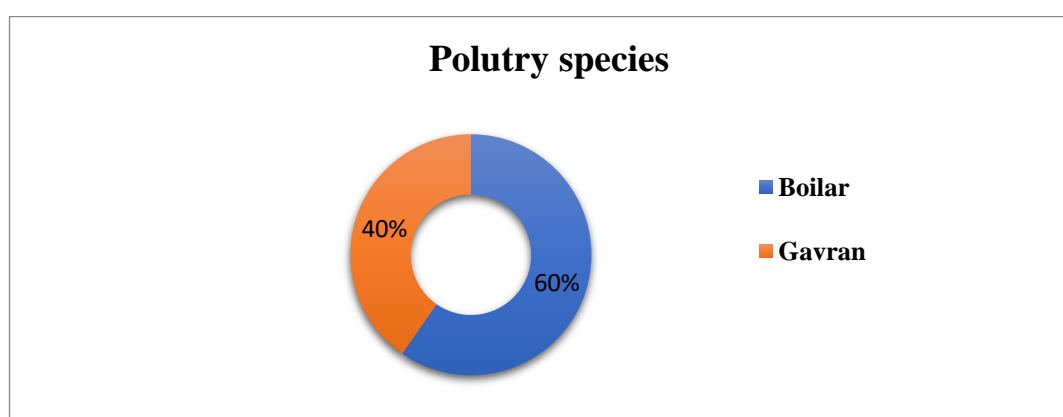
In the survey of different 98 families percentage of various domesticated animals are Chicken poultry (45.7), Cow (20.0), Buffalo (5.37).Goat (14.78), Bullock pair (13.81). Peoples are practicing poultry in large scale but inappropriate ways



4) Species of Chicken Poultry

Species of Poultry	Broiler	Local (Common)	Total
Total	179	121	300
Percentage (%)	59.66	40.33	100%

In survey we observed two main species of poultry in Kasvi i: e. Broiler and Local (Gavthi chicken). Now a days Broiler chicken's demand increased due to cheap rate as compared to local (Gavran). Therefore, rate of Broiler domestication increased but in view of side business Gavran Chicken is more feasible to increase income source.



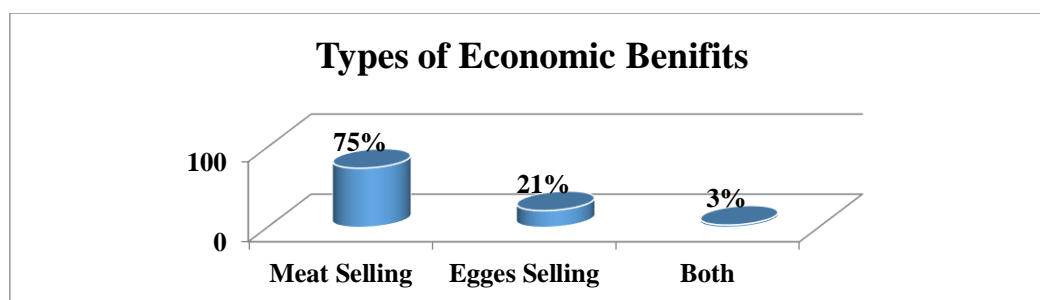
5) Food Expenditure on Poultry: -

With the help of survey monthly expenditure on poultry observed as 290 rupees and annual expenditure is 4380Rs.

6) Economic Benefits of Poultry: -

Benefits	Meat Selling	Eggs Selling	Both	Total
Total	74	21	03	98
Percentage (%)	75.51	21.42	3.06	100%

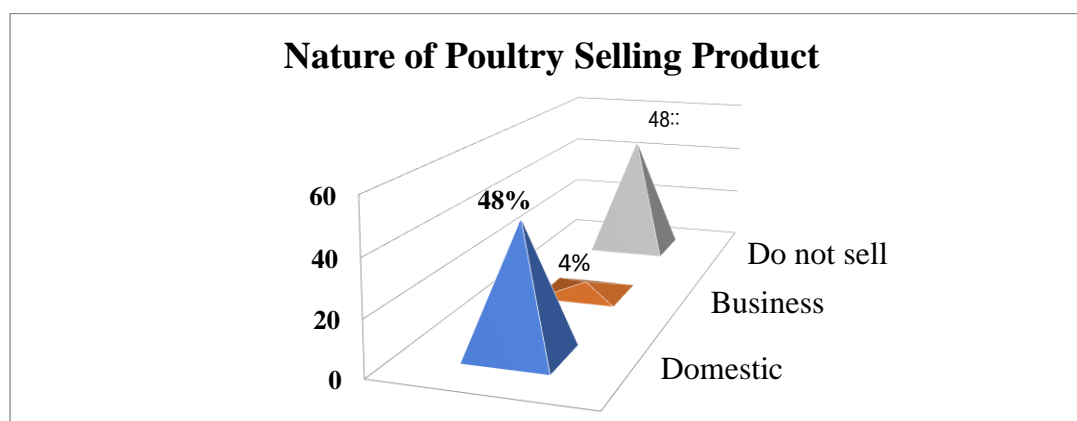
The economic benefit of different poultry product is- meat-75.51%, eggs-21.42%, meat and egg-3.06%. Selling meat is more beneficial than other product.



7) Nature of Poultry Product: -

Nature of Poultry Sells	Domestic	Business	Do not sell	Total
Total	47	04	47	98
Percentage (%)	47.95	4.08	47.95	100%

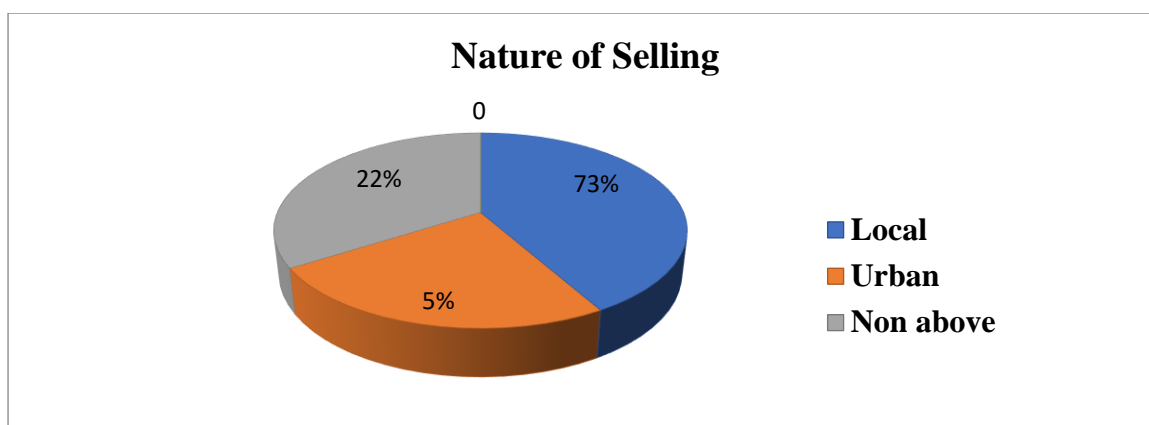
Different nature of poultry sells in kasavi village observed as domestic 47.95%, and commercial sell is 4.08% whereas 47.95% peoples are not interested in business.



8) Nature of Poultry Product Selling: -

Nature of selling	Local	Urban	None	Total
Total	71	05	22	98
Percentage (%)	72.44	5.10	22.44	100%

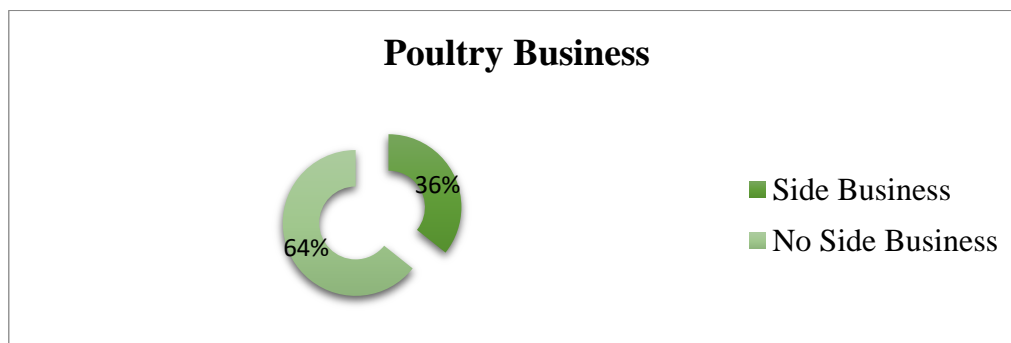
Survey revealed about selling ratio of poultry product in local area is 72.44% while in urban area it is 5.10%, whereas 22.44% families do not sell poultry product.



9) Poultry as a side business to farming

Poultry Business	As side business	Not side business	Total
Total	35	63	98
Percentage (%)	35.71	64.28	100%

In survey only 35 families found interested in poultry as side business while 63 families are not involved in this business. Hence, it can be said that most of the people are not interested in poultry as side business.



10) Various Diseases on Poultry: -

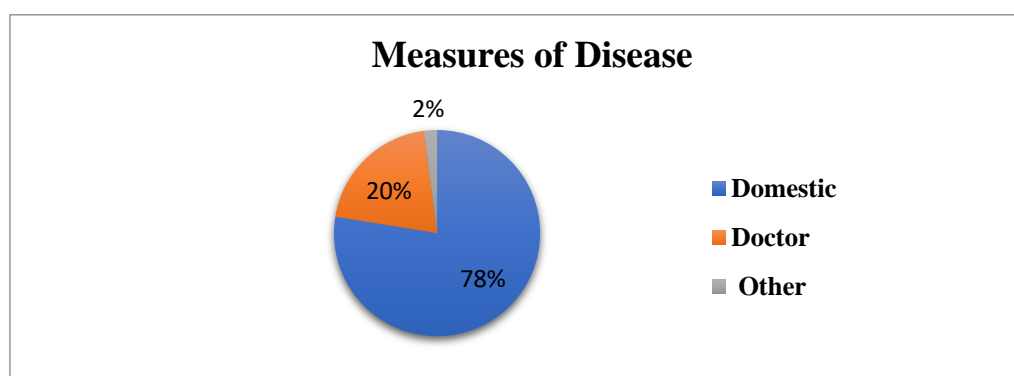
Infectious Bronchitis	Infectious Sinusitis	Fowl Pox	Infectious Coryza
30	25	3	5

Along with this business one of major drawback is that sometime infectious diseases on poultry leads to many diseases discuss above in consultation with local people. Due to improper knowledge of diseases and their identification it is difficult to control chickens from diseases which leads to their economic loss within few days.

11) The Measures of Poultry Disease: -

Measures of Disease	Domestic	Doctor	Other	Total
Total	76	20	2	98
Percentage (%)	77.55	20.40	2.04	100%

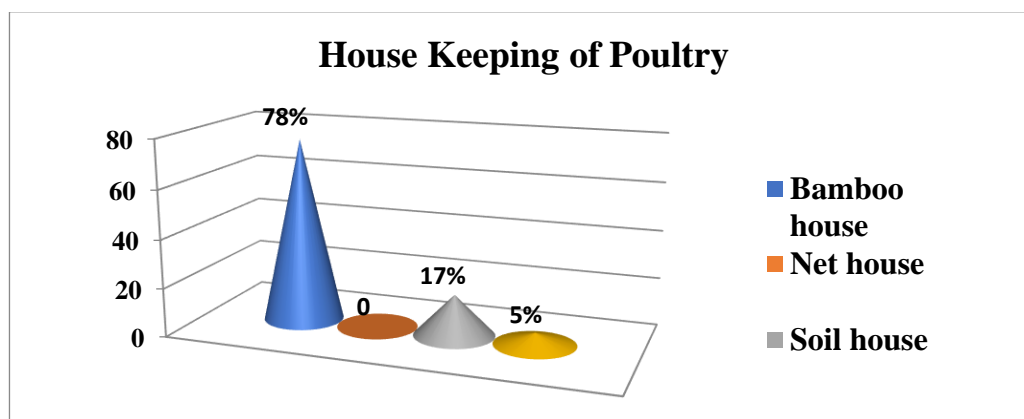
In the survey of Kasavi village we notified that near about 76 families undergo domestic measures while 20 families take upon to the doctors and only two families undergo other practices in case of poultry disease.



12) Poultry House Keeping: -

Poultry house keeping	From Bamboo	From Soil	From Cement	Net	Total
Total	76	Nil	17	5	98
Percentage (%)	77.55	Nil	17.34	5.10	100%

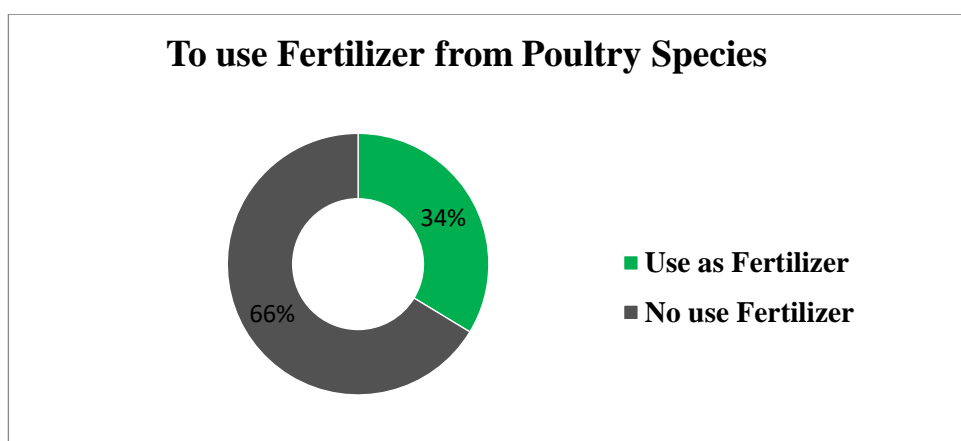
People in kasvi village use different poultry housekeeping. There are 76 families who built Bamboo house, 17 families use cement for housekeeping and 5 families constructs it by using net.



13) Use of waste as a Fertilizer.

Use of Poultry waste	Does	Does not	Total
Total	33	65	98
Percentage (%)	33.67	66.32	100%

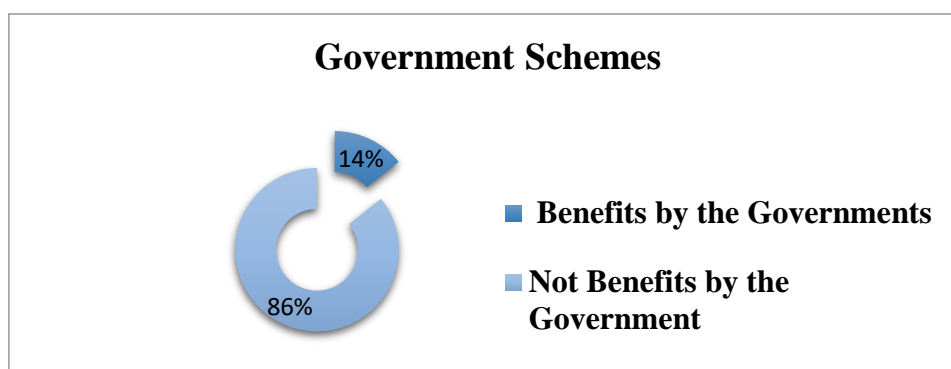
In survey it is found that, poultry waste is used as a fertilizer by 33.67% families while 67.32% families do not use it as fertilizer.



14) Advantage of Government Schemes for Poultry farming

Government Scheme	Getting advantage	Not Advantage	Total
Total	14	84	98
Percentage	14.28	85.71	100%

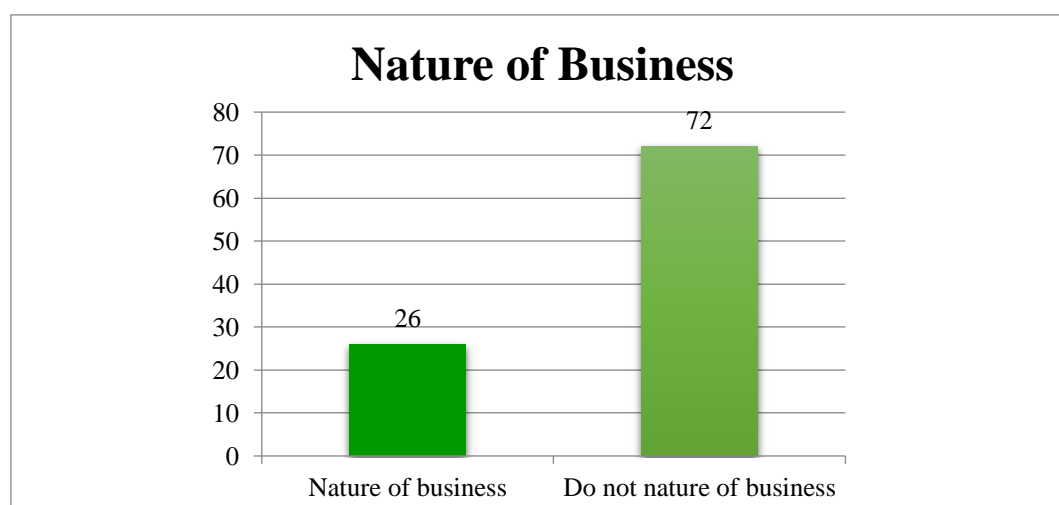
Benefit of different Government Schemes for poultry farming is taken by only 14 families (15%) whereas most of the families (85%) do not undergo these schemes.



15) Acceptability of poultry business: -

Nature of Business	Acceptance	No acceptance	Total
Total	26	72	98
Percentage	26.53	73.46	100

There are 26 families who are interested to give poultry as complete business mode, while 72 families are not interested in business.



Conclusion: -

To know the present agro based business and economic status of Kasvi village, students had undergone questioner series with 98 families to get complete information regarding household chicken poultry.

- 1) Survey of 98 families' shows that 83.67% people focused mainly on agriculture while just 15% people are engaged in agro based business.
- 2) In study of household chicken poultry in Kasvi village it is seen that due to improper management of poultry, their income source is not sufficiently increased.
- 3) One of the remarkable observations is that only 35% people are interested in household chicken poultry as side business along with regular farming and 65% people have inertness towards chicken poultry as business.
- 4) In the point of chicken poultry business Broiler chicken is more favored due to low cast whereas Gavthi chicken is more demanding in urban area.

Recommendation: -

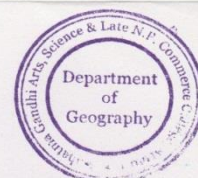
- 1) People are advised to give more importance to household chicken poultry as side business to increase their income source.
- 2) Modern technique should be applied for proper management of household chicken poultry. For example separate house with frequent aeration and safety.
- 3) In order to avoid conjunctional diseases proper vaccination should be done in consultation with doctor.



Field Works Photo



List of Students participating in PBR -2017-18



Mahatma Gandhi Arts, Science & Late N. P. Commerce College, Armori

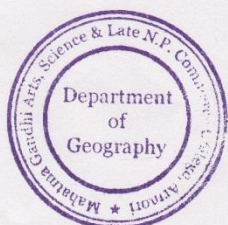
Subject: - Geography (PBR)

Date: - 21-04-2018

Marks/ Grade Class: - B.A.II (Semester-IV)

Sr.No.	Roll No.	Name of The Student	Grade
1		✓ Bagmare Shital Vinayak	A
2		✓ Barsagade Kalyani Murlidhar	A
3		✓ Bhoyar Yugantar Bhaurao	A
4		✓ Bulle Amit Gokuldas	A
5		✓ Deshmukh Kajaltai Vinayak	A
6		✓ Dhawale Megha Ramkrishna	A
7		✓ Dhodare Pallavi Subhash	A
8		✓ Donadkar Pratibha Ramkrushna	A
9		✓ Gawade Akshay Pandurang	B
10		✓ Gawale Pankaj Deoram	B
11		✓ Gedam Akash Manohar	A
12		✓ Hurre Royal Bhaskar	C
13		✓ Kambale Lochana Dinkar	B
14		✓ Kantode Komal Dnyandep	A
15		✓ Katre Shital Nandakisor	A
16		✓ Kharkate Vidya Pundlik	A
17		✓ Kowe Ashwina Shamrao	A
18		✓ Kukadkar Umesh Yenunath	A
19		✓ Kumare Amir Purushottam	A
20		✓ Kumare Ramprasad Pirangu	B
21		✓ Kuthe Punam Gajanan	A
22		✓ Lade Jayshri Bhargao	A
23		✓ Ladse Naynatai Kumdeo	A
24		✓ Latthe Chetna Anandrao	A
25		✓ Lole Nirasha Namdeo	A
26		✓ Madavi Lomeshwari Madan	A
27		✓ Madavi Kaji Shrihari	B
28		✓ Madavi Mukesh Amarshaha	B
29		✓ Madavi Basanti Bitkarshaha	A
30		✓ Makade Bhagyawan Vyankat	A
31		✓ Mali Sulta Nitai	A
32		✓ Mandal Latika Shailen	A
33		✓ Marbhate Akshay Lahudas	A
34		✓ Meshram Kamlesh Nandkumar	A

35	✓ Mhashakhatri Durga Manohar	A
36	✓ Mohadore Ajay Maroti	A
37	✓ Mohurle Shrikrushna Tulshiram	C
38	✓ Pada Dhaniram Darsu	A
39	✓ Raut Minakshi Harihar	A
40	✓ Raut Anuradha Changadeo	A
41	✓ Raut Pravin Prabhakar	B
42	✓ Sadmake Pratiksha Ghansham	A
43	✓ Sahare Dipashwini Ashok	A
44	✓ Sorte Meghatai Lalaji	A
45	✓ Thakare Mohit Dhanraj	A
46	✓ Thakare Diksha Kashinath	A
47	✓ Thakre Nutan Yashwant	A
48	✓ Tofa Krushna Shivdas	B
49	✓ Tofa Naresh Manker	B
50	✓ Uikey Nikesh Prabhakar	A
51	✓ Uikey Priyanka Arum	A
52	✓ Wadhai Amol Sudhakar	A
53	✓ Wadhai Mahesh Dharmapal	A
54	✓ Waghade Roshan Gokul	A
55	✓ Wakade Vaishali Bhimrao	A
56	✓ Warjurkar Kajal Vasant	A
57	✓ Zodge Jayashri Dewarao	A



Bhaskar
Head, Department of Geography

HEAD
Department of Geography
Mahatma Gandhi Arts, Science &
Late N.P. Commerce College, Armori

DEPARTMENT OF ENGLISH



Department of English

PBR Survey Report 2017-18

Orientation class for primary students & English language and literature survey of Adopted village kasvi

PBR submitted by: -B. A. II (Department of English) students group 2017-18

Under the supervision of: -Prof. N. N. Meshram HOD and Prof. Sneha Mohurle of English department

Introduction

The Department of English conducted one day English language and literature survey and orientation program for primary school students of adopted village Kasvi. The survey was conducted on 10th Feb 2018 and headed by Prof. Nomesh Meshram Head, Department of English. Prof. Sneha Mohurle, Prof. Dayaram Meshram, Prof. Anil Raut, Prof. Vinayak Raut took active participation in students' survey and orientation class. Under the guidance of Principal Dr.L.H.Khalsa, English Department organized this innovative activity .With the prior permission of Shri .S.S.Shivhare ,H.M. Zilla Parishad Primary School Kasvi , the English Dept. organized special orientation class for VI & VII standard students .

Various faculties of English Dept. spoke on different topics for enhancing students' knowledge of English.

Topics

- | | | |
|---|-----------------------|--|
| 1 | Prof. Nomesh Meshram | The Importance of English Language |
| 2 | Prof. Sneha Mohurle | English Pronoun and Communicative Skills |
| 3 | Prof. Dayaram Meshram | English Pronunciation |
| 4 | Prof. Anil Raut | Construction of Sentences |
| 5 | Prof. Vinayak Raut | Use of Verbs |

Methodology: –

The teachers interacted with class V, VI, and VII students of kasvi. English teachers asked them many questions regarding their general knowledge of English language.

Student's participation: –

The major aim and objective behind organizing orientation class for Primary School students was to test their knowledge of English and to build English communication skills among students. Total 26 students of class V, VI, and VII participated in this orientation class and get benefited from this activity. English language and literature survey was also conducted in adopted village kasvi. Targets were 12th pass and all graduate as well as PG students of kasvi. English Department prepared a survey format (Questionnaire) and B.A.II English literature students asked different questions to the young boys and girls of the age group between 18 to 25. The questions were related to their knowledge of English and their interest in literature.

List of college students participating survey-

1. Rahul P.Bhoyar (B.A.II)
2. UmeshY.Kukudkar (B.A. II)
3. Ku. Komal D.Kantode (B.A.II)
4. Ku. Durga M.Mhashakhatri (B.A.II)
5. Ku.Panchfula D.Madavi (B.A.II)
6. Ku.Pragati N.Gawale (B.A.II)
7. Ku.Nutan Y. Thakare (B.A.II)
8. Ku.Soni D.Surpam (B.A.II)
9. Ku.Shriya J.Dahikar (B.A.II)

Total 68, 12th pass and above educated students between the age group of 18-25 were interviewed and our BA II students interfaced with them and filled questionnaire. Students of Kasvi desirous of joining college Spoken English Classes were pointed out and teachers assured to give them admission in Certificate course in Communicative English in forthcoming session 2018-19.



kasvi students.

- 2) Creating English speaking atmosphere in school.
- 3) Setting public library so that the people come in contact with general English.



B. A. II Students in a PBR survey at Kasavi

Prof. Sneha Mohurle speaking on the use of Pronouns & Communication Skills



Prof. Nomesh Meshram speaking on the Importance of English Language



PBR Survey conducted by B. A. II students

Mahatma Gandhi Mahavidyalaya, Armori



Students conducting the survey.

THE students of Mahatma Gandhi Mahavidyalaya, Armori, conducted a survey of English language at village Kaswi in Armori taluka recently. The survey was conducted under the guidance of Dr Lalsingh Khalsa, Principal. The students of BA Part II participated in this survey under the guidance of Nomesh Meshram, Head of English Department. A questionnaire was prepared and the youths who passed HSC in the age group of 18 to 25 were interviewed during this survey. The questions were related to interest in English, knowledge of the English language and literature etc. The youths were given the information of the 'Spoken English' classes and youths appealed to avail these classes. Sneha Mohurle, Anil Raut, Dayaram Meshram, Vinayak Raut and others extended necessary cooperation for this survey in which Komal Kantode, Durga Mashakhatri, Unesh Kukudkar, Rahul Bhojar, Panchfula Madavi, Pragati Gawde, Nutan Thakre, Soni Surpam, Shreya Dahikar and other students participated.

कासवी में अंगरेजी पर उद्बोधन

संवाददाता | आरमोरी

महात्मा गांधी कला, विज्ञान व स्व. न.पं. वाणिज्य महाविद्यालय के अंगरेजी विभाग की ओर से दत्तक

समिति के अध्यक्ष डा. लाल सिंह खालसा के मार्गदर्शन में यह उपक्रम चलाया गया। इस अवसर पर प्रा. नोमेश मेश्राम ने अंगरेजी भाषा का महत्व, प्रा. स्नेहा मोहुरले ने अंगरेजी विषय के सर्वनाम व संभाषण कौशल, प्रा.



अनिल राऊत ने अंगरेजी की काव्य रचना, प्रा. दयाराम मेश्राम ने उच्चारण तथा प्रा. विनायक राऊत ने क्रियापदों के उपयोग पर मार्गदर्शन किया। अंगरेजी अंतरराष्ट्रीय भाषा होकर इससे व्यक्तिगत विकास का प्रवेश द्वार है। अंगरेजी का ज्ञान आत्मसात किए बगैर स्पर्धा के युग में खुद को टिकाए रखने के लिए

ग्राम कासवी में कक्षा 5वीं से 7वीं के विद्यार्थियों के लिए अंगरेजी भाषा पर उद्बोधन कक्षा आयोजित की गई। शालेय विद्यार्थियों में अंगरेजी भाषा को लेकर डर खत्म कर इस विषय में रुचि निर्माण करने के लिए महाविद्यालय के प्राचार्य तथा दत्तक ग्राम विकास कार्य

विद्यार्थियों से शालेय जीवन से ही अंगरेजी की ओर ध्यान देने का आह्वान अंगरेजी विभाग प्रमुख प्रा. नोमेश मेश्राम ने किया। कार्यक्रम की सफलता के लिए कासवी के उपसरपंच प्रवीण राहटे, मुख्याध्यापक एस.एस. शिवहरे, गायकवाड़ आदि ने सहयोग किया।

दत्तकग्राम कासवी येथे इंग्रजीचे उद्बोधन वर्ग

आरमोरी, ता. १९ : स्थानिक महात्मा गांधी कला, विज्ञान व स्व. न. पं. वाणिज्य महाविद्यालयातील इंग्रजी विभागातर्फे दत्तकग्राम कासवी येथील पाचवी ते सातवीच्या विद्यार्थ्यांसाठी इंग्रजी भाषा उद्बोधन वर्गाचे आयोजन करण्यात आले.

प्राचार्य तथा दत्तक ग्रामविकास कार्य समितीचे अध्यक्ष डॉ. लालसिंग खालसा यांच्या मार्गदर्शनात हा उपक्रम

राबविण्यात आला. यावेळी प्रा. नोमेश मेश्राम यांनी इंग्रजी भाषेचे महत्त्व, प्रा. स्नेहा मोहुरले यांनी इंग्रजी. विषयातील सर्वनाम व संभाषण कौशल्य, प्रा. अनिल राऊत यांनी इंग्रजी काव्यरचना, प्रा. दयाराम मेश्राम यांनी इंग्रजी उच्चारण तसेच प्रा. विनायक राऊत यांनी क्रियापदांचा वापर याविषयी मार्गदर्शन केले.



आरमोरी : विद्यार्थ्यांना मार्गदर्शन करताना प्रा. स्नेहा मोहुरले.

**Mahatma Gandhi Arts, Science & Late N. P. Panjwani
Commerce College, Armori**

English Department

PBR : 2017 – 18

Language and Literature Survey

Questionnaire

1) What is your name?

..... chanda Nanaji puxam

2) How many members are there in your family?

..... 4

3) What is your qualification?

..... 12th

4) Do you Know English?

..... yes

5) Can you understand English?

..... yes

6) Can you speak English?

..... yes

7) Can you write English?

..... yes

8) How many English words do you know?

..... 250 words

❖ List of Students Participate in PBR 2017-18

9) What is the meaning of ...Clothes: कपड़े... Compound: मिश्रित...
...house- घर... Grain: अनाज...

10) Which English newspapers are read in your village?
...No...

11) How many members of your family know English?
...4...

12) Is there anyone in your family who attends English medium school?
...No...

13) Do you like to read English? Then what literature do you read (Poetry,
Drama, Novel, Short story)?
...yes... Novel...

14) Mention any English book recently read by you.
...Wings of fire...

15) Do you want to join spoken English classes?
...yes...

Date - 10/02/2018 Nutan y. Thatore

Signature
chanda puram

Mahatma Gandhi Arts, Science and Late Nasaruddinbhai Panjwani Commerce College
Armori Distt. Gadchiroli (M.S.) 441208
Peoples Biodiversity Register
Adopted Village Kasvi, Ta. Armori

CLASS: BA - II

SESSION : 2017-2018

SR.NO.	NAME OF STUDENT	SUBJECT	SIGNATURE	Grade
1	KU DURGA MANOHAR MHASHAKHETRI ✓	ELT	<u>Mhashakhetti</u>	A
2	KU KOMAL DNYANDEO KANTODE ✓	ELT	<u>Kantode</u>	A
3	MR KRUSHNA SHIVDAS TOFA ✓	ELT	<u>Tofa</u>	CA
4	KU LATIKA SHAILEN MANDAL ✓	ELT	<u>Mandal</u>	B+
5	KU NUTAN YASHWANT THAKRE ✓	ELT	<u>Thakare</u>	A
6	KU PANCHAFULA DEOSAY MADAVI ✓	ELT	<u>Deosay</u>	A
7	KU PRAGATI NATHHU GAWALE ✓	ELT	<u>Gawale</u>	A
8	MR RAHUL PANDURANG BHOYAR ✓	ELT	<u>Bhoysar</u>	A
9	KU SHRIYA JAIPRAKASH DAHIKAR ✓	ELT	<u>Dahikar</u>	A
10	KU SONI DEVIDAS SURPAM ✓	ELT	<u>Surpam</u>	A
11	MR UMESH YENUNATH KUKADKAR ✓	ELT	<u>Kukadkar</u>	A

Guide:- Prof. Nimesh Meshram - Nimesh
Prof. Sneha Mohurle Sneha

DEPARTMENT OF MARATHI



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दत्तक ग्राम कासवीतील बोलीभाषांचा अभ्यास

लोकांचे जैवविविधता नोंदवही अंतर्गत दत्तक ग्राम कासवीतील बोलीभाषांचा अभ्यास हा प्रकल्प बी.ए. भाग २ च्या विद्यार्थ्यांनी मराठी विभाग व संशोधन केंद्रातील प्रमुख प्रा. डॉ. विशाखा वंजारी, प्रा. दिलीप घोनमोडे, प्रा. डॉ. विजय रैवतकर, प्रा. खगेश सहारे यांच्या मार्गदर्शनाखाली केला.

❖ प्रस्तावना :-

मानवी समाजाने स्वतःच्या विकासाच्या अवस्थेत एका अतिशय महत्त्वाच्या वस्तूची निर्मिती केली. ती वस्तू म्हणजे भाषा ही होय. भाषा हा शब्द 'भाष्' या संस्कृत धातूपासून बनला आहे. 'भाष्' म्हणजे बोलणे, भाषण करणे असा या संस्कृत धातूचा अर्थ आहे. बोलणे हे मानवी मुखा वाटे निर्माण होणाऱ्या ध्वनीच्या समुहातून आकारास येते. मनातील विचार, कल्पना, भावना व्यक्त करण्यासाठी मानवी मुखातून निघालेल्या ध्वनीचा सार्थ समूह म्हणजे भाषा असे भाषेबद्दल म्हणता येऊ शकते. तर मनातल्या कल्पना शब्दांच्या द्वारा बाहेर प्रकटविण्याचे साधन अथवा बोली म्हणजे भाषा असाही अर्थ अनेक शब्दकोश देतात. इंग्रजी भाषेत Language या मूळ शब्दात Lingua हा लॅटीन शब्द आहे. Lingua या लॅटीन शब्दाचा मूळ अर्थ Speech किंवा Tounge असा आहे. आंगिक हावभावाची भाषा म्हणजे डोळे मिचकावणे, नाक मुरडणे, दात दाखविणे, बोटे मोडणे, वाकुल्या दाखविणे, मिशीवर हात फिरविणे इत्यादी सुद्धा हावभावाचीच भाषा आहे. तर रेल्वेचे हिरवे तांबडे लाईट, धर्म ध्वज, तोफांचा आवाज, दिव्यांची आरास इत्यादी संकेत हे चिन्हांची भाषा दर्शवितात.

पूर्वी दगळ, विट, भोजपत्र, ताम्रपट, तारपत्र यासारख्या साधनांवर अक्षरांच्या सहाय्याने कोरून काढण्याची कला मानसाने हस्तगत केली होती. पुढे याच कलेचा विकास होऊन लिपीची भाषा तयार झाली. तर करपल्लवी गुप्तचर विभागीय संकेत इत्यादी सारखा सांकेतिक प्रकार सुद्धा भाषाच आहे.

➤ भाषेबद्दल इंग्रजी विचारवंतांनी दिलेल्या व्याख्या :-

- 1) "Language is articulated limited sound organized for the purpose of expression." — क्रोचे
- 2) "A language is a system of arbitrary voice symbol by means of which a society group co-operates." — ब्लोक

भाषा ही वारशाने येत असली तरी ती अर्जित संपत्ती आहे. म्हणूनच भाषा ही विविध स्वरूपात परिचयास येते. आईवडिलापासून दुरावलेला मुलगा चुकून विदेशात गेला आणि तिथेच वाढला. तर तो विदेशी भाषा शिकतो. या व्यतिरिक्त समाजानुसारची लोकांची लोकबोली किंवा बोलीभाषा, शासकीय व्यवहाराची भाषा, कला—क्रीडा—खेळ इत्यादींच्या संपर्काने आलेली भाषा अशा विविध स्वरूपात ही भाषा आढळते. यावरून प्रमाणभाषा व बोलीभाषा असे भाषा भेद करावे लागतात.

● प्रमाणभाषा :-

शासकीय धोरणानुसार मान्यता प्राप्त आणि सर्वांनी स्वीकारलेली भाषा ती प्रमाणभाषा मानली जाते. यावरून भौगोलिक किंवा सामाजिक कारणांमुळे निर्माण झालेल्या विविध भाषा भेदांना एकसंधपणे सामावून घेणाऱ्या भाषेला प्रमाणभाषा म्हणता येईल.

● बोलीभाषा :-

प्रमाणभाषेच्या अवती भवती स्थानपरत्वे काही उपभाषा निर्माण होतात, त्यांना बोली किंवा विभाषा किंवा पोटभाषा म्हणतात. या पोटभाषा व्यवसाय, भौगोलिक सीमा, परंपरा भेद, राजकीय आर्थिक दूरत्वामुळे निर्माण होतात. प्रत्यक्षात समाजातल्या वेगवेगळ्या गटांकडून बोलले जाणारे आणि प्रमाणभाषेशी कमी-अधिक प्रमाणात फरक सांगणारे भाषा भेद किंवा भाषिक रूपे या बोलीभाषेत वापरली जातात.

असे असले तरी प्रमाणभाषा आणि बोलीभाषा यात सहसंबंध जाणवतो. एकूणच प्रमाणभाषेमध्ये व्यक्तिसापेक्ष भेद कमी असतात, तर बोलीभाषेमध्ये व्यक्तिसापेक्ष भेद अधिक असतात. बोली आणि प्रमाणभाषा यांचा परस्पर असा संबंध असतो. त्यात कधी साधर्म्य तर कधी वैधर्म्य असते.

उदा. 'पाटील' या शब्दापासून 'पाटलीन' हा शब्द तयार झाला. तर 'अंडेर' या शब्दाचा अर्थ 'मुलगी' असा होतो. तर 'अंडोर' या शब्दाचा अर्थ मुलगा असा होतो.

❖ भाषेची वैशिष्ट्ये :-

वरील भाषेच्या स्वरूपावरून भाषेची काही वैशिष्ट्ये दिसून येतात.

१) ध्वनीमयता :-

मानवी भाषा ही ध्वनीमय आहे. कारण मानवी शरीरातील विशिष्ट रचनेमुळे मानवाला ध्वनी निर्माण करणे सहज शक्य होते.

२) भाषा ही अर्जित संपत्ती :-

भाषा ही कधीच नष्ट होत नाही. त्यामुळे एकदा लिपीबद्ध झालेली भाषा ही त्या भाषेची अर्जित संपत्ती ठरते.

३) भाषेची विविध रूपे :-

भाषा ही प्रमाणभाषा, ग्रंथिक भाषा, बोलीभाषा अशा विविध स्वरूपात अस्तित्वात असते. मात्र अस्तित्वात असलेल्या या भाषांपैकी बोलीभाषेत अतिशय जिवंतपणा आढळतो.

४) भाषा ही सामाजिक संस्था :-

सामाजिक व्यवहार सुलभ व सरळ करण्यासाठी भाषेचा उपयोग केला जातो. भाषा ही व्यक्तिगत तसेच सामाजिक पातळीवर व्यापक कार्य करते. वाचिक, मौखिक व लिखित स्वरूपाची भाषा ही समाजाचा विकास, प्रगती, संघर्ष, आशा-आकांक्षा यांचे वहण करते. जसे — वेद कालीन भाषा, महाभारत कालीन भाषा, बुद्ध कालीन भाषा आणि यादव कालीन भाषा.

५) भाषा द्विस्तरीय रचना :-

भाषा ही मूळ ध्वनींच्या सहाय्याने अगणित आशय सहजपणे व्यक्त करते. जसे क + आ + न = कान. मात्र याच मूळ ध्वनींपासून काना, नाका, कना अशा अनेक आशयाच्या रचना सुद्धा तयार करता येतात.

६) यादृच्छिकता :-

भाषेतील शब्द आणि आशय यांचा परस्पर संबंध नसतो. ते संबंध केवळ संकेताने प्राप्त होत असतात. त्यामुळे जुने भाषिक संकेत सोडून गरजेनुसार नवीन संकेत भाषेला देता येवू शकतात.

७) विशिष्टता :-

भाषेमध्ये संदेश सूचनांची प्रक्रिया आणि सूचित संदेश यामध्ये काहीतरी संबंध असतो. जसे — 'जेवन तयार आहे', असे घरच्या स्त्रीने म्हणताच जेवायला बोलावले हा अर्थ त्यातून मिळतो. अशाप्रकारे भाषेमध्ये विशिष्ट अर्थ व्यक्त करण्याची क्षमता असते.

८) निर्मितीशीलता :-

पूर्वी कधीही न ऐकलेले शब्द, नवी वाक्ये व नव्या रचना भाषा तयार करू शकते. यामुळे भाषेत अनेक आशयाचे वाक्य तयार होतात.

९) अदलाबदल :-

भाषेमध्ये एकमेकांच्या भाषिक रचना दुसरी व्यक्ती वापरू शकते आणि या रचना पुन्हा पुन्हा सुद्धा वापरता येतात. भाषेमध्ये अशी अदलाबदल करण्याची क्षमता असते.

१०) स्थलकालातीतता :-

भाषा ही स्थल आणि काळ या दोहोंचे बंधन मोडून वेगळा आशय सूचित करू शकते. यामुळे भूतकाळ, न पाहिलेला भविष्यकाळ, न पाहिलेला प्रदेश याच्या वर्णनातून आपल्याला ती स्थिती कळते. जसे — रामायण महाभारत वाचून तत्कालीन संस्कृतीची जाणीव होते.

❖ भाषा : समाज आणि संस्कृती :-

बोलीभाषा आणि प्रमाणभाषा यांचा संबंध हा जलाशय समृद्ध करणाऱ्या झऱ्यासारखा आहे. प्रमाणभाषा जलाशय असून बोलीभाषा ह्या पाणी वाहून नेणाऱ्या कालव्यासारख्या असतात. भाषेचा आपल्या सामाजिक आणि सांस्कृतिक जीवनाशी आधिक संबंध असतो. वस्तुतः सांस्कृतिक जीवनाचे खरे प्रतिनिधित्व भाषा हीच करित असते.

❖ मराठी भाषेची पार्श्वभूमी :-

मराठी भाषा आर्यभाषाकुळातील इंडोआर्यन या गटामध्ये मोडते. २००१ च्या जनगणनेनुसार मराठी भाषा ही जगात १० व्या क्रमांकाची भाषा आहे. जगात १२ कोटी जनता मराठी भाषेचा सहज वापर करताना दिसतात. महाराष्ट्रात बोलली जाणारी ही भाषा नर्मदा नदीच्या पलीकडे म्हणजे आजच्या विदर्भ, मराठवाडा, खानदेश, कोकण अशा विविध प्रांतांमध्ये बोलली जाते. ग्रीसनाच्या मते, वेदपूर्वकालीन आणि वैदिककालीन भाषा ह्या एकच भाषा नसून त्या विविध बोलींचे समूह होत्या. त्यापैकीच एका उत्तरकालीन आणि वैदिक बोलीचे व्याकरण रचून पाणिनीने जिला स्थिररूप दिले, ती संस्कृत भाषा होय. याच संस्कृतनंतर पाणिनीय भाषा, त्यानंतर प्राकृत भाषा आणि पुढे अपभ्रंश भाषा अशा मार्गाने मराठी भाषा निर्माण झाली.

मराठी भाषेची उत्पत्ती सांगताना मराठी भाषेचा पहिला उल्लेख हा इ. स. ५०५ मधील वराहमिहिच्या बृहदसंहिता या ग्रंथात महाराष्ट्रीय असा आढळतो. यानंतर युवॉन चॉंग या चिनी प्रवाशाने इ. स. ६४१ ला आपल्या प्रवासवर्णनात मो—हा—ला—चा असा महाराष्ट्राचा उल्लेख केला आहे. मार्कंडेयपुराण आणि मत्स्यपुराण यातील उल्लेखानुसार नर्मदेच्या दक्षिण तिरापासून कन्याकुमारीपर्यंत दक्षिणापथ आणि दंडकारण्य प्रदेश आहे. तेथे प्रामुख्याने महाराष्ट्री बोली बोलली जाते.

मराठी भाषेचा पहिला उल्लेख 'कुवलयमाला' या ग्रंथात आलेला आहे. इ. स. ७७८ मध्ये लिहिलेल्या या ग्रंथात 'दडमडह सामलिंगे सहिरे अहिमाने कलहसिले — दिन्नले, गहिल्ले, उल्लविले तत्थमरहट्टे' अशाप्रकारचा उल्लेख आलेला आहे. यानंतर इ. स. ८५९ मध्ये 'धर्मोपदेशमाला' या ग्रंथात

‘सललीय—पय—संचारा—पयडियमयना—सुवनरमणेला।’, ‘मरहट्ट भाषा कामिनी य अडविय रेहंती’ असा मराठीचा उल्लेख आला आहे. अकराव्या शतकातील ‘लिळाचरित्र’ या ग्रंथात ‘ते मन्हाटी तरी अनावर बोलत असेती’ असा उल्लेख येतो. तर बाराव्या शतकातील ‘ज्ञानेश्वरी’ या ग्रंथातील बाराव्या अध्यायात ‘इये मन्हाटीयेचा नगरी ब्रह्मविद्येचा सुकाळु करी’ असा उल्लेख येतो. एवढेच नव्हे तर संत ज्ञानेश्वर मराठी भाषेचाच देशी भाषा असा उल्लेखही करतात.

❖ महाराष्ट्राचे प्रांतिक भेद :-

महाराष्ट्र राज्याची राज्य भाषा मराठी भाषा असली तरी याच मराठी भाषेत प्रांतिक भेद आढळतात. मराठीच्या पोटभाषांच्या अनुषंगाने कोकणी, विजापुरी, धारवाडी, घाटी, संगमेश्वरी, वन्हाडी, नागपुरी, झाडी, खानदेशी, अहिराणी, कारवारी, चित्पावनी अशा प्रांतिक भेदानुसार भाषिक भेदही दिसून येतात. यातच पुन्हा महाराष्ट्राच्या पूर्व विदर्भ भागात चंद्रपूर, गडचिरोली, भंडारा, गोंदिया आणि नागपूर ह्या जिल्ह्यांच्या काही भागात झाडीबोली किंवा झाडपी बोली बोलली जात असल्याचे निदर्शनास येते.

❖ आरमोरी परिसरातील विविध बोलीभाषा :-

गडचिरोली जिल्हा आणि याच जिल्ह्यातील आरमोरी परिसर झाडीपट्टी परिसरात समाविष्ट होतो. या झाडीपट्टी परिसराचा उल्लेख प्राचीन महानुभाव वाङ्मयात आलेला आहे. डांभ या कृष्णमुनीने ‘ऋद्धीपूर महात्म्य’ नावाचा ग्रंथ इ. स. १६६६ ला लिहिला. त्यात ‘झाडीमंडळापासोनी पश्चिमेशी’ या शब्दात झाडीपट्टीचा उल्लेख केलेला आहे. झाडीपट्टी किंवा झाडीमंडळ हा परिसर पूर्व महाराष्ट्रातील व विदर्भ प्रांतात अतीपूर्वेकडे असलेल्या चंद्रपूर, गडचिरोली, गोंदिया, भंडारा व काही प्रमाणात नागपूर जिल्ह्याचा काही भाग मिळून बनलेला आहे.

झाडीपट्टी किंवा झाडीमंडळात मराठी भाषा बोलणारे अनेक जातीसमूह राहतात. ते सर्व जातीसमूह मराठी भाषाच बोलत असले तरी विविध जाती आणि प्रांताच्या संमिश्रणाने तेथे मराठी भाषेला एक वेगळे स्वरूप प्राप्त झाले आहे. या परिसरात झारपी बोली (झाडपी बोली), हलबी बोली, कोहळी बोली, कोसरी बोली, परधानी बोली, पारधी बोली, गोंडी, बंगाली, छत्तीसगढी अशा अनेक भाषा बोलणारे समाज आहेत. माडिया गोंड, प्रधान, हलबा, कोस्ती, पारधी, महार, कोहळी, कुणबी, माळी इत्यादी जातीही आहेत.

१) गोंडी बोली :-

गोंडी भाषा ही उत्तर महाराष्ट्र व विदर्भातील काही जिल्ह्यात, महाराष्ट्र व आंध्रच्या भागात, तसेच मध्यप्रदेश व आंध्रप्रदेशाच्या भागात बोलली जाणारी भाषा आहे. २००१ च्या जणगणनेनुसार एकूण ५,४३,१२० इतके लोक गोंडी भाषा बोलत होते. प्राचीन काळी गोंडी भाषा ही गोंडवन राज्याची भाषा होती. तिला स्वतःची लिपी सुद्धा होती, असे गोंडी बोलीभाषेचे अभ्यासक मोतीरावण कंगाली म्हणतात. दक्षिण अमेरिका, आफ्रिका, अंटार्क्टिका, आस्ट्रेलिया व भारत हे पाच खंड एकमेकांच्या जवळ आहेत. या पाच खंडांना अजुनही गोंडवान लॅंड म्हणून संबोधले जाते. तर आदिवासी साहित्याचे अभ्यासक भुजंग मेश्राम हे गोंडी भाषा भारतात द्रविडवंशीय भाषा म्हणून ओळखली जात असल्याचे सांगतात. त्याचप्रमाणे मोहेंजदरो शहरातील उत्खननात मिळालेली बोली ही गोंडी लिपीचीच होय, असे व्यंकटेश आत्राम यांनी मत मांडले आहे.

● गोंडी बोली नमुना :-

हिंद जिमाकी पिटो आदिवासी लोकोत डगुर आसी मंता, पजाटकाल द्रोपो परांदुली भागून रोपो कोषिका रोपोन रुंदी कवयतोर टुडी कबाड किसोर मंता, आदे ना कबाड व चेहरा सुडशी पोयाल राजा हादेन सुडशिन राणी मडमींग किताल. हादेन गाताल रायतारता जन्म आताल. बईद रोपो वाताल पडोर राजकुमारशी तना मर्मी आता. वोर राजकुमार मुजोर मर्मींग आता उपार दुसरे नेटी तरास चावी किता सायना.

(अर्थ :- ही पौराणिक कथा गोंड आदिवासी समाजात अलौकिक म्हणून प्रसिद्ध आहे. प्राचीन काळात परुंदली क्षेत्रात कोषाच्या मळ्यात एक सुंदर कामगार कन्या होती. तिचे काम व रूप पाहून कोषालपोय राजा तिच्यावर मोहित झाला आणि त्याने तिला आपली राणी बनविले आणि रायतार हिचा जन्म झाला. रायतार वयात आल्यावर तिचा पडयोर ह्या राजकुमाराशी विवाह झाला. पण जो राजकुमार लग्नानंतर दुसऱ्या दिवशीच सर्पदंशाने मरण पावला.)

गोंडी कविता

वरा पिरदी वरा, वरा
बती ढबू सले, फेरा फेरा
न आर्का खोटाल, निम आकी घटयाल
मकाकी, जकाकी
वाकी ते, रेतन पुहकी
ना रेतून, कडक वैनूर
काडेक पुसले, बोर वायानूर?
(उलगुलान — भुजंग मेश्राम)

अनुवाद

ये पावसा, ये, ये,
पण पैसे नाहीत, मोठे मोठे
मी पडेन खोटा, तू होशील मोठा
लपशील, खपवशील
येशील तर, घर भिजवशील,
माझ्या झोपडीला, डोळे हजार
अश्रू पुसायला, कोण येणार?

गोंडी क्रियापदे

गोंडी

कवाना
उस्माना
सियाणा
अट्टाणा
अरिताना

मराठी

हसणे
पुसणे
देणे
शिजवणे
ओढणे

नातेसंबंध

गोंडी

बाबाल
उकाल
कुपयाल
आयाल
छौडा / एडका / चिलका

मराठी

वडील
काका
मावशी
आई
मुलगा

२) झाडी बोली / झाडपी बोली :-

मराठी साहित्यात महानुभाव वाङ्मयात डींभ कृष्णमुनीने ऋद्धीपूर महात्म नावाचा ग्रंथ लिहिला. त्यात 'झाडीमंडळ' या शब्दाचा उल्लेख आलेला आहे. 'झाडीमंडळापासोनी पश्चिमेसी' या शब्दात महाराष्ट्राच्या पूर्वेस असलेला म्हणजेच भंडारा, गोंदिया, चंद्रपूर व गडचिरोली ह्या जिल्ह्यांचा भाग झाडीमंडळाचा परिसर असल्याचे स्पष्ट होते. या झाडीमंडळात मराठी भाषेच्या बोली भाषा म्हणून झारपी (झाडपी), हलबी, कोहळी, कोसरी, परधानी, गोंडी, बंगाली, छत्तीसगडी (गडचिरोली—छत्तीसगड सीमेवरील) अशा अनेक बोली भाषा बोलल्या जातात.

● झाडी बोली / झाडपी बोली नमुना :-

आता, तुमीच् सांगा, गाव्चीच् मंडई. सालातून येक गन येते. मंग ते कोनी पाहावाची सोडल् का? मी नाई बोला. तुमीच् सांगा. मी बोल्लू तं नय्कतच माजा टोंड दिसते. सत्रा बकरं कापाल् मुहूनस्यानी कोनी मंडई पाहावाच्या भारी घरामंदी बेंड्ला रायेल् का, बेंडव्यात्ल्या तलंगाय्च्या वानी?

(अर्थ :- आता, तुम्हीच सांगा, गावचीच जत्रा, वर्षातून एकदा येणारी. मग तिला जायचं कोणी सोडेल का? मी नाही बोलणार. तुम्ही सांगा. मी बोलले तर विनाकारण माझं तोंड दिसतं. पण म्हणून कोणी यात्रा पाहायच्या वेळी घरात कोंडून राहील का खुराड्यातील कोंबडीच्या पिलांसारखा?)

झाडी क्रियापदे

झाडी	मराठी
डकर्ना	ओरडणे
पाजव्ना	धार देणे
गाड्ना	रोवणे

नातेसंबंध

झाडी	मराठी
बाप्, बावा	बाप, वडील
मा	आई
चुल्ता, नाना	काका
माव्सी	मावशी
पोर्गा, लेक्	मुलगा

३) हलबी बोली :-

हलबी ही वऱ्हाडीचीच एक उपभाषा आहे. ही भाषा बोलणारे हलबी लोक मध्यप्रांताशी संबंधीत असल्याने यांची मराठी भाषा ही हिंदी मिश्रित छत्तीसगडी भाषेकडे झुकणारी आहे. त्यांच्या बोलण्यात काही शब्द तर हिंदी—बंगाली मिश्रितही आढळतात.

आरमोरी तालुक्यात हलबी (डोंगरगाव) नावाचे एक गाव आहे. तेथे आणि आजुबाजूच्या परिसरात हलबा जमातीचे लोक राहतात. 'हलबा' या शब्दाचा अर्थ कन्नड भाषेत 'हरबार' असा होतो. हरबार म्हणजे मूळ रहिवाशी. महाराष्ट्राच्या अनुसूचित जमातीमध्ये समाविष्ट असलेली ही जात असून, या जातीतील लोक बोलत असलेल्या बोलीस 'हलबी बोली' म्हणतात. मध्यप्रांतातील बस्तर भाग, तसेच चंद्रपूर व भंडारा जिल्ह्यातील काही भागात सुद्धा या जातीचे लोक आढळतात.

● **हळबी बोली नमुना :-**

राजा अन्नमदेव जब वरगलल वस्तरमे इलो, तभी तेचोसंग दंतेश्वरी हलबा, कलार, महार और काही भोई विरादरीचे लोगमन भी इला. माई दंतेश्वरी और भैरमबाबा संखिनी डंखिनी नदीचा संगम किनारे मंदिर मे रहत. तेमन ग भैरनबाबाचो परिवारचो आठझान रहत.

(अर्थ :- राजा अमनदेव जेव्हा वारंगलहून बस्तरमध्ये स्थलांतरीत झाले, त्यावेळी भोई समाजाचे लोकसुद्धा आलेत. माई दंतेश्वरी आणि भैरमबाबा संखिनी डंखिनी नद्यांच्या संगम काठावर एका मंदिरात राहत होते. त्यांच्या सोबत भैरमबाबाच्या कुटुंबातील एकूण आठ व्यक्ती होत्या.)

१) मुखया चो घरचो कपार चो तारा चो कुची हाजली

(मुखियाच्या बराच्या दरवाजाच्या ताल्याची चाबी हरवली)

२) अगदर रान होती, आने जाउक होअ बे

(रात्र अधिक झाली, आता गेले पाहिजे)

‘जाउक’ क्रियापद, ‘जा’ क्रियापदास ‘उक’ हा प्रत्यय

● **हलबीचे तीन प्रकार :-**

- | | | |
|--------------------|---|-------------------------|
| १) बस्तरीया हलबा | — | (गडचिरोली सिरोंचा) |
| २) छत्तीसगीया हलबा | — | (गडचिरोली, सिरोंचा) |
| ३) मराठीया हलबा | — | (साकोली, भंडारा, देवरी) |

हलबी क्रियापदे

<u>हलबी</u>	<u>मराठी</u>
बदलावून	बदलवून
फायदा	फायदा
आपलो	आपला
लोग	लोगमन (अनेकवचन)
जे	जेमन (अनेकवचन)

नातेसंबंध

<u>हलबी</u>	<u>मराठी</u>
बाबा, दादा	वडील
बुगा	आजोबा
देर	दीर
नंद	नणंद
ईवाइ	सोयरा

४) कोहळी बोली :-

चंद्रपूर, गडचिरोली, भंडारा जिल्ह्यातील काही भागात, सिंदेवाही-नवरगाव परिसरात, साकोली परिसरात, गोंदिया परिसरातील काही भागात, तसेच मध्यप्रदेशातील बालाघाट जिल्ह्यात कोहळी बोली बोलल्या जाते. कोहळी किंवा कोहरी ही जात शेती करणारी असून ही जात तलाव बांधण्यात कुशल समजून गोंड राजांनी पाचशे वर्षांपूर्वी त्यांना काशीहून आणले असल्याची माहिती मिळते. त्यांनी या परिसरात विशालकाय तलावांची निर्मिती केली. आणि त्याच तलावांच्या पाण्यावर भरपूर शेती करून ही जमात मालगुजार आणि श्रीमंत झाली. परंपरागत श्रीमंती आणि ऐशोआरामामुळे ही जमात मनोरंजनाकडे आणि सावकारीकडे वळली. यातून या जातीतील लोकांना मनोरंजन व नाटकांचा छंद जळला. यातील काही रसिकांनी नाट्य निर्मिती करून झाडीपट्टी नाट्य चळवळ उभारली. यात हरिश्चंद्र बोरकर (रेगेपार), बालाजी बोरकर (नवरगाव), हिरामण लांजे, धनंजय नाकाडे इत्यादींचा आवर्जून उल्लेख करता येतो.

● कोहळी बोली नमुना :-

बुहू जुनी काहानी सांगता तुमाल. बुहूच जुनी जसी राज्यारानीची कहानी तसीच हे कहानी. तुमचा इस्वाज नाही बसावाचा. पर..... वद्राचा देव खालत आला. नाई बस ना इस्वाज? त मंग आयका हाई राज्यारानी संसार. पर बिराड इचवाचाच. दोघही नवरा बायको मरतवरी राबराब राबत. पर कर्जात तीनच. आंगावर चिंध्या अना खापाल फाक. माहाद्या ताकतीना वागदेवावानी मरमर राब. गंगूई त्याच्या लायकतीची बायको. आपला नवरा खपते हा तिल चोवत होता. मुहून तेई मनमाने राबं. दोघइ पाटलाचा घरी वनीवर जात. माहाद्या नागच्या राये. त गंगू रोवनारीन.

(अर्थ :- फार जुनी काहानी सांगतो तुम्हाला. फारच जुनी. जशी राजाराणीची कहानी तशी ही कहानी. तुमचा विश्वास नाही बसणार. पण... वरचा देव खाली आला. नाही विश्वास बसत ना? तर मग ऐका हाही राजाराणीचा संसार... पण बिन्हाड विंचवाचं. दोघेही नवराबायको मरेस्तोवर राबायचे. पण कर्माळा तीनच. अंगावर चिंध्या अन खायला फाके. माहाद्या शक्तीने वाघदेवासारखा, मरमर राबायचा. गंगूशी त्याच्या योग्यतेची बायको आपला नवरा खपतो हे तिला दिसत होते. म्हणून तिही खूप राबायची.)

कोहळी क्रियापदे

कोहळी
आचवणे
उद्रवणे
चोवना
डेंडावणे
रगदणे

मराठी
हात धुणे
उडविणे
दिसणे
हेलकावे घेणे
पठविणे

नातेसंबंध

कोहळी
नातीन्
माहाल्पी
भाट्वा, भाटो
संगी
भास्या
डेर्

मराठी
नात
काकू
बहिणीचा नवरा
मित्र
भाचा
दीर

५) परधानी बोली :-

धर्मगुरू व प्रधान (मंत्री) या नात्याने वागणारा गोंड जमातीचाच एक विभाग म्हणून परधान जमातीकडे पाहिले जाते. परधान ही गोंड जमातीचीच एक शाखा मानली जाते. मात्र परधानांची बोली ही गोंडी, हिंदी व मराठी मिश्रित असल्याने ती या जमातीच्या नावानुसार 'परधानी बोली' म्हणून ओळखली जाते. नागपूर, चंद्रपूर, भंडारा, गोंदिया व गडचिरोली या जिल्ह्यांत राहणाऱ्या परधानांच्या भाषेवर वऱ्हाडी व नागपुरी बोलींचा प्रभाव जाणवतो. उदा. — या बोलीत मन्ले (म्हणाले), थ्याले (त्याला), बोंबल्ला (ओरडला), काहाले (कशाला) इत्यादी सारखी मराठीची अपभ्रष्ट रूपे वापरण्याकडे अधिक कल दिसतो.

● परधानी बोली नमुना :-

उंदी काळतोपो वारोल आध्यात्मिक तत्त्वना आदिवासी तयोर हसे नाकमूड मत्तोर. रोन हरीं तरोपो मून्द मायादू भेटेमा तांगाग. वोर लचोर मून्द बयलोकून जारोल. पूसे मायना. निमेट बागा मानांटिक इदूर पुसी कितोर, उन्दी वयलो नावा पोरोल बुद्धी मंता. नना डोक्यात मंतोन. दुसरो वयलो नना पेरल लज्जा मंता, नना कडदून रोपो मनांतोन तिसरो वयलो नना पोरल हिय मंता. नना कारजात नना तोन वोर नान्याल नमस्कार कितोर. मुने पेसीतोर.

(अर्थ :- एकदा एक आध्यात्मिक तत्त्वाचा आदिवासी तरुण रस्त्याने चालला होता. त्याला रस्त्यात तीन स्त्रिया भेटल्या. तरुणाने त्या स्त्रियांची नावे विचारली व कुठे राहतात याची चौकशी केली. पहिलीने उत्तर दिले. माझे नाव बुद्धी असून मी डोक्यात राहते. दुसरी म्हणाली, माझे नाव लज्जा असून मी डोक्यात राहते. तिसरी म्हणाली, माझे नाव हिंमत असून मी हृदयात राहते. त्या तरुणाने त्यांना नमस्कार केला व तो पुढे निघाला.

परधानी क्रियापदे

<u>परधानी</u>	<u>मराठी</u>
उच्छेतम	बसणे
इयना	देणे
अस्कीना	कापणे
दोहाना	बोधणे
मकाना	लपणे

नातेसंबंध

<u>परधानी</u>	<u>मराठी</u>
बाबो	वडील
अव्वाल	आई
सेलाल	बहीण
अक्को	आत्या
लमझना	घरजावई

६) गोंडी-माडिया बोली :-

माडियांची वस्ती मुख्यत्वे गडचिरोली जिल्ह्यात आढळते. या जिल्ह्यातील सिरोंचा व एटापल्ली तालुक्यांत व भामरागडच्या पूर्वेला दाट जंगलात विखुरलेली आहे. माडिया जमातीत वस्तीच्या ठिकाणावरून बडा माडिया व छोटा माडिया असे दोन गट दिसतात. माडिया लोक बोलत असलेल्या भाषेला 'माडिया बोली' म्हणून ओळखले जाते. मात्र माडिया जमातीचे लोक आपल्या भाषेला 'गायता पोल्लो' असे म्हणतात. ही गोंडीचीच पोटभाषा असली तरी सामान्यतः मराठीतील बऱ्याच शब्दांशी माडिया भाषेतील शब्दांचे साधर्म्य दिसते.

तसेच महाराष्ट्रातील माडिया गोंड लोक बाजार, यात्रा व इतर कारणांनी छत्तीसगड तसेच इतरत्र जात असल्याने साहजिकच त्यांच्या भाषेवर इतर भाषांचा त्यात विशेषतः हिंदी भाषेचा प्रभाव अधिक पडलेला दिसून येतो. डॉ. श. गो. देवगावकर गोंडी व माडिया भाषेत कसलाही भेद नसल्याचे मान्य करतात. माडिया ही द्रविडीयन भाषा गटातील एक भाषा असून ती गोंडी भाषेचीच एक बोली आहे. चंद्रपूर, गडचिरोली, भंडारा या भागास गोंडवन म्हणतात. या प्रदेशावरून गोंडवाना विद्यापीठ हे नाव मिळाले. माडिया गोंडी भाषेवर तेलगू कन्नड व छत्तीसगडी भाषेचा प्रभाव जाणवतो.

● गोंडी-माडिया नमुना :-

उंदी कोयासारत रोपो आकाश उंडे. भोमी करूम करूम मनांग. उंदी मातारी चाहाकीत रोपो रोकालदे वंजीग उसेक मता हादू रोकाल आकाशून लागसेक मनेके तान खुप सोंग वाता हादू रोकाल. दे दुसी पाता आकाश लंग सोता आसकोल आकाश करून वाया सिले. नमोट कोयतुर मातारीनेर गोत्र आंदुम. (उषाकिरण आत्राम, चंद्रपूर)

(अर्थ :- प्राचीन काळी आकाश जमिनीच्या अगदी जवळ होते. एक मातारी जेव्हा उखळत धान कुटत होती. तेव्हा वारंवार, पुन्हापुन्हा मुसळाला आकाश लागायचे आणि आकाशाला जोराचा धक्का मुसळ घायचे. त्यामुळे मातारीला धान कांडायला त्रास व्हायचा. त्यामुळे तिला आभाळाचा खूप राग आला आणि तिने रागातच जोराने मुसळ आकाशावर आदळले. त्यामुळे आकाश घाबरून वर पळाले. तेव्हापासून ते जमिनीपासून दूर गेले. ते पुन्हा खाली आलेच नाही. गोंड लोक त्याच मातारीच्या वंशाचे आहेत. (अनुवाद - महादेव आलाम, चंद्रपूर)

माडिया क्रियापदे

<u>माडिया</u>	<u>मराठी</u>
रासना	लिहिणे
इन्दांना	म्हणणे
पोहताना	फेकणे
तिन्दांना	खाणे
कोयाना	कापणे

नातेसंबंध

<u>माडिया</u>	<u>मराठी</u>
कुची	काकू
तम्मो	भाऊ
मामल	मामा
मयमाड	मुलगी
कोकाडी	नणंद

❖ दत्तक ग्राम कासवी येथील बोलीभाषा :-

कासवी हे गाव महाविद्यालयाने दत्तक घेतले. या गावातील बोलींचा अभ्यास व साहित्यिक अभिरूचीचा अभ्यास करण्यात आला. या अभ्यासादरम्यान साहित्य व बोलीविषयक विविध वैशिष्ट्ये लक्षात आली. प्रामुख्याने त्या त्या समाजाच्या व जातीच्या बोलीभाषा आढळून आल्या. तथापि सर्वकषपणे या बोलीभाषांचा मुलाधार झाडीबोली आहे. झाडीबोलीच्या परिप्रेक्षात इतर बोलीभाषा बोलल्या जातात, हे निष्कर्ष हाती येते. गावातील विविध बोलींचे स्वरूप खालीलप्रमाणे आहे.



दत्तक ग्राम कासवी येथे विद्यार्थी भाषा आणि साहित्य सर्वेक्षण करताना

➤ कुणबी समाजाची बोली :-

दत्तक ग्राम कासवी येथे बहुतांश लोक हे कुणबी समाजाचे आहेत. या समाजाच्या लोकांची मातृभाषा ही मराठी आहे. ते आपल्या दैनंदिन व्यवहारात मराठी भाषेचा वापर करीत असले तरी त्यात प्रमाण मराठीतील शब्दांपेक्षा झाडी बोलीतील मराठी शब्दांचाच भरणा अधिक दिसतो. या समाजाचे लोक बरेचशे शब्द उच्चार सुलभतेच्या दृष्टीने प्रमाण मराठीतील शब्दांची अपभ्रष्ट रूपेच अधिक प्रमाणात वापरताना दिसतात. उदा. — मले (मला), तुले (तुला), कोटी (कुठे), कायले (कशाला), अरमोरी (आरमोरी), बरमपुरी (ब्रम्हपुरी), वरदा (वर्धा), नसे (नाही), जेवलू (जेवलो) इत्यादी

➤ गोंड समाजाची बोली :-

कासवी येथे कुणबी समाजासोबतच गोंड जमातीचे बरेच कुटुंब आढळले. त्यांची मातृभाषा ही गोंडी भाषा असली तरी गोंडी भाषा बोलणारी जुनी पीढी आता क्वचितच आढळते. मराठी भाषिकांच्या अधिक संपर्कामुळे आज ते आपल्या दैनंदिन व्यवहारात गोंडी भाषा मिश्रित झाडी बोलीभाषेतील मराठी शब्दांचाच अधिक वापर करताना दिसतात. आज हा समाज बऱ्याच प्रमाणात झाडी बोलीचा वापर करीत असल्याने त्यांना गोंडी भाषा बोलणे कठीण जात आहे. ते केवळ धार्मिक विधी व सण समारंभांमध्ये गीतांच्या रूपाने गोंडी बोलीभाषेचा वापर करतांना दिसतात. त्यांच्या बोलण्यातील उच्चाराचा विचार केले असता त्यांचे उच्चार गोंडी प्रभावीत झाडी बोलीतील उच्चार असल्याचे लक्षात आले. या समाजातील

लोक गोंडी बोलीतून आपले सांस्कृतिक वैभव जोपासताना दिसतात. मात्र दैनंदिन व्यवहार झाडीबोली मिश्रित मराठी भाषेचाच आहे.

➤ परधान समाजाची बोली :-

पूर्व विदर्भात परधान जातीचे लोक मोठ्या प्रमाणात असले तरी कासवी येथे मात्र काही मोजकेच कुटुंब या जातीचे आहेत. यांची मातृभाषा 'परधानी बोली' असली तरी आज यांची मातृभाषा 'मराठी'च झालेली आहे. मात्र बोलतांना कुणबी समाजाच्या शब्दोच्चारसारखी पद्धत यांच्या बोलण्यात आढळत नाही. तर बोलण्याच्या पद्धतीत हिंदी, गोंडी व परधानी बोलीची लयबद्धता आढळून येते. उदा. किंता (किती), आओ (या), येना (ये), मालं (मला), काहाले (कशाला), थ्याले (त्याला) इत्यादी.

➤ कोष्टी आणि शिंपी समाजाची बोली :-

कासवी येथे केवळ दोन—तीनच कुटुंबे कोष्टी व शिंपी समाजाची आढळली. मात्र या दोन्ही समाजातील लोकांची स्वतंत्र अशी कोणतीही बोली नसल्याचे लक्षात आले. ते व्यवहारात झाडीबोलीचा वापर अधिक करतात. मराठी भाषा व मराठी भाषिकांचा अधिक सहवास व संपर्कामुळे त्यांना आपल्या बोली भाषेचा पुरेता विसर पडलेला असल्याचे निदर्शनास आले.

➤ माळी समाजाची बोली :-

कासवी येथे कुणबी समाजानंतर बऱ्याच प्रमाणात माळी समाजाचे लोक आढळले. या समाजाच्या लोकांचा मुख्य व्यवसाय बागायती शेतीचा आहे. शेतातील हिरवा भाजीपाला रोज तालुक्याच्या बाजारामध्ये विकताना या समाजातील लोकांचा संपर्क विविध भाषिक लोकांशी येतो. त्यामुळेच त्यांची दैनंदिन व्यवहाराची भाषा मराठी असली तरी विविध भाषेतील शब्दांचा वापर त्यांच्या बोलण्यामध्ये दिसून येतो. माळी समाजातील लोक संमिश्र बोली (हिंदी—मराठी—झाडीबोली) बोलतात.

➤ कोळी (ढिवर) समाजाची बोली :-

कासवी येथे चार—पाच कुटुंबे कोळी (ढिवर) समाजाची आढळली. या समाजाची स्वतः अशी स्वतंत्र कुठलीही बोलीभाषा नसल्याचे आढळले. मात्र त्यांचा मासेमारीचा व्यवसाय असल्याने या व्यवसायाच्या माध्यमाने येणाऱ्या बऱ्याचशा घटकांचा वापर आपल्या बोली भाषेत करताना दिसतात. उदा. तुले बोटच्यावानी कापीन, मले गरी लागली इत्यादी.

तसेच माळी समाजाप्रमाणेच कोळी समाजाचाही मासे विक्रीच्या निमित्ताने बाजारातील अनेक भाषिक ग्राहकांशी संपर्क येत असल्याने त्यांचीही बोलीभाषा संमिश्र बोलीच्याच रूपाने समोर येते.

➤ महार (बौद्ध) समाजाची बोली :-

कासवी येथे कुणबी समाजानंतर बऱ्याच प्रमाणात महार समाजाचे लोक असल्याचे दिसून आले. या समाजातील लोक आपल्या दैनंदिन व्यवहारामध्ये मराठीचाच वापर करीत असले तरी ती अपभ्रष्ट मराठीच्या स्वरूपाची आहे. ते आपल्या बोलण्यात अधिकाधिक झाडी बोलीचाच वापर करतात. मात्र बोलताना वाक्यात मराठीतील येणे, जाणे, खाणे, पिणेस अशा क्रियापदांच्या ऐवजी अनुक्रमे येतस, जातस, खातस, पितस यासारखी क्रियापदे वापरतात. याशिवाय मालं (मला), जातून (जातो), याचा (याला) असे विविध शब्द प्रामुख्याने त्यांच्या बोलीभाषेत आढळतात.

❖ ग्रामस्थांची वाङ्मयीन अभिरूची :-

बोलीभाषेच्या अभ्यासाबरोबरच गावातील साहित्यिक अभिरूचीचाही अभ्यास करण्यात आला. त्यात वाचनाची आवड, कोणती पुस्तके वाचायला आवडतात, वाङ्मय प्रकाराची आवड, लोककला यांचा समावेश होता. सर्वेक्षणा दरम्यान असे लक्षात आले की गावातील लोकांना अधिकांश नाटके वाचण्याची व पाहण्याची गोडी आहे. 'माझं कुंकू मिच पुसल', 'कुटुंब', 'भूक', 'बहिण लाडक्या भावाची', 'मरीमायचा भुत्या', 'आत्महत्या', 'लावणी भुलली अभंगाला', 'सुनवाई जागी हो', 'बायको तुझी नजर माझी', 'निष्पाप', 'पाटील बायको सांभाळा', 'बाळा मिच तुझी आई', 'संत तुकाराम', 'उमाजी नाईक', 'संभाजी' अशा सामाजिक, ऐतिहासिक व पौराणिक विषयावरील नाटके पहायला आवडत असल्याचे गावातील लोकांनी सांगितले. गावातील लोकांची नाट्यदृष्ट्या वाङ्मयीन अभिरूची संपन्न असून कादंबरी व कथा या वाङ्मय प्रकारांशी त्यांनी जुळवून घेतले नाही. याविषयी ते अलिप्त असले तरी त्यांना काव्याभिरू व नाट्याभिरूची ओढ आहे.

गाव लोककलेनेही संपन्न आहे. गावातील लोकांना लोककलांची आवड असल्याने विविध प्रसंगाच्या अनुषंगाने ही मंडळी लोककलांचे आयोजन करित असतात. दंडार, तमाशा इत्यादी लोककला या भागात प्रसिद्ध आहेत.

❖ समारोप :-

दत्तक ग्राम कासवीतील भाषा व साहित्याचे सर्वेक्षण करताना या परिसरातील लोकांच्या बोलीचे नमुने व त्यांना असलेली साहित्यिक आवड याचा अभ्यास करण्यात आला. या प्रकल्प अभ्यासाचे स्वरूप प्रश्नावलीच्या माध्यमाने सर्वेक्षणाचे होते. दत्तक ग्राम कासवीची लोकसंख्या १००० च्या आसपास असल्याकारणाने नमुना म्हणून गावातील २५ कुटुंबांचे सर्वेक्षण करण्यात आले. सर्वेक्षणा अंती गावात कुणबी, गोंड, माळी, कोष्टी, शिंपी, कोळी (ढिवर), महार समाजाचे लोक असल्याचे लक्षात आले. त्या सर्व जाती-जमातींच्या मुळात वेगवेगळ्या बोलीभाषा असल्या तरी त्यांची प्रमुख बोलीभाषा ही झाडीबोलीच आहे. याच बोलीच्या वर्तुळात या सर्व जमातींच्या बोली मोडतात.

बोलीभाषांचा अभ्यास करतानाच ग्रामस्थांचा साहित्य व मुख्य साहित्य प्रकारांसंदर्भातील कलही जाणून घेण्याच्या दृष्टीने प्रयत्न केले गेले. तेव्हा गावातील लोकांना नाटक व काव्य या वाङ्मय प्रकाराची ओढ असल्याचे लक्षात आले. मात्र या तुलनेत कथा व कादंबरी या वाङ्मय प्रकारांशी ते जुळवून घेऊ शकले नाहीत. ते मराठी साहित्यापासून बऱ्याच प्रमाणात अलिप्त राहिले असले तरी वाचनाचा छंद ते विविध वृत्तपत्रे वाचनाच्या माध्यमाने जोपासण्याचा प्रयत्न करतात. तसेच लेखनाच्या आवडीमुळे ते स्वतःच्या बोलीभाषेत गीते, भजणे, पाळणे, दंडार-तमाशा करिताचे संवाद इत्यादी लिहून ठेवतात. त्यामुळेच आजच्या घडीला बऱ्याचशा पोटभाषा व बोलीभाषा लुप्त होत असतानाही कासवी ग्रामस्थांच्या बोलीभाषा तग धरून आहेत. जे मराठी साहित्याच्या दृष्टीने खूप महत्वाचे आहे.



दत्तक ग्राम कासवी येथे विद्यार्थी भाषा आणि साहित्य सर्वेक्षण करताना

❖ निष्कर्ष :-

- १) कासवी या गावात जवळपास आठ जातीचे लोक आढळून आले. त्यापैकी प्रत्येकच जातीची स्वतःची बोलीभाषा नसली तरी गावात जवळपास पाच बोलीभाषा बोलल्या जात असल्याचे आढळून आले.
- २) कासवी गावातील विशिष्ट जातीची विशिष्ट बोलीभाषा असली तरी ग्रामस्थांकडून जातीच्या भाषेत व्यवहार होताना दिसून येत नाही. प्रमुख व्यवहार झाडीबोली मिश्रीत मराठी भाषेतूनच केले जाता.
- ३) कासवी ग्रामस्थांची प्रमुख भाषा ही मराठी भाषा असून त्यांच्या या मराठी भाषेचे स्वरूप झाडीबोलीने व्याप्त असे आहे.
- ४) कासवी गावातील लोकांना लोकसाहित्याची विशेष आवड असून कीर्तन, तमाशा, दंडार याविषयीची अभिरूची त्यांच्यात दिसून आली.
- ५) कासवी गावातील लोकांना साहित्याची आवड असून नाटक हा वाङ्मयप्रकार त्यांच्या दृष्टीने महत्वाचा आहे. त्यांना नाटकांची अधिक आवड आहे.
- ६) ग्रामस्थांना काव्य या वाङ्मय प्रकाराची सुद्धा विशेष आवड असून ते विविध भजन, कीर्तन तसेच इतर काही कार्यक्रम व सणसमारंभांच्या माध्यमाने ही आवड जोपासताना दिसतात.
- ७) कथा व कादंबरी या वाङ्मय प्रकारांशी ते बऱ्याच प्रमाणात अलिप्त राहिलेले आहेत.

परिशिष्टे

१) प्रश्नावलीचा नमुना :-

महात्मा गांधी कला, विज्ञान व स्व. न. पंजवाणी वाणिज्य महाविद्यालय, आरमोरी, जि. गडचिरोली

मराठी विभाग व संशोधन केंद्र

PBR : 2017 – 18

भाषा व साहित्य सर्वेक्षण

दत्तक ग्राम कासवी

प्रश्नावली

१) आपली मातृभाषा कोणती?

.....

२) आपण घरी कोणती बोलीभाषा बोलता?

.....

३) दैनंदिन व्यवहारात आपण कोणत्या भाषेचा अधिक वापर करता?

.....

४) आपणास किती भाषा माहीत आहेत? त्या कोणत्या?

.....

५) आपल्या समाजाची / जातीची भाषा आहे का? असल्यास कोणती?

.....

६) आपणास वाचनाची आवड आहे का? काय वाचता?

.....

७) आपणास कोणती पुस्तके (कथा, कादंबरी, नाटक, कविता) वाचायला आवडतात?

.....

८) आपणास नाटक पाहायला आवडते का? आवडलेली नाटके कोणती?

.....

९) आपल्या गावात लोककलेचे कोणते कार्यक्रम आयोजित केले जातात? आपला सहभाग असतो का?

.....

२) भरून घेण्यात आलेल्या प्रश्नावलीचा नमुना :-

महात्मा गांधी कला, विज्ञान व स्व. न. पंजवाणी वाणिज्य महाविद्यालय, आरमोरी, जि. गडचिरोली
मराठी विभाग व संशोधन केंद्र
PBR : 2017 - 18
भाषा व साहित्य सर्वेक्षण
दत्तक ग्राम कायची
प्रश्नावली

शे.भ.रा.य. च.सु.दे.व. कु.म.रे

१) आपली मातृभाषा कोणती?

मराठी

२) आपण घरी कोणती बोलीभाषा बोलता?

मराठी

३) दैनंदिन व्यवहारात आपण कोणत्या भाषेचा अधिक वापर करता?

मराठी

४) आपणास किती भाषा माहीत आहेत? त्या कोणत्या?

साडी बोली, मराठी, हिंदी

५) आपल्या समाजाची / जातीची भाषा आहे का? असल्यास कोणती?

होय. कोठी

६) आपणास वाचनाची आवड आहे का? काय वाचता?

होय. पुस्तके, नाटक

७) आपणास कोणती पुस्तके (कथा, कादंबरी, नाटक, कविता) वाचायला आवडतात?

होय. 'एकच प्याला'

८) आपणास नाटक पाहायला आवडते का? आवडलेली नाटके कोणती?

होय. बाळा. मीच तुम्ही आई, सुतवई जागी हो, निष्पाप

९) आपल्या गावात लोककलेचे कोणते कार्यक्रम आयोजित केले जातात? आपला सहभाग असतो का?

दंडार, कितली नाटक, स्थायी कार्यक्रम, होय
सहभाग घेतो.

अ.क.व.प.

पि.रा.प.प.
Pantche

३) सहभागी विद्यार्थ्यांची यादी :-

Mahatma Gandhi Arts, Science and Late Nasaruddinbhai Panjwani Commerce College
Armori Distt. Gadchiroli (M.S.) 441208
Peoples Biodiversity Register
Adopted Village Kasvi, Ta. Armori

CLASS: BA - II

SESSION: 2017-2018

SR.NO.	NAME OF STUDENT	SUBJECTS	Mob./SIGNATURE
1	KU ALKA PRAKASH BORKAR	MARATHI	9823709765
2	MR AMIT VISHWANATH PENDAM	MARATHI	9423744105
3	MR DIPAK DEVSU TUMRETI	MARATHI	9719824267
4	MR GULSHAN RAMDAS ATRAM	MARATHI	9112878700
5	KU KIRANTAI ASHOK EATANKAR	MARATHI	8805560148
6	KU KIRTI KISHOR NAITAM	MARATHI	9423361097
7	KU MAYURI MAHADEO RAMTEKE	MARATHI	9689121911
8	KU MONALI VIJAY KOTHARE	MARATHI	
9	MR PANKAJ ASHOK KOLHE	MARATHI	8275793319
10	MR PRAFUL ASHOK KULMETHE	MARATHI	9404794775
11	MR PRANAV LAXMAN MADAVI	MARATHI	9423512850
12	KU PRIYA JAGJIVAN RAMTEKE	MARATHI	8805229601
13	KU PRIYANKA TIKARAM TARAM	MARATHI	9112357428
14	KU PRIYANKA TUKARAM LENGURE	MARATHI	8275415144
15	KU PUNAM KEWALRAM MADAVI	MARATHI	9823550341
16	MR RAKESH DHYANESHWAR KARANGAMI	MARATHI	8275718980
17	MR ROSHAN SHALIKRAM GHARAT	MARATHI	7038635815
18	MR RUSHIDEO BARIKRAO NAITAM	MARATHI	9403779451
19	MR SACHIN PURUSHOTTAM MADAVI	MARATHI	9011904758
20	KU SONU ASHOK KUMBHARE	MARATHI	9637565415
21	MR YOGESH JANKIRAM WAKADE	MARATHI	9404462355
22	KU ASHWINI BALKRUSHNA KUMBHILWAR	MARATHI	9404533625
23	KU CHETANA TARACHAND YEDAME	MARATHI	9767147671

24. KU. DARMINT G. CHAPLE MAR 9763613574
25. Pravin S. Sore mar 703829617 - Guide
Guide:- Prof. Dr. V. P. Wanjari
Prof. D. M. Ghonmade
Prof. Vijay Raiwatkar
Prof. Khogesh Sahare

४) वृत्तपत्रात प्रकाशित झालेल्या बातम्या :-



कासवीत बोलीभाषा व साहित्य सर्वेक्षण

आरमोरी : येथील महात्मा गांधी कला, विज्ञान व स्व. न.पं. वाणिज्य महाविद्यालयाच्या वतीने दत्तक ग्राम कासवी येथे जैवविविधता नोंदवही अंतर्गत गावातील बोलीभाषा व साहित्याचे सर्वेक्षण करण्यात आले. यावेळी विद्यार्थ्यांनी ५० कुटुंबांना भेट देऊन प्रत्यक्ष मुलाखतीद्वारे माहिती गोळा केली. मातृभाषा, व्यवहाराची भाषा, समाज व जातीची भाषा, बोलीभाषा, विविध भाषेचे ज्ञान, साहित्याची आवड, अभिरुची, नाटकांची आवड यासह विविध बाबी जाणून घेतल्या. याप्रसंगी प्रा. विशाखा वंजारी, प्रा. दिलीप घोनमोडे, डॉ. विजय रेवतकर, प्रा. खगेश सहारे उपस्थित होते. यशस्वीतेसाठी बीए द्वितीय वर्षाच्या विद्यार्थ्यांनी सहकार्य केले.

दैनिक लोकमत वृत्तपत्रात दि. २२ जानेवारी २०१८ ला प्रकाशित बातमी



कासवी येथे बोलीभाषा व साहित्याचे सर्वेक्षण

आरमोरी : येथील महात्मा गांधी कला, विज्ञान व स्व.न.पं. वाणिज्य महाविद्यालयाने दत्तक ग्राम योजनेंतर्गत तालुक्यातील कासवी हे गाव दत्तक घेतले आहे. त्याचाच एक भाग म्हणून महाविद्यालयाच्या मराठी विभागाच्या विद्यार्थ्यांनी लोकांचे जैवविविधता नोंदवही अंतर्गत दत्तक ग्राम कासवी विकास कार्य समितीचे अध्यक्ष व महाविद्यालयाचे प्राचार्य डॉ. लालसिंग खालसा यांच्या मार्गदर्शनाखाली गावातील बोलीभाषा व साहित्याचे सर्वेक्षण करण्यात आले. यावेळी मराठी विभाग व संशोधन केंद्राचे प्रमुख प्रा. डॉ. विशाखा वंजारी, प्रा. दिलीप घोनमोडे, प्रा.डॉ. विजय रेवतकर, प्रा. खगेश सहारे यांच्या उपस्थितीत विद्यार्थ्यांनी बोलीभाषा व साहित्याचे सर्वेक्षण केले.

दैनिक पुण्यनगरी वृत्तपत्रात दि. २२ जानेवारी २०१८ ला प्रकाशित बातमी

**DEPARTMENT OF
COMMERCE**



Department of Commerce

Socio-economic Survey Report 2017-18

Economic Status of Unorganized Labour Sector in Kasvi (BPL)

PBR submitted by: -B. Com. II (Department of Commerce) students group 2017-18

Under the supervision of: -Prof. K. D. Hajare, HOD, Prof. Dr U.T. Kamble and Prof. M. M. Thaore of Commerce department

Introduction: -

Below Poverty Line is an economic benchmark used by the government of India to indicate economic disadvantage and to identify individuals and households in need of government assistance and aid. It is determined using various parameters which vary from state to state and within states. The present criteria are based on a survey conducted in 2002. Internationally, an income of less than \$1.90 per day per head of purchasing power parity is defined as extreme poverty. By this estimate, about 21.2% of Indians are extremely poor. Income-based poverty lines consider the bare minimum income to provide basic food requirements; it does not account for other essentials such as health care and education. India is an extremely poor country according to this.

This means following a priority list for each scheme, rather than following a single list of identified families for all schemes. For example, the people who put in manual work under Mahatma Gandhi National Rural Employment Guarantee Act need not belong to families below the poverty line. Whoever is within the specified age bracket and is willing to get enrolled, can get covered. Similarly, the beneficiaries under National Food Security Act are identified by the State/UT Governments, with the ceiling/ coverage under TPDS determined for each State/UT by the central Government. This list of families can be different from the priority list used for rural housing programmes under Pradhan Mantri Awas Yojana (Grameen), which runs on the basis of whether a person has or does not have a pucca house, based on SECC survey of 2011. Similarly, the rural electrification programme Rajiv Gandhi Grameen Vidyutikaran Yojana had the concept of below poverty line families. But the new approach of Soubhagya scheme is to make no discrimination based on the poverty line, but to go on the basis of households that do not have electricity connection. In

the maternity benefit scheme renamed as Pradhan Mantri Matru Vandana Yojana, there is automatic and universal coverage, without any mention of whether a pregnant woman is below the poverty line or not.

Maharashtra's image as a progressive State has taken a beating with recent figures rating it third amongst major States, after Uttar Pradesh and Bihar as regards the population below poverty line. An Economic survey released by the State Government said the poverty estimates provided by the Planning Commission reveal poverty ratio in the State is 30.7 per cent, 3.2 per cent more than the all India (27.5 per cent) figure. **Maharashtra had 3.17 crore people below poverty line after Uttar Pradesh (5.90 crore) and Bihar (3.69 crore).**

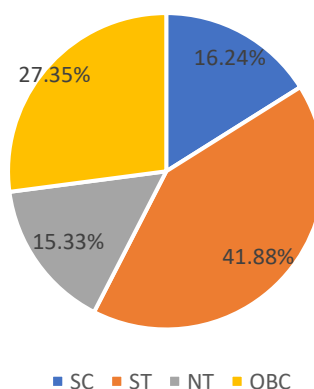
In connection with above consideration our college decided to survey on BPL database in adopted village *Kasvi* with the help of B.Com. II student. In survey lot of migration for employment is observed in kasvi.

1) Status of BPL in Kasvi Village as per Caste /Category: -

In survey of total 117 BPL families, division of families is done category wise as follows- where it is observed that S.T. category has more number of BPL families than other categories.

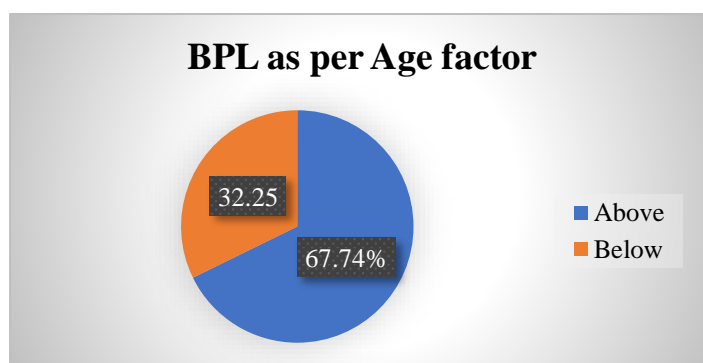
Category	Families	Percentage
S.C.	19	16.24
S.T.	49	41.88
N.T.	17	15.33
O.B.C.	32	27.35
Other	-	-
Total	117	100

Categorywise status of BPL



2) BPL Status as per Age: -

Total No. of members included in survey was – 217 from which 147 members found to be above age of 18 and 70 below the age of 18.



Out of these total members 67.74% members can get earning for their family member whereas 32.24 are dependent for their survival.

3) Information on Land Holder among BPL: -

BPL Survey	No. of Families	Percentage
Farmer	45	97
Labour	01	3
Total	46	100

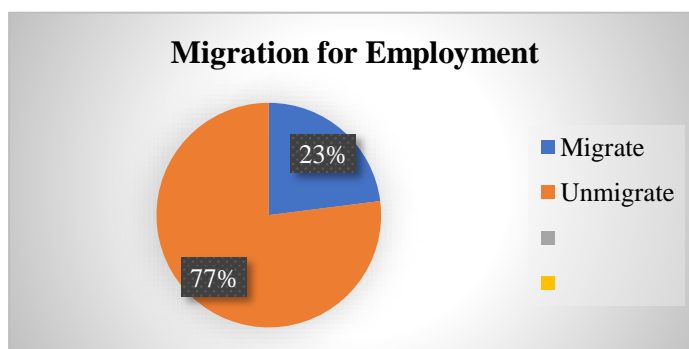
Survey shows that among 46 families 45 family have their own land of very small area (around 1 acre) and one family belong to labour Category.

4) Annual Income of BPL Family: -

Approximate Annual income of BPL families are given in the Chart as follows

Categories (Rupees)	No. of Families		
	Farm	Rural Employment	Other
5000-10000	03	46	16
10000-15000	08	-	12
15000-20000	18	-	05
20000-25000	14	-	08
25000-30000	02	-	04
Total	45	46	46

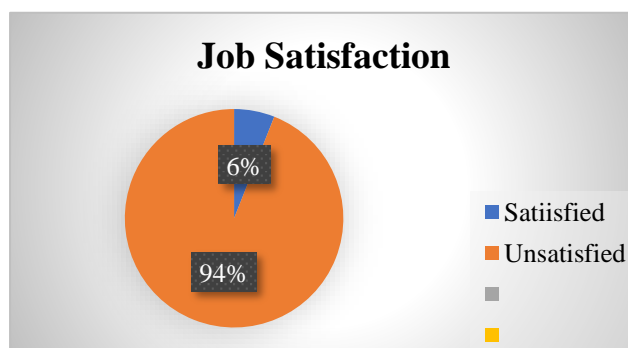
5) Nature of Migration for Employment: -



In survey it is observed that overall, 23% families migrate for employment according to season while 77% families survive in the village for the development.

6) Satisfaction with Job: -

It is seen that 94% families are not satisfied with this employment as most of their common need cannot fulfil with such limited income source, only 6% families are satisfied with this employment.



Conclusion: -

Survey conducted in unorganised labour sector of Kasvi show that

1. There is little scope for employment due to lack agro based industry in area.
2. For labour Employment days are very less in comparison with season.
3. The basic needs of the family are not fully satisfied with limited income source.
4. There is no provision of perennial irrigation in the village.
5. Seasonable farming are totally depends on rain falling.

Recommendation: -

- 1) Government should plans for employment in the *Kasvi* village.
- 2) Perennial irrigation should be plan in *kasvi* village.

DEPARTMENT OF ECONOMICS



Department of Economics

Socio-economic Study Report on

Study of kasvi village farmers with respect to their source of income: paddy fields and agro-based small scale industries

PBR submitted by: -B. A. II (Department of Economics) students group 2017-18

Under the supervision of: -Prof. M. K. Ramteke, Head of the Economics department

Introduction:

The economy of adopted village *Kasvi* is basically agrarian. In spite of economic development, agriculture is the backbone of the village economy, apart from those who are directly involved in the agrarian sector and a very few number of the population of village is engaged in agro-based activities. Agriculture meets the foods requirements of village. Substantial increase in the production of food grain like-rice, wheat etc. and non-food grains like- fruits and vegetables etc. has made village inhabitant self-sufficient.

It is necessary that farmers of *Kasvi* village should use their potential of agriculture in a systematic and planned manner. We have to develop some new techniques of high production of food grains and non food grains. The basic task of economic planning in village is to bring out a structural transformation of the economy so as to achieve a high and sustained rate of growth, a progressive improvement in the standard of living of the masses leading to the eradication of the problems of poverty, unemployment and inequality as well as building up of self reliant socialist economy.

Aim of the study:

The aim and objective of the study is to eradicate poverty and unemployment through gainful employment opportunities. This can be achieved by starting and developing small-scale industries especially agro-based industries. By doing so, pressure on land will be reduced which leads to increase in the productivity of agriculture sector.

Study Area: *Kasvi*, Tah- *Armori*, District- *Gadchiroli* (M.S.)

Kasvi village is adopted by our College, for five year tenure hence this village is selected for study and survey in view of socio-economical status of inhabitants. According to Census 2011, the location code or village code of *Kasvi* village is 538505. *Kasvi* village is located in *Armori* Tehsil of *Gadchiroli* district in Maharashtra, India.

It is situated **7 km** away from sub-district headquarter *Armori* and **43 km** away from district headquarter *Gadchiroli*. The total geographical area of village is **289.48 hectares**. The population of adopted village *Kasvi* is **937**.

Materials and methods: -

Students of B. A. II Economics are divided into four groups and a questionnaire was prepared by economics department in respect to their source of income and standard of living. In survey from **224** houses only 48 representative houses (Families) survey were done by PBR groups of Economics. Photographs of the families with surveyor PBR students were taken with help of mobile and high megapixel canon camera.

Results and discussion: -

In *Kasvi* village out of total population, **650 people** are engaged in agriculture and related work activities. It is observed that **19.8%** of workers described their work as agriculture-based Work, getting employment or earning more than **6** Months while **80.2%** workers involved in Marginal activity providing livelihood for less than **6** months. No doubt, development of agriculture has raised agricultural productivity but it has not ensured a corresponding increase in employment opportunities.

Therefore, agriculture alone cannot solve the economic problems and ensure rural development; we need to diversify the rural economy by establishing agro-based industries in the rural areas. The agro-industries provide a bridge between agriculture and industry. It helps open up the village economy to the exploitation of its vast potential of growth and development. In the present survey this village has no agro-based small industries. The inhabitants totally depend upon the agriculture alone.

Finding as per the survey of *kasvi*: -

1) Knowledge of Agriculture: -

S. N.	Knowledge of agriculture	Number of families concerned	Percentage
1.	Having proper knowledge	40	83%
2.	Having improper knowledge	08	17%

In the present survey, it is observed that **83%** families have proper knowledge of agriculture whereas 17% families have improper knowledge of agriculture. They cultivate main crop as rice and second is groundnut.

2) Agriculture Land Database: -

S. N.	Having fertile land	Families	Percentage (%)
1.	Fertile land approximately (1 to 2.5 acres)	27	56.25
2.	Fertile land approximately (2.5 to 5.0 acres)	10	20.83
3.	Fertile land approximately (5.0 to 10.0 acres)	02	04.16
4.	Fertile land approximately (above 10 acres)	02	04.16
5.	Fertile land of approximately less than 1 acre	07	14.58

It is observed that **56 %** families have 1 to 2.5 acres fertile land, so their annual income is less and they cannot furnish their basic need in sufficient condition while 14.58% families have insufficient income source due to limited land area and worked as part time labor for their basic need. Only **8.32%** farmers have sufficient income source from their agriculture land because of more land area. Their annual income and standard of living is found to be uplifting than the other inhabitants of adopted *Kasvi* villagers.

3) Irrigation Facility: -

SN	Families with irrigated land	Families with non-irrigated land
1.	16	32
2.	33.33%	66.67%

In Kasvi village 66.67% families do not have irrigation facility for agriculture purpose so they are dependent on natural raining. This is the basic reason for Vidarbha underdevelopment.

4) Agriculture loan beneficiaries: -

SN	Banks loan facilities avail	Families	Percentage
1	Dependent on agriculture loan	24	50%
2	Not dependent on agriculture loan	24	50%
3.	Total	48	100%

Farmers of Adopted village *Kasvi* are 50% dependent on cooperative bank loan facility while 50% are independent of bank loan facility. If banks and finance institutions provide loans and other financial supports to the villagers, this village will march towards the real development.

5) Paddy production and income gained per annum-

SN	Average Paddy production (main crops)	Families	percentage
1.	Range of 10 to 25 thousand income per annum	33	68.75%
2.	Range of 25 to 50 thousand income per annum	10	20.83%
3.	Range of 50 to 1 lakh income per annum	04	8.33%
4.	Range of 1 lakh and above income per annum	01	02.08%
5.	Total	48	100%

In *Kasvi* 68.75 % families are in low-income group (27 to 68 rupees per day) which is incapable of their daily food requirement. This type of agriculture aspect is dangerous for the development of any nation. Therefore, *kasvi* village is waiting for industrial development, education, drinking water, road and electricity are the main concern of this village.

6) Animal Husbandry Database: -

S. N.	Animals	Families	Percentage
1.	Having Cows, Goat and Buffaloes	23	48%
2.	Not having Cows, Goats & Buffaloes	25	52%
3.	Total	48	100%

In present survey it is noticed that day by day villagers made negligence towards animal husbandry in comparison with last three generation database. The reason behind this negligence may be urbanization and much effort in the management of animal. In *Kasvi* 52% families are not interested in the management of animal husbandry.

7) Agro based Activity of Village: -

SN	Land used for	Families	Percentage
1.	Vegetable's cultivators	04	8%
2.	Vegetables non-cultivators	36	75%
3.	Flowering plants – (flower fields)	02	4%

Agro-based sector is thus capable of assuring a high rate of growth for the economy as a whole and achieving social as well as economic progress. But present study shows lack of any type of agro-based industries. Hence livelihood and living of standard, literacy rate is found to be in decreasing order day by day.

Conclusion: -

In survey regarding economic status and small-scale industries database we came to following conclusion

- 1) It is observed that nearly 56% families have very limited land around one acre which is basic reason for the improvement their basic need. In addition to this 67% families are dependent on natural raining as there is lack of irrigation facility.
- 2) In *kasvi* 52% families are not interesting in management of animal husbandry which was one of the best agro based business in last few decades. Presently it is lack of awareness and work culture diminishes.
- 3) Present development in science and technology and urbanization leads to inertness towards work culture and easily getting food grain by government scheme.
- 4) The agricultural sector can contribute to industrial growth in many ways such as by providing food grains, releasing surplus labor for non-agricultural activities and providing raw-material for agro-processing industries as well as creating demand for agro-input industries.

Recommendation: -

- 1) Farmers should develop a technically up-to-date diversified domestic economic structure by establishing agro-based occupation along with farming.
- 2) Food processing industries should be established within area with support of government such as dairy, poultry farming, goat farming etc.
- 3) Agriculture based seminars and conferences should be organized in order to know recent development in agriculture sector such as organic farming.
- 4) Agriculture with agro based side business cans only a solution for the upliftment of rural people and their contribution to nation development.
- 5) Organic farming should apply for high crop production and nature based development of agriculture sector and eradication of the problems of poverty, unemployment and inequality as well as building up of self-reliant socialist economy.
- 6) People should promote towards flower farming and fruit farming as well as household farming. (Parasbag)

Field Photography: - Survey by B.A.II Economics Department students



महात्मा गांधी कला, विज्ञान व स्व. नसरुद्दीनभाई पंजवानी वाणिज्य महाविद्यालय, आरमोरी, जि. गडचिरोली

दत्तक ग्राम कासवी

शेती व शेतीपुरक व्यवसायाचे आर्थिक सर्वेक्षण व विश्लेषण

अर्थशास्त्र विभाग

सत्र २०१७-१८

प्रश्नावली

अ) कौटुंबिक माहिती :-

अ. क्र.	नाव	हुद्दा/नाते	शिक्षण	वय
१	सिताराम विजारे मरलकोळे	पती	५ वी	६५
२	पुनर् सिताराम मरलकोळे	पत्नी		५०
३	दिनानाथ सिताराम मरलकोळे	पती	५ वी	४०
४	शालु दिनानाथ मरलकोळे	पत्नी	१ वी	३०
५	निहार दिनानाथ मरलकोळे	मुलगा	१२	१८

ब) शेतीविषयक माहिती :-

१. आपणाकडे शेती आहे काय? होय/नाही

२. किती एकर आहे? २

१ ते २.५	२.५ ते ५	५ ते १०	१० च्या वर
अत्यल्प भूधारक	अल्पभूधारक	मध्यम भूधारक	उच्च भूधारक

३. कोरडवाहू/ओलीताखालील.

४. ओलीताखालील असल्यास : शेतीपंपाची/पाटबंधाऱ्याची.

५. शेतीपंपाची असल्यास :

अ) पंपाला बारमाही विद्युत मिळते का? होय/नाही

ब) भारनियमन असते का? होय/नाही

क) योग्य हंगामाच्या वेळेसच भारनियमन असते का? होय/नाही

ड) शेतीतील विद्युत भरणा वेळेवर करता का? होय/नाही

क) शेती कर्जविषयक :

१. शेती कसण्यासाठी कर्ज काढता काय? होय/नाही
२. कोणाकडून : सावकार/बँका/नातेवाईक/सोसायटी
३. कर्जाचा पुर्ण वापर शेतीसाठीच करता का? होय/नाही
४. घेतलेल्या कर्जाची परतफेड करता का? होय/नाही

ड) शेतीच्या वापराविषयक माहिती :

१. धानाची शेती करता का? होय/नाही (होय असल्यास)
२. धानाचे किती उत्पादन होते का? क्विंटल ९ रुपयात 21,000
३. कुटूंबाचे वापरासाठी किती ०६
४. विकण्यासाठी किती ०३
५. धानाला मिळणारा भाव//किंमत योग्य मिळते का? होय/नाही
६. धानाच्या उत्पादनातून तुमच्या कौटुंबिक, प्राथमिक गरजा पुर्ण होतात का? होय/नाही
७. खतांचा वापर करता का? होय/नाही
८. शेणखत किती वापरता? (एकरी) २ टोनी
९. रासायनिक किती वापरता? (एकरी) १ पिशवी
१०. किटक नाशकावर किती खर्च होतो? (एकरी) २०००
११. धान उत्पादन फायदेशीर/नुकसानकारक.

ई) भाजीपाला :-

१. शेतीचा वापर भाजीपाला उत्पादनासाठी करता काय? होय/नाही (होय असल्यास).
२. किती एकरात लागवड करता?
३. कोणता भाजीपाला पिकवता?
पालक/मेथी/सांभार/वांगी/चवळी/गवार/फुलगोबी/पत्ता गोबी/टमाटर/इतर भाजीपाला
४. भाजीपाल्यासाठी कोणते खत वापरता? शेणखत/रासायनिक खत/दोन्ही

५. भाजीपाला विक्री : ठोक/चिल्लर.
६. भाजीपाल्यापासून वार्षिक उत्पन्न किती?
७. भाजीपाल्याचा वार्षिक खर्च किती?
८. भाजीपाला उत्पादन फायदेशीर/नुकसानकारक.

फ) फळशेती :-

१. फळशेती करता काय? होय/नाही
२. कोणत्या फळाचे उत्पादन करता? पेरू/आंबा/सिताफल/बोर/इतर फळ
३. फळाच्या उत्पादनापासून किती उत्पन्न मिळते?
४. किती खर्च केला जातो?
५. फायदेशीर/नुकसानकारक

ग) फुलशेती :-

१. फुलशेती करता काय? होय/नाही
२. कोणत्या फुलांची लागवड करता? शेवंती/झेंडू/मोगरा/इतर फुल
३. कोणत्या बाजारात विकता? स्थानिक/शहरी
४. मिळणारा भाव प्रतिकिलो किती?
५. फुलशेतीवरील एकूण वार्षिक खर्च किती?
६. फुलशेतीपासून मिळणारे उत्पन्न किती?
७. फायदेशीर/नुकसानकारक

घ) दुग्ध उत्पादन :-

१. आपणाकडे किती जनावरे आहेत?
अ) गाईची संख्या ...१..... ब) म्हशीची संख्या
२. दुधाळ जनावरांची संख्या किती.
अ) गाई१..... ब) म्हशी
३. दुधाळ जनावरांची काळजी कशी घेता?
अ) गोठा स्वच्छ ठेवता ✓
ब) लसीकरण करता.
क) दुध तपासणी करता.
४. दुधाळ जनावरांच्या चाऱ्यावरील मासिक खर्च किती? नाही
५. मासिक दुध उत्पादन लिटरमध्ये/रूपयात. १००० रु
६. जनावरांपासून किती शेणखत मिळते? ४ रोपळे
७. शेणखत स्वतःच्या शेतीसाठी वापरता/विकता.
८. दुधसंकलन केंद्र तुमच्या गावी आहे का? नाही
९. दुधविक्री संकलन केंद्रात करता की घरोघरी वाटता? होय, घरोघरी
१०. जास्त पैसा दुध संकलन केंद्राकडून की घरोघरी वाटून मिळतो. घरोघरी

विद्यार्थ्याचे नाव : कुस्मिता सुनिल महाजन

सही Mahajan

Mahatma Gandhi Arts Commerce & Science College
Armori, Dist. Gadchiroli

CLASS: BA - II

P. B. R.

SESSION : 2017-2018

SR.NO.	NAME OF STUDENT	ECO	
1	MR AJAY JIWAN KOWACHI	ECO	<u>Awachi</u>
2	KU ASHWINA ASARAM MOHURLE	ECO	
3	KU ASHWINI BHAURAO DIVATHE	ECO	
4	MR DEVRAM BAKURAM PULO	ECO	<u>Devram</u>
5	KU GAURI PRAKASH MESHRAM	ECO	
6	KU GITANJALI DEVNATH MADAVI	ECO	
7	KU HASHINA KEWALRAM MESHRAM	ECO	<u>H. Meshram</u>
8	MR JAGDISH VITTHAL PADA	ECO	
9	KU KARISHMA SUNIL MAHAJAN	ECO	<u>Mahajan</u>
10	KU PRATIKSHA RAJIRAM KUTHE	ECO	<u>Pratiksha</u>
11	MR PRAVIN SURESH SORTHE	ECO	<u>Sorthe</u>
12	KU PUSHPA BAPUJI THAKARE	ECO	
13	KU SALONI GOPAL MESHRAM	ECO	
14	KU SAPANA KAWADU DADMAL	ECO	
15	KU SHITAL UMAJI BANSOD	ECO	<u>S.U. Bansod</u>
16	KU SONI DEVIDAS SURPAM	ECO	<u>Surpam</u>
17	KU SONU ASHOK KUMBHARE	ECO	
18	MR SURAJ ISHWAR THORAK	ECO	
19	MR TAUNKUMAR KHEMRAJ GHARAT	ECO	<u>Tharack</u>

Total of BA - II : 19

Date - 13/01/2018

**DEPARTMENT OF
HISTORY & SOCIOLOGY**



Department of History & Sociology

Socio-economic Study report 2017-18 on

Historical and the Social Study of *Kasvi* Village

*PBR submitted by: -B. A. II (Department of History and Sociology) students group
2017-18*

*Under the supervision of: -Prof. Dr. R. V. Ghonmode, HOD History department and
Prof. Gajendra Kadhav, HOD of Sociology department.*

Introduction: -

Gadchiroli District is categorised as the tribal and backward district of Maharashtra. Gadchiroli and Sironcha were the tehsil of the Chandrapur district, on 26th August 1982 Gadchiroli was separated from Chandrapur district. Gadchiroli district is situated in the south-eastern corner of Maharashtra State and bordered by Andhrapradesh and Chhattisgarh from southeast and east respectively. The district is strongly affected by Naxalite Movement. It covers an area of 15434 sq. km with North South length of 375 km. It is the second largest district in the Maharashtra with respect to area. The Gadchiroli district is blessed with the largest flora and fauna of which 78% land is covered with deep and thick forest in Maharashtra.

History of Village: -

In the ancient time there was the kingdom of King **Rashtrakut** in this area. Then the area was ruled by 'ChalukyVansh' (Chalukya Race) followed by the kingdom of Yadav of Devgiri. After this it was reigned by Gond Kings. Khandkya Ballalshaha had established Chandrapur in the 13th Century, his capital Shirpur was shifted to Chandrapur and at that time this area was conquered by Maratha Emperor. 'Berare' the part of Chandrapur region was undertaken by East India Company in 1853. Before this Berare was an independent district. After the State reorganisation Chandrapur was in Bombay State. Maharashtra State was established on 1st May 1960 and Chandrapur district was included in it. Finally, 1982 Chandrapur district was divided into Chandrapur and Gadchiroli district.

Armori Tahsil is one of the most important & ancient places in the Gadchiroli district whereas adopted village Kasvi is the small village of Armori Tahsil. It is situated 7 km far from the Armori on the east. River Gadhavi is located on the East of

Kasvi and flows from North to South. The latitude of Kasvi is 20°32'6" and the longitude is 80°00'8".

❖ **Establishment of Kasvi Village: -**

The Village kasvi was founded 200 years ago in the British dynasty. As this area was under power of Gond Kingdom so tribal people were the first to come here, then Kunbi, Dhiwar, Paradhi, Gowari and other people settled in Kasvi. There was the landownership at the time of British era. In 1905, it was terminated by the British. This village was completely destroyed in the sudden accidental fire, Only Mate family was there who could survive.

❖ **Religious and Traditional Festivals of Kasvi :-**

The villagers give importance to the worshipping of Hindu God and Goddess. Chhatrapati Shivaji Maharaj jayanti, Ganeshotsav, Hanuman jayanti, Ramnavami and Durgapuja are celebrated throughout the year. The villagers hold firm religious belief and there is 150 years old temple of lord Hanuman and 100 years old Vitthal temple.

Many Festivals and programmes are celebrated throughout the year. The important Festivals celebrated by Kasvi villagers are Gudipawda, Ekadashi, Nagpanchami, Fullmoonday, Gokulashtami, Ganesh Utsav, Pola, Dussera, Diwali, Makarsankrant and Holi.

❖ **Financial Status of Kasvi: -**

Agriculture is the main business of people and Rice is the main crop along with wheat, groundnut, lakhori. As the rice is the main crop, after the season completion farmer and labour do not indulge in another work. Therefore, migration of labourer is observed in adjacent district like chandrapur and yavatmal for Soyabean and Cotton related work.

❖ **Family Status: -**

In Kasvi village a Petri-archival Family system is prevalent since long time. Family is considering to be basic of society as education on tradition, culture and religious matter was derived from family. People of two-three generation were

living in joint family; the oldest person was regarded as the family head. Therefore, discipline sincerely and loyalty was maintained but with changing of time the joint family is dispersed into isolated family.

❖ **Nature of Entertainment: -**

People on this village used to play an earliest type of game of chess, which was called as “Songtya”. Dandar (a type of Poetic Dramma) was also a main source of entertainment. Now a days entertainment modes have been changed and replaced by Cinema, Drama, Mobile etc. are used for entertainment. Beside these the cock fighting and bullock racing is also a module of entertainment for villagers.

❖ **Conclusion: -**

B A II students of our college made a historical and social survey of Kasvi through questionnaire. In this study many economic, religious. Social, cultural changes have been found. There has been degradation of the values of discipline, loyalty and sincerity due to isolated family system. Women of the village are under the influence of Urbanisation and addicted to Mawa, Ghutka and Kharra like men. Give and take system is getting vanished day by day and after seasonal harvesting the income source of the people get ceased.



Ancient Idol of Hanuman



Ancient Hanuman Temple in Kasavi



Ancient Vitthal Temple in Kasavi Survey of Historical and Social study by students



Survey of History and Sociology Students in Kasvi Village

महात्मा गांधी कला, विज्ञान व स्व. नसरुद्दीनभाई पंजवानी वाणिज्य महाविद्यालय, आरमोरी, जि. गडचिरोली

दत्तक ग्राम कासवी

कासवी गावाचे ऐतिहासिक व सामाजिक अध्ययन

लोकांचे जैवविविधता नोंदवही

इतिहास विभाग

सत्र २०१७-१८

नाव : तुळजा बासाशम बांडे

दा. कुसवी

प्रश्नावली

१. कासवी गावाची स्थापना केव्हा झाली?
125 वर्षा पूर्वी
२. कासवी गावात पहिल्यांदा स्थानिक होणारे कोण?
गोड
३. आपल्या गावात सर्वात जास्त कोणत्या जातीचे लोक आढळतात?
माळी, गोड
४. आपल्या गावात पुर्वीच्या काळी कोणती लोककला होती?
नाच, देव हंडारी
५. आपल्या गावात वर्तमान काळात लोककलेमध्ये काही बदल झाले आहेत काय?
होय
६. आपल्या गावात पुर्वीच्या काळी कोणते सणउत्सव साजरे केले जात होते?
दिवाळी होळी
७. आपल्या गावामध्ये मंदीराची निर्मिती केव्हा झाली?
150 वर्षा पूर्वी
८. आपल्या गावामध्ये पुर्वी कोणती कुटूंबपद्धती (संयुक्त-विभक्त) होती?
संयुक्त

१. वर्तमान काळात कुटुंबपद्धतीमध्ये काही बदल झाले आहेत काय?

होय

१०. आपल्या गावात करमणुकीची साधने कोणती आहेत?

देवारी, नालु

११. आपल्या गावात शिक्षणाची सोय आहे का?

होय.

१२. आपल्या गावात जादूटोणा (अंधविश्वास) सारखा प्रकार दिसून येतो काय?

होय,

१३. आपल्या गावामध्ये आधुनिक तंत्रज्ञानाचा वापर केला जातो काय?

होय.

१४. आपल्या गावाची बोलीभाषा कोणती?

मराठी

१५. आपल्या गावाचा मुख्य व्यवसाय कोणता?

शेत

१६. आपल्या बोलीभाषेची लिपी आहे काय?

मराठी

१७. आपल्या गावातील विवाहपद्धती कोणती? (पारंपारिक/आंतरजातीय)

पारंपारिक

१८. आपल्या गावामध्ये कोणकोणत्या जाती आहेत?

गोंड, मल्लो, महार, कुमकी, कुठरी

१९. आपल्या गावची शासनव्यवस्था कशी आहे?

जोगली आहे.

२०. स्त्रिया सार्वजनिक क्षेत्रात भाग घेतात काय?

होय,

२१. आपल्या गावामध्ये काही सार्वजनिक व्यवसाय आहेत काय?

व्यापार गार आहे

Signature
शेवहळता एडनाथ हळारी
दि. 11.01.2018

Mahatma Gandhi Arts, Science and Late Nasaruddinbhai Panjwani Commerce College
Armori Distt. Gadchiroli (M.S.) 441208

Peoples Biodiversity Register
Adopted Village Kasvi, Ta. Armori

CLASS: BA - II

SESSION : 2017-2018

SR.NO.	NAME OF STUDENT	SUBJECTS	SIGNATURE
✓1	MR ABHIJEET ARUN TIWADE	HISTORY & SOCIOLOGY	<i>Abhi</i>
2	MR AKSHAY CHINNU WADDE	HISTORY & SOCIOLOGY	
✓3	MR ANIKET LALAJI CHAUDHARI	HISTORY & SOCIOLOGY	<i>Alai</i>
✓4	MR ANUSH HARIDAS KHODAVE	HISTORY & SOCIOLOGY	<i>A.Khodave</i>
✓5	KU ARCHANA TUSHIRAM GAWADE	HISTORY & SOCIOLOGY	<i>Archana</i>
✓6	KU ASHVINI PURUSHOTTAM DHOTE	HISTORY & SOCIOLOGY	<i>Dhote</i>
✓7	MR DATTATRAY GURUDEO GEDAM	HISTORY & SOCIOLOGY	<i>Gedam</i>
✓8	KU JAYAPRADHA BHIMRAO BARSAGADE	HISTORY & SOCIOLOGY	<i>Barsaga</i>
✓9	KU JAYASHREE DADAJI THAKARE	HISTORY & SOCIOLOGY	<i>Jthakare</i>
10	KU KAJAL BABURAO MADAVI	HISTORY & SOCIOLOGY	
✓11	KU KARISHMA WASUDEO PURAM	HISTORY & SOCIOLOGY	<i>Karishma</i>
✓12	KU LAXMI MANSARAM SIDAM	HISTORY & SOCIOLOGY	<i>Laxmi</i>
✓13	KU MAMITA DAYARAM USENDI	HISTORY & SOCIOLOGY	<i>Mamita</i>
✓14	KU NIRMALA PARASRAM TALANDE	HISTORY & SOCIOLOGY	<i>Nalanda</i>
✓15	MR PUNESH VASANT NAITAM	HISTORY & SOCIOLOGY	<i>P.Naitam</i>
16	KU SHANIRATHA RAJENDRA BARDE	HISTORY & SOCIOLOGY	
17	KU SHITAL RAJENDRA DHAKATE	HISTORY & SOCIOLOGY	
✓18	KU SHITAL RAJESHWAR THAKARE	HISTORY & SOCIOLOGY	<i>Shital</i>
✓19	KU SNEHLATA EKNATH HALAMI	HISTORY & SOCIOLOGY	<i>Snehlata</i>
✓20	KU SULKA PRALHAD HALAMI	HISTORY & SOCIOLOGY	<i>Sulka</i>
✓21	MR SUSHMA SONU PADA	HISTORY & SOCIOLOGY	<i>Sushma</i>
✓22	KU USHA RAJENDRA SAYAM	HISTORY & SOCIOLOGY	<i>Usha</i>
23	MR VISHVESHWAR NANAJI SONULE	HISTORY & SOCIOLOGY	
✓24	KU PRIYA JIVAN DADMAL	HISTORY & SOCIOLOGY	<i>Priya</i>

Dr. R. V. Ghoshale

DEPARTMENT OF HOME ECONOMICS



Department of Home Economics

Socio-economic Study Report on

Diet survey in kasvi village

PBR submitted by: -**B. A. II** (Department of Home- Economics) students **2017-18**

Under the supervision of: -**Prof. Dr. A.S. Bannore**, Head of the Home-Economics department

Introduction: -

In nutrition, **diet** is the sum of food consumed by a person. The word diet often implies the use of specific intake of nutrition for health or weight management reason. Although humans are omnivores, each culture and each person hold some food preferences than others. This may be due to personal tastes or ethical reasons. Individual dietary choices may be more or less healthy.

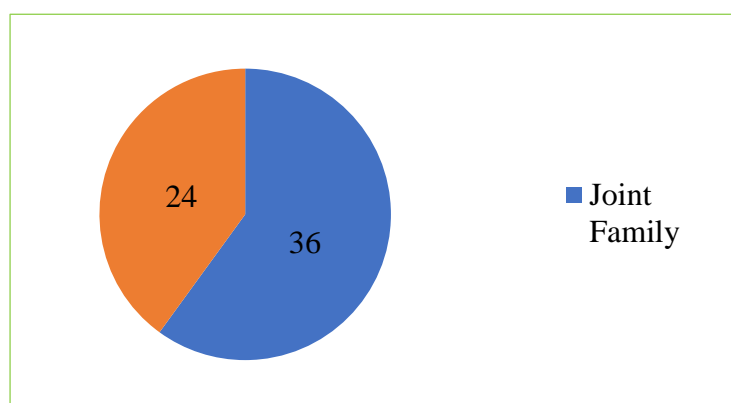
Complete nutrition requires ingestion and absorption of vitamins, minerals, essential amino acids, protein and essential fatty acids from fat-containing food, also food energy in the form of carbohydrate, protein, and fat. Dietary habits and choices play a significant role in the quality of life, health and longevity.

The Department of Home-Economics Students B. A. II conducted a visit to adopted Village *Kasvi* and studied diet survey of 60 families. A short report is given below –

1) Family System

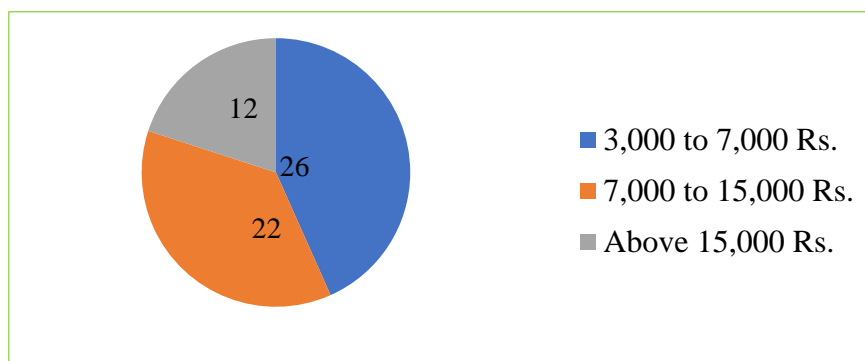
Sr. No.	Family System	Numbers	% Percentage
1	Joint Family	36	60.00%
2	Nuclear Family	24	40.00%
	Total	60	100.00%

According to the survey it is found that there are total 60 families from which 36 (60.00%) are joint and 24 (40.00%) families are nuclear.



2) Economic Status

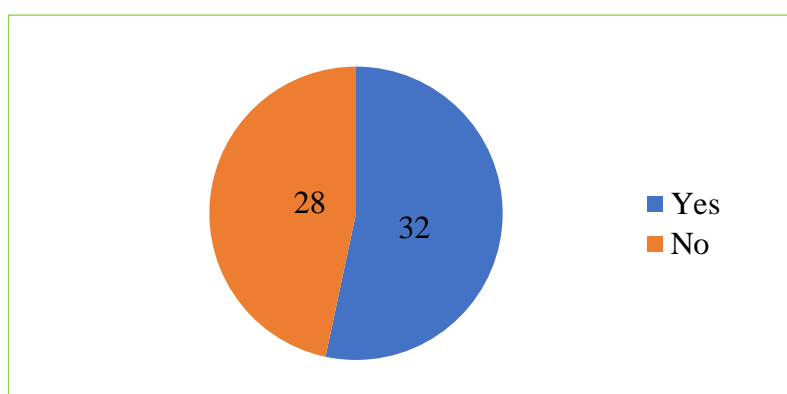
Sr. No.	Monthly Income	Numbers	% Percentage
1	3,000 to 7,000 Rs.	26	43.00%
2	7,000 to 15,000 Rs.	22	37.00%
3	Above 15,000 Rs.	12	20.00%
	Total	60	100.00%



With the above survey about monthly income of people in *Kasvi* is found that 3,000 to 7,000 of 26 (43.00%) families, 7,000 to 15,000 \ of 22 (37.00%) families and above 15,000 \of 12 (20.00%) families out of 60 families.

3) Relation with Health and Diet

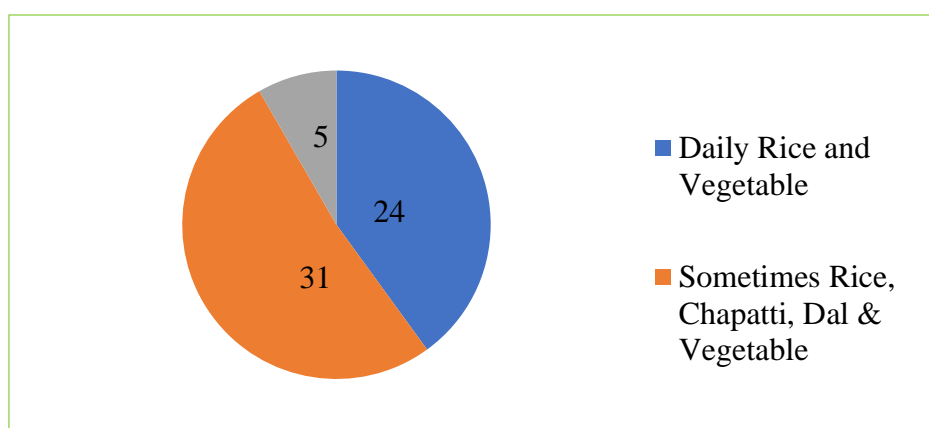
Sr. No.	Families Co-relate Health & Diet	Numbers	Percentage
1	Yes	32	53.00%
2	No	28	47.00%
	Total	60	100.00%



Survey of Health and diet in *Kasvi* village, shows that families which accepted the relation between health and diet are 32 (53.00%) and families which did not accepted are 28 (47.00%) .

4) Daily Food/Meal

Sr. No.	Daily Food /Meal	Numbers	% Percentage
1	Daily Rice and Vegetable	24	40.00%
2	Sometimes Rice, Chapatti, Dal & Vegetable	31	52.00%
3	Daily Rice, Dal, Chapatti & Vegetable	05	08.00%
	Total	60	100.00%



With the above numberings in the pie chart it can be said that 24 (40.00%) families use rice and vegetable in their meal. The 31 (52.00%) families sometimes use rice, dal, chapatti & vegetable whereas only 05 (08.00%) families intake daily rice, chapatti, dal and vegetable in their meal.

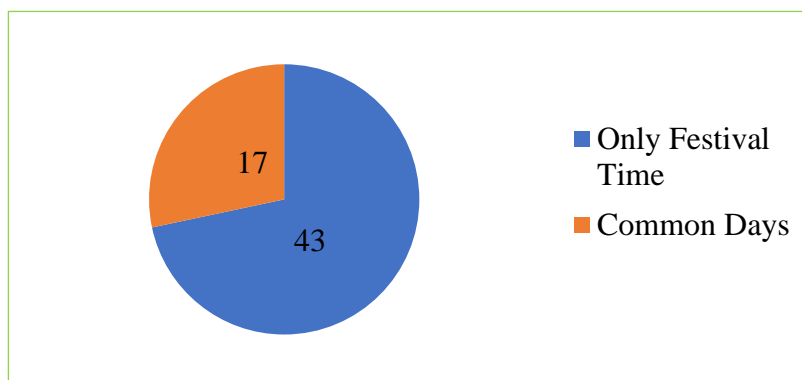
5) Daily Meal Time Table

Sr. No.	Daily Food /Meal	Numbers	% Percentage
1	Morning – 08.30 to 10.00	42	70.00%
	10.00 to 12.00	18	30.00%
	Total	60	100.00%
2	Night – 07.00 to 08.00	47	78.00%
	08.30 to 10.00	12	22.00%

With the help of above survey daily meal time-table of different families shows that Out of 60 families 42 (70.00%) families love to take their meal between 8.30 to 10.00 am and 18 (30.00%) families take it between 10.00 to 12.00 A.M. At night time 7.00 to 8.30 pm 47 (78.00%) families have decided it as their meal time and 12 (22.00%) families enjoy it from 8.30 to 10.00 pm.

Traditional Food/Meal

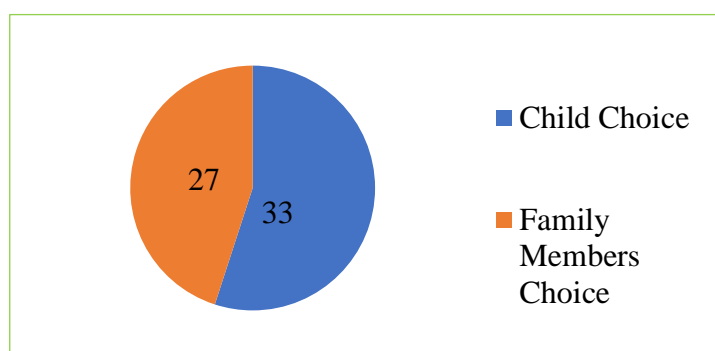
Sr. No.	Traditional Food	Numbers	% Percentage
1	Only Festival Time	43	72.00%
2	Common Days	17	28.00%
	Total	60	100.00%



In the diet survey of *Kasvi* it is found that only 43 (72.00%) families make a special or traditional food like Panwade, Puranpoli, Lakholi and Wada etc. on festival time and remaining 17 (28.00%) families make it frequently rather than festival time.

6) Changes in Traditional food in modern way

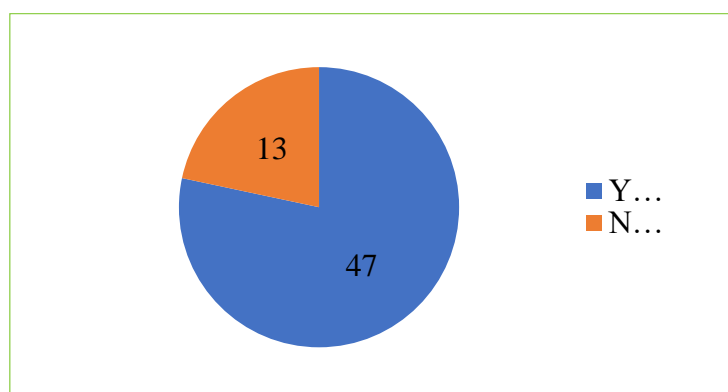
Sr. No.	Modern way	Numbers	% Percentage
1	Child Choice	33	55.00%
2	Family Members Choice	27	45.00%
		60	100.00%



With above the survey of *Kasvi* village it is observed that food choice of children have been changed. In 33 families (55.00%) traditional food is taken in modern way and in 27 (45.00%) families it is according to family member's choice.

7) Vegetables uses according to season

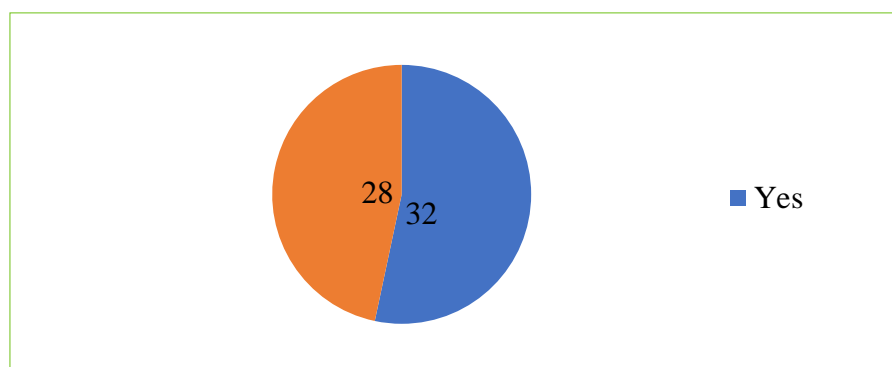
Sr. No.	Changes Meal	Numbers	% Percentage
1	Yes	47	78.00%
2	No	13	22.00%
	Total	60	100.00%



It is found that in the Kasvi village 47 (78.00%) families include seasonal vegetables while 13 (22.00%) families do not include seasonal vegetables in their diet.

8) Co-relation between diet and Health according to season

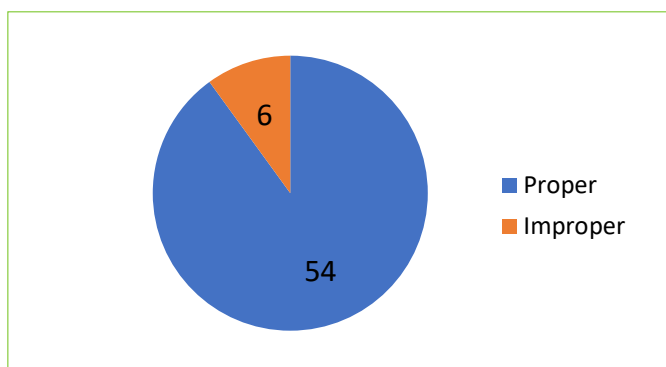
Sr. No.	Co-relation diet and Health	Numbers	% Percentage
1	Yes	32	53.00%
2	No	28	47.00%
	Total	60	100.00%



In the survey it is found that 32 (53.00%) families are ready to accept the co-relation between diet and health according to the season, while 28 (47.00%) families are not ready to accept this relation.

9) Diet method in family

Sr. No.	Diet Method	Numbers	% Percentage
1	Proper	54	90.00%
2	Improper	06	10.00%
Total	60		100.00%



With the above survey of *Kasvi* Village it is clear that 54 (90.00%) family's thinks they are following proper diet system and 06 (10.00%) families thinks their diet method is improper.

Conclusion:

- 1) There is a close relation between Diet and Health. Every day meal of villagers is Rice and Sabji, along with this sometimes chapatti and dal is included.
- 2) Traditional Diet is made on the special festival event and their meal time is 8.30 to 10.00 am (morning) and 7.00 to 8.30 pm.(evening)
- 3) The villagers sometimes prepare food according their children's choice and they follow the variety of food on special occasion.

Suggestions: -

- 1) To convince villagers about Diet and Health is the two side of Coin, but it can be done with proper cooperation of the people
- 2) The Diet of family members should be according to their age and work.
- 3) Attention and carefulness about the Diet of pregnant and lactic mothers should be followed strictly.
- 4) Information about seasonal vegetables and nutritional value of it in the proper diet should be explained.
- 5) The traditional diet system should be changed according to time and situation.

Field Photography

(Diet Survey by the Home- Economics Department)



Mahatma Gandhi Arts, Science and Late Nasaruddinbhai Panjwani Commerce College

Armori Distt. Gadchiroli (M.S.) 441208

Peoples Biodiversity Register
Adopted Village Kasvi, Ta. Armori

CLASS: BA - II

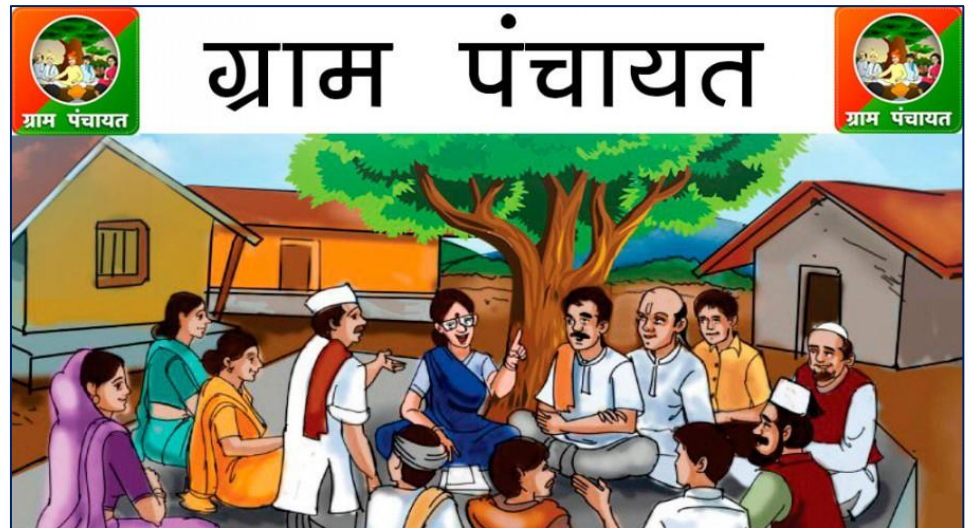
SESSION : 2017-2018

SR.NO.	NAME OF STUDENT	SUBJECT	SIGNATURE	Grade
1	✓ KU ANURADHA CHANGDEO RAUT	HOME ECO.	<i>ANURADHA</i>	A
2	KU KAJI SHRIHARI MADAVI	HOME ECO.	<i>K.S. madavi</i>	A
3	✓ KU MAYURI WAMAN RAUT	HOME ECO.	<i>Maud</i>	A
4	KU MINAKSHI HARIHAR RAUT	HOME ECO.	<i>M. H. Raut</i>	A
5	KU MINAKSHI VILAS MATTE	HOME ECO.	<i>M.V. matte</i>	A
6	✓ MR MONIKA DIWAKAR SHENDE	HOME ECO.	<i>M. Shende</i>	B
7	✓ KU POOJA RAJIRAM JENGATHE	HOME ECO.	<i>P. Jengathe</i>	A
8	KU PRATIBHA RAMKRUSHNA DONADKAR	HOME ECO.	<i>P. R. Donadkar</i>	A
9	KU PRITI INDRAKUMAR KODAP	HOME ECO.	<i>P. I. Kodap</i>	B
10	KU PRIYANKA ARUN UIKEY	HOME ECO.	<i>P. A. uikey</i>	A
11	KU PRIYANKA PANDHARI CHUDHARI	HOME ECO.	<i>P. Chudhari</i>	A
12	KU SAPANA KUSAN KUMARE	HOME ECO.	<i>S. K. kumare</i>	A
13	KU SAPANA MANGALDAS MADAVI	HOME ECO.	<i>S. M. madavi</i>	B
14	✓ KU SAPANA NAMDEO KIRANGE	HOME ECO.	<i>S. K. kirange</i>	B
15	✓ KU SHITAL SURESH RAUT	HOME ECO.	<i>S. Raut</i>	A
16	✓ KU SHUBHANGI DADARAO LONARE	HOME ECO.	<i>S. Lonare</i>	C
17	KU SUMITRA KAJAURAM MADAVI	HOME ECO.	<i>S. Madavi</i>	A
18	KU VAISHALI BHIMRAO WAKADE	HOME ECO.	<i>V. Wakade</i>	A
19.	Ku. Yogita Thamdeo chudhari	Home Eco	<i>Y. Chudhari</i>	A

Guide:- Prof. Dr. Arnita Bannore

ABannore

DEPARTMENT OF
POLITICAL SCIENCE



Department of Political science

Socio-Economic Survey Report 2017-18

An Analytical Study of Grampanchayat and Gramsabha for the Development of Adopted Village Kasvi

PBR submitted by: -B. A. II (Department of Political Science) students group

2017-18

Under the supervision of: -Prof. G. M. Borkar, Head of Political Science department

Introduction:

To accomplish Mahatma Gandhi's concept of Gram Swarajya and article 40 given in the guideline of Indian Constitution, 73rd constitutional amendment was passed by Indian Parliament in 1992. The students of department of Political Science of Mahatma Gandhi Arts, Science & Late N. P. Commerce College, Armori conducted survey on '**The Analytical Study for the Development of Grampanchayat and Gramsabha of Adopted Village Kasvi**' by observing contribution and the benefits of various laws implemented by the government in concern with local government for the development of village. The village Kasvi include in Gat-Grampanchayat along with Rampur, Ashta, Palora. Total members of Gat-Grampanchayat Kasvi are eleven.

Meeting of Grampanchayat :

Kasvi Gat-Grampanchayat held a meeting once in a month and all members are present. The various problems and barriers get discussed in the meeting.

Meeting of Gramsabha :

- ❖ In every economical year total six meetings: four general and two special meetings are held. All the meetings except special meetings of 15th August are adjourned because of lack of 'Quorum'.
- ❖ The Sarpanch of Kasvi introduces and implements the entire government scheme like "MANREGA" and others with the help of Gramsevak, Z. P. Members, Panchayat Samiti Members.

Government Stakeholders

The government stakeholder is selected in Gramsabha. Many meetings are adjourned only for lack of quorum and once the meeting is adjourned then there's not a condition to complete a quorum for next meeting. That's why the people are not satisfied regarding the selection process of government stakeholders.

Work of Dispute free village committee (Tantamukt Gaon Samiti):

In 2008 the Maharashtra Government launched Mahatma Gandhi Dispute free village Mission to resolve the dispute at the village level. *Kasvi* village also took charge of this scheme. The committee resolves many disputes. This is to be noticed that the dispute free village committee works very honestly, effectively and powerfully. So the villagers are happy over the proceeding of the committee.

Year	Work of dispute free village
2014-15	03
2015-16	03
2016-17	02
2017-18	02

From the above chart it is observed that the problems of disputes are decreasing day by day.

The Opinion of the People:

- ❖ According to the *Kasvi* villagers the change in 'The Rural local Government' that is direct election of Sarpanch in 2017 is improper. As like, people considers the condition of education to become a Sarpanch is correct and Sarpanch must be a graduate.
- ❖ The discussion in Gramsabha is held on the instruction given by the local people. But it is observed that the complaints do not justified properly as well as the meeting of government officers about government schemes are not conducted properly, that's why people are not satisfied.
- ❖ The facilities of cleanliness like, portable water and street-light in the village are not provided properly and regularly.

- ❖ It is found that the forest committee and education committee by which comes under Grampanchayat serves very impressively.

Works of Sarpanch:

Sarpanch of Kasvi Grampanchayat is very active and implements all the important schemes. To notice people's complaint, he tries to dislodge the problems of village but villager never take initiative to pay tax before or on time and so the less fund collected Sarpanch has to face many financial difficulties regarding the improvement of village.

Conclusion:

It is found in the proceeding study of Grampanchayat and Gramsabha of Kasvi village that the villagers attend and participate rarely in the Gramsabha. All the meetings except 15th August are adjourning because of the lack of quorum; it results into wrong selection of stakeholders. People do not pay tax on time so due to the lack of fund, Grampanchayat is unable to provide drinking water, cleanliness and street-light on time and proper way. People of Kasvi oppose the new change in rural local government that is direct election for Sarpanch. Unbiased judgement is found by dispute free village committee.

Suggestion:

1. To create awareness among the people, street-play should be organised by the Gramsabha after regular interval.
2. To assure villagers for the benefits government scheme, officers should regularly interact with them.
3. It should be made compulsory to attend at least six Gramsabha meetings to get benefits of government scheme.
4. Law of direct election of Sarpanch should get cancelled and implementation of the previous law of electing Sarpanch by members of Grampanchayat.
5. The candidate for Sarpanch must be a graduate.
6. Strict rules should be stated to pay tax on given time.
7. Various events should be organized to attract people for the Gramsabha meeting.

राज्यशास्त्र विषयाच्या विद्यार्थ्यांची दत्तक ग्राम कासवीला भेट



तालुका प्रतिनिधी / ९ फेब्रुवारी

आरमोरी : स्थानिक स्वशासन व्यवस्थेमध्ये होणारे बदल व त्या राजकारणाचा जनतेवर होणारा परिणाम आणि त्यामागे जनतेची बदलती भूमिका काय आहे हे जाणून घेण्याच्या उद्दिष्टाने लोकांचे जैवविविधता नोंदवही अंतर्गत स्थानिक महात्मा गांधी कला, विज्ञान व स्व.न.पं. वाणिज्य महाविद्यालय, आरमोरी येथील राज्यशास्त्र अभ्यासमंडळाच्या वतीने महाविद्यालयाचे प्राचार्य तथा दत्तक ग्राम

विकास कार्य समितीचे अध्यक्ष डॉ. लालसिंग खालसा यांच्या मार्गदर्शनाखालील दत्तक ग्राम कासवी येथे नुकताच अभ्यासदीरा करण्यात आला.

या अभ्यास दौऱ्यात राज्यशास्त्र विभागाचे विद्यार्थी व विभागप्रमुख प्रा. गजानन बोरकर यांनी सहभाग घेतला. यावेळी विद्यार्थ्यांनी ग्रामसभा व ग्रामपंचायतीवर आधारित प्रश्नावली तयार केली व गावातील लोकांशी हितगुज साधला. विद्यार्थी गावातील

नागरीकांशी संवाद साधताना नुकताच नव्याने झालेले बदल म्हणजे सरपंचाची होणारी थेट निवड व शिक्षणाची अट याविषयीचे मत जाणून घेतले. ग्रामसभेमध्ये उपस्थित लोकांचा किती सहभाग असतो त्याचप्रमाणे तंटामुक्ती समितीचे कार्य, गावातील स्वच्छता याबद्दल लोकांचा कल जाणून घेतला. महात्मा गांधीच्या स्वप्नातील ग्रामस्वराज्याचे स्वप्न साकार करण्यासाठी ७३ व्या घटनादुरुस्तीचे कार्य फलित झाले याचीही माहिती स्थानिक

ग्रामस्थांकडून जाणून घेण्याचा प्रयत्न केला. यावेळी ग्रामपंचायत सदस्य व सरपंच यांच्याशी हितगुज साधून ग्रामविकासात लोकांचा सक्रीय सहभाग किती असतो याचेही अध्ययन करण्यात आले. या अभ्यासदौऱ्याला ग्रामस्थांनी उत्स्फूर्त प्रतिसाद दिला.

यशस्वीतेसाठी अर्थशास्त्र विभागप्रमुख प्रा. मोहन रामटेके, प्रवीण सोरते, देवरांम पुलो, सोनी सुरपाम या अर्थशास्त्र विषयाच्या विद्यार्थ्यांनी परिश्रम घेतले.



दत्तकग्राम कासवीला विद्यार्थ्यांची भेट

आरमोरी : येथील महात्मा गांधी कला, विज्ञान व स्व.न.पं. वाणिज्य महाविद्यालयाच्या राज्यशास्त्र विभागाच्या विद्यार्थ्यांनी दत्तक ग्राम कासवी येथे भेट देऊन विविध माहितीची नोंद घेतली. विद्यार्थ्यांनी ग्रामसभा व ग्रामपंचायतीवर आधारित प्रश्नावली तयार केली. त्यानंतर गावातील लोकांशी संवाद साधला. त्याचप्रमाणे गावातील स्वच्छता, तंमुसचे कार्य यासह विविध माहिती जाणून घेतली. याप्रसंगी प्रा. गजानन बोरकर, प्रा. मोहन रामटेके, प्रा. प्रवीण सोरते, देवरांम कुलो, सोनी सुरपाम उपस्थित होत्या.

Field Photography by the student of Political Science



प्रश्नावली (नागरिकांसाठी)

नाव :- तंटा मुक्त ग्राम - चंद्र वावाळे

१. वर्षातून ग्रामसभेच्या कितीदा बैठका होतात?

होय. २ किंवा तीन

२. त्या बैठकीस आपण उपस्थित राहता काय?

होय २०० र

३. ग्रामसभेची बैठक पूर्ण होण्यासाठी कोरमची अट माहित आहे काय व किती?

२०० ते २५०

४. ग्रामसभेमध्ये योग्यपणे शासकीय लाभार्थ्यांची निवड होते काय?

होय

५. ग्रामसभेमध्ये नागरिकांनी सूचविलेल्या विषयावर चर्चा केली जाते काय?

होय

६. नागरिकांनी ग्रामपंचायतकडे केलेल्या तक्रारीचे निवारण होते काय?

नाही

७. गावातील स्वच्छता नियमितपणे होत असते का?

होय

८. वर्षभर पिण्याच्या पाण्याची योग्यपणे व्यवस्था केली जाते काय?

होय

९. रस्त्यावरील दिवाबत्तीची सोय वर्षभर योग्य असते काय?

होय

१०. गावातील वाद पोलीस स्टेशनला जातात काय?

नाही

११. गावातील तंटामुक्त समिती न्यायनिवाडा निपक्षपणे करते काय?

होय

१२. शासकीय योजनांची माहिती देण्यासाठी अधिकाऱ्यांच्या सभेचे गावामध्ये आयोजन केले जाते काय?

होय

१३. मनरेगा (रोजगार हमी) योजनेची योग्य अंमलबजावणी होते काय?

होय

१४. सरपंचाची प्रत्यक्ष लोकांकडून होणारी निवड तुम्हाला योग्य वाटते काय?

होय

१५. गरजू नागरिकांना रोजगार मिळतो काय?

नाही

१६. यावर्षी नव्याने झालेला सरपंच निवडणुकीतील बदल व शिक्षणाची अट योग्य वाटते काय?

होय

१७. स्वच्छ भारत मिशन अंतर्गत तुम्हाला शौचालय मिळाला आहे काय?

नाही

१८. ग्रामपंचायतीच्या कारभारापासून तुम्ही समाधानी आहात काय?

होय

१९. तुमच्या गावातील ग्रामपंचायतीमध्ये अविरोध निवडून घेणे शक्य आहे काय?

नाही

२०. ग्रामपंचायत कार्यालयीन कामे निश्चित वेळात होतात का?

नाही

२१. तुम्ही नियमित ग्रामपंचायत कर (घरटॅक्स) भरता काय?

होय

२२. नियमितपणे आरोग्याच्या सोई पुरविल्या जातात काय?

होय

२३. पशुसंवर्धनासाठी काही प्रयत्न केले जातात काय?

होय

जिद्दाक्याने काव - ह्याशिष जोबाप्पी
राही - Puchi

प्रश्नावली (सरपंच)

नाव :- फुधलता वसंता तिघोडे

१. आपण पुर्णवेळ ग्रामपंचायतीमध्ये उपस्थित असता काय?
नाही
२. गावातील विकास कार्यासाठी नागरिकांचा सक्रीय सहभाग असतो काय?
होय
३. केंद्र व राज्यशासन पुरस्कृत विशेष योजना अंमलात आणता काय?
होय
४. विशेष योजना अंमलात आणण्यासाठी ग्रामसेवक सहकार्य करतात काय?
होय
५. ग्रामसभेची उपस्थिती वाढविण्यासाठी आपण काही जनजागृतीचे कार्य करता काय?
होय
६. पंचायत समिती अधिकाऱ्यांना शासकीय योजनांची माहिती पुरविण्यासाठी गावामध्ये सभा आयोजित करता काय?
नाही
७. एखाद्या नागरिकाने सुचविलेल्या कार्याची अंमलबजावणी करता काय?
होय
८. प्रशासकीय अधिकारी (ग्रामसेवक) हा ग्रामपंचायतच्या नियंत्रणात असतो काय?
होय
९. गावातील नागरिक निश्चित वेळात कर भरतात का?
नाही
१०. नशामुक्तीसाठी गाव सक्रीय आहे का?
होय
११. गावाच्या विकासकार्यात ग्रामपंचायत संदस्यांचा सक्रीय सहभाग असतो काय?
होय

विद्यार्थी नाव आशिष जेजुरी
सही Asish

Mahatma Gandhi Arts, Science and Late Nasaruddinbhai Panjwani Commerce College

Armori Distt. Gadchiroli (M.S.) 441208

Peoples Biodiversity Register
Adopted Village Kasvi, Ta. Armori

CLASS: BA - II

SESSION : 2017-2018

SR.NO.	NAME OF STUDENT	SUBJECT	SIGNATURE
1	MR AJIT RAMESH JUMNAKE	POLITICAL SCIE.	
2	MR ANKIT GHANSHAM MADAVI	POLITICAL SCIE.	<i>Ankit</i>
3	MR ANUP KISHOR NAITAM	POLITICAL SCIE.	
4	MR ASHISH PATIRAM KOWACHI	POLITICAL SCIE.	<i>Patiram</i>
5	KU CHETNA ANANDRAO LATTHE	POLITICAL SCIE.	<i>C.A. Latthe</i>
6	KU DIKSHA DEWAJI TIJARE	POLITICAL SCIE.	<i>Diksha</i>
7	MR HIRAJI ARUN SARATE	POLITICAL SCIE.	
8	KU KAJAL DEVANAND KHOBRADE	POLITICAL SCIE.	
9	KU KAJAL VASANT WARJURKAR	POLITICAL SCIE.	<i>Kajal</i>
10	MR MUKESH AMARSHAH MADAVI	POLITICAL SCIE.	
11	MR NAKUL DOMA RANDHAYE	POLITICAL SCIE.	
12	MR NARESH MANKER TOFA	POLITICAL SCIE.	
13	MR PANKAJ DEORAM GAWALE	POLITICAL SCIE.	
14	MR PINTU GAJANAN BAWANE	POLITICAL SCIE.	<i>Pintu</i>
15	KU PRATIKSHA GHANSHAM SADMAKE	POLITICAL SCIE.	<i>Pratiksha</i>
16	MR RAMPRASAD PIRANGU KUMRE	POLITICAL SCIE.	
17	KU RUPALI MANIKRAO CHAUKE	POLITICAL SCIE.	
18	KU SHITAL UMAJI BANSOD	POLITICAL SCIE.	<i>S.U. Bansod</i>
19	KU SHITAL NANDKISHOR KATRE	POLITICAL SCIE.	<i>Shital</i>
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21	KU VAISHANAVI RAJESHWAR MUNDARE	POLITICAL SCIE.	<i>V. Mundare</i>
22	MR VIVEK SUBHASH BORKAR	POLITICAL SCIE.	<i>Vivek</i>
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25	Umesh Yonunath Kukadkar	Political sciences	<i>Umesh</i>



PBR
Peoples Biodiversity Register
2016 to 2017



MANOHARBHAI SHIKSHAN PRASARAK MANDAL ARMORI'S
**MAHATMA GANDHI ARTS, SCIENCE &
LATE NASARUDDINBHAI PANJWANI COMMERCE COLLEGE,**
ARMORI, Dist. Gadchiroli (M.S.) 441208

Re-accredited by NAAC 'B' with 2.88 CGPA

Affiliated to Gondwana University, Gadchiroli

Study on Biodiversity

**Academic Session
2016-17**



Prepared by
Environment Study Centre





❖ *From the Desk of Principal*

Biodiversity conservation is the protection and management of biodiversity to obtain resources for sustainable development. Biodiversity conservation has three main objectives: To preserve the diversity of species, Sustainable utilization of species and ecosystem. Variety at the level of species means existence of different species that are inter-related by taxonomy. Ecosystem diversity or biodiversity is thus clearly not definable as there are no discrete boundaries between the ecosystems and they merge into each other.

Extinction is a law of nature and as a result some species have evolved while others have died ever since life originated on earth. But this extinction has come to an alarming rate due to human activities that affect the eco-system. As human population continues to grow and per capita consumptions has grown higher, Earth's biological diversity is being exploited at an uncontrolled rate.

Mahatma Gandhi College of Arts, Science and Late N. P. Commerce College Armori is the leading educational hub in Gadchiroli District. Our college is unique in the field of preparation of Peoples Biodiversity Register in Gondwana University Gadchiroli. This project has been started to get enforced information about how 80% people living in rural area face different complications. This PBR project plays an important role to make such people aware about nature and hopping to reach the goal.



❖ *From the Desk of Coordinator*

It is believed that an area with higher species abundance has a more stable environment compared to an area with lower species abundance. We can further claim the necessity of biodiversity by considering our degree of dependency on the environment. We depend directly on various species of plants for our various needs. Similarly, we depend on various species of animals and microbes for different reasons. Due to climatic changes weather conditions get disturbed like drought, floods, acid rain, hurricanes causing havoc to human race as well as plants and animal's species on the earth clearly indicate imbalance in ecological systems. Since climatic changes also affect the life forms that sustain, many species are under the threat of being lost with climatic changes taking a drastic shape.

In present consequence world is enclosed in technology and internet. We are using maximum natural resources for our progressive life style but in invalid way. Due to developing globalization and industrialization, air, water and land is getting trapped under pollution. If we won't put any barrier to stop this, then we will be only responsible to provide polluted future to our next generation. According to declaration of Supreme Court environmental education has been made compulsory at university level.


We formulate by gentle communication with local people and make them aware of their relation with water, forest, land and fauna & flora and prepared People Biodiversity Register of Kasvi village.

M.G. College of Armori, the Unique College in the Gondwana University preparing people's biodiversity registers on communication with local people. As a coordinator of environmental study center I am pleased and much thankful to the principal Dr. L.H. Khalsa for implementing such a project work in our college for a national development.

CERTIFICATE

This is to certify that as per Maharashtra University act 1994, 14(7) of Gondwana University and Biodiversity Act 2008, the project of People's Biodiversity register (PBR) has been completed by student of Second year studying in the college under the guidance of concern teacher of respective department and submitted to college in academic session 2016-17




Principal

Dr. L. H. Khalsa
PRINCIPAL
M.G.Arts, Science &
Late N.R.Commerce College
ARMORI, Distt. Gadchiroli

CERTIFICATE

This is to certify that Environment Study Center of Mahatma Gandhi Arts, Science and Late N.P. Commerce College Armori of various departments with their respective guides have successfully completed the project of people biodiversity register under the supervision of environment study center committee of the college in the academic session 2016-2017.



Coordinator

Environmental Study Centre

M.G.College Armori

**Head
Environment Study
Centre**

UNDERTAKING

We all the Guides of concerned departments have undertaken to all the necessary data collection, figures, and resources given in this PBR are best of our Knowledge and Information available with us and solemnly responsible.

1. Department of Botany
2. Department of Chemistry
3. Department of Zoology
4. Department of Geology
5. Department of Geography

— Wahid.

— Smriti

— Anjali.

— Dalvi

— Ali.

ACKNOWLEDGEMENT

We the students of Mahatma Gandhi Arts, Science and Late N.P. Commerce College Armori of various departments under Gondwana University, Gadchiroli studying in 2nd years B.A. and B.Sc. (2016-2017), feel very fortunate to ourselves, being a student of enforced environmental education program started by Gondwana University.

Also we are very grateful to get the chance to prepare People Biodiversity register and to study different factors of environment.

Under this project we have been divided in to five departments and study various factor regarding Botany, Zoology, Chemistry, Geology, and Geography subject of kasvi village. We could complete this project with the pronounced support of Principal Dr. L. H. Khalsa and Prof. S.M. Sontakke; coordinator of environment Study Centre committee and concerned guides Prof. G.P. Juare, Prof. J.N. Papadkar, Prof. S. T. Nagdeve, Prof. C. P. Dorlikar and Prof. P.S. Meshram of the departments

DEPARTMENT OF

BOTANY

PBR-2016-17

STUDY OF AQUATIC PLANTS OF KASVI POND

Introduction:

A pond is body of standing water, either natural or artificial. Usually they contain shallow water with marsh and aquatic plants and animals. A few animals also make their home in ponds, including both alligators and beavers. The type of life in a pond is generally determined by a combination of factors including water level regime and duration of and nutrient levels, but other factors may also be important, including presence or absence of shading by trees and effects of grazing animals.

Ponds are frequently human-constructed. In the countryside farmers and villagers dig a pond in their backyard or increase the depth of an existing pond by removing layers of mud during summer season. A wide variety of artificial bodies of water are classified as ponds. Some ponds are created specifically for habitat restoration, including water treatment.

One of the most important features of ponds is the presence of standing water, which provides habitat for wetland plants and animals. Familiar examples might include water-lilies, frogs, turtles and herons. Often, the entire margin of the pond is fringed by wetland, and these wetlands support the aquatic food web, provide shelter for wildlife. Some grazing animals like birds and muskrats consume the wetland plants directly as a source of food. In many other cases, however, the pond plants fall into the water and decay. A large number of invertebrates then feed on the decaying plants, and these invertebrates provide food for wetland species including fish, and herons. The open water may allow algae to grow, and these algae may support yet another food web that includes aquatic insects and minnows. A pond, therefore, may have combinations of three different food webs, one based on larger plants, one based upon decayed plants, and one based upon algae. Hence, ponds often have a large number of different animal species using the wide array of food sources. They provide an important source of biological diversity in landscapes.

Objective:-

1. To recognition and listing the aquatic plants of Kasvi pond.
2. To understanding the concept plant ecology.

Methodology:-

Team of Botany Department visit to Kasvi pond on December 2016. The botanical data in this pond were collected as much as possible and plant specimens were identified by using flora.

In the enumeration, the sequence of families has been followed after Bentham and Hookers classification System. The nomenclature has been adapted based on latest taxonomic literature and in recommendation made by International Code for Botanical Nomenclature (IUCN). Local name has been given Wherever available. A short diagnostic description and flowering and fruiting months, for each species is mentioned.

Systematic account of the plants**Nelumbonaceae**

Botanical Name: - *Nelumbo nucifer*

Family: - Nelumbonaceae

Local Name: - Kamal

Aquatic herbs, rhizomes slender elongated, creeping, branched. Leaves 0.3-0.9mm across, glossy or waxy, glaucous beneath, radiating reticulate. Flowers white or rosy 10-25cm across, solitary, erect or cernuous, scope sheathing as long as petioles. Ripe carpals 1.25cm long, ovoid, glabrous, nut lets smooth.

Fls. & Frts.:- July- October

Nymphaeaceae



Botanical Name: - *Nymphaea nouchal*

Family: - Nymphaeaceae

Local Name: - Kamal

Aquatic herbs; root stock short, ovoid, acute. Leaves 20-30 x 15-25 cm, orbicular or elliptic, pellate, green above, purplish below; petioles slender. Flowers white or red 7-15 cm across, solitary. Nut less globular. Seed longitudinally straight.

Fls. & Frts.:- Almost throughout the year.



Botanical Name: - *Nymphaea rubra*

Family: - Nymphaeaceae

Local Name: - Kamal

Rootstock tuberous. Leaves pellate, 15-25 cm across, orbicular or reniform, glabrous & 10 nigro-punctate above, velvety- pubescent & prominently veined beneath. Flowers solitary, 8- 20 cm across, red , pale rose or white. Fruits globose, 3 cm across, fleshy. Seeds ovoid, rough, aril late.

Fls. & Frts.:- Almost throughout the year.

Lythraceae



Botanical Name: - *Ammania baccifera*

Family: - Lythraceae

Erect herbs, upto 50 cm tall, in marshy habitats, branches quadrangular. Leaves opposite, sessile- subsessile, linear, elliptic- oblanceolate, base cuneate, margin entire, apex acute, glabrous. Flowers green, with redish-tinged, in axillary clusters, often forming whorls, petals 0. Capsules linear, sparsely pilose; seeds numerous, minute with prominent raphes.

Fls. &Frts.: March- December.

Onagraceae



Botanical Name: - *Ludwewigia adscendens*

Family: - Onagraceae

Aquatic or semi-aquatic herbs with a creeping stem rooting at the nodes, usually with pseudo-pneumatophores. Leaves alternate, elliptic-oblong, 1-7 x 1-2.5 cm, glabrous, rounded at the apex, narrowed at base; petioles 6-16 mm long, sparsely pubescent; bracteoles deltoid. Flowers solitary, axillary, pentamerous. Sepals 5, deltoid-acuminate, 5-10 x 2-3.2 mm. Petals 5, white, obovate, 9-18 x 6-10 mm. Capsule terete, sparsely pubescent or glabrous, thick-walled, irregularly dehiscent, 10 ribbed; seeds uniseriate in each cell, pale brown.

Fls. & Frts.:- August to November.

Asteraceae



Botanical Name: - *Spilanthes paniculata*

Family: - Asteraceae

Local Name: - Akkalkara

Annual, erect or ascending herb, rooting from the lower nodes, hairy. Leaves opposite, ovate-oblong, entire or serrate, narrow at the base into short petiole, entire or serrate, acute, thin, hairy on both surfaces. Heads discoid, solitary or subpanicled. Involucral bracts many seeded, broadly ovate or oblong, obtuse or acute, glabrous. Marginal florets uniseriate, female, with yellow corolla. Central floret numerous, bisexual with yellow corolla. Achenes obovoid or truncate with ciliate margins. Pappus absent.

Fls. & Frts.:- August to February

Menyanthaceae



Botanical Name: - *Nymphoides indicum*

Family: Menyanthaceae

Local Name: Water lily

Aquatic herb with floating leaves. Leaves orbicular, 6-7 x 6-9 cm, glabrous, minutely scaberulous, purplish and with green veins beneath, base deeply cordate, entire; petiole 2.5 cm. Flowers white in axillary, solitary clusters, at the distal node of the along with roots. Capsule broadly ovoid, few-seeded, 4x3 mm; seeds tuberculate.

Fls. & Frts. : April- September.



Botanical Name: *Nymphoides hydrophylla*

Family: Menyanthaceae

Local Name: Water lily

Rhizome oblique, up to 5 cm thick, with numerous scars and scale leaves, sending out long stolons which develop new plants lets, petiolate like shoots up to 150 cm long, simple flexible, petioles up to 16 cm long but when flowering rarely more than 2 cm long blades of floating leaves. Oval-orbicular to orbicular up to ± 27 cm long and 30 cm wide, glossy green above, pale and gland-dotted, below rather thick and leathery, deeply corded at the base. Coarsely crenate; nerves obscure above prominent on abaxial surface. Flowers bisexual, distylic in umbel- like clusters 15-50 flowers born below a floating leaf. Pedicels up to 12cm long. Bracts sheathing, oblong-lanceolate up to 8 mm long and 5mm wide, rather thick.

Fls. & Frts.:- Almost throughout the year.

Convolvulaceae



Botanical Name: *Ipomoea aquatica*

Family: Convolvulaceae

Stem usually floating and somewhat swollen. Leaves simple; petiole up to 10 cm long; leaf blades broadly lanceolate to sagittate or hastate, rarely subcordate 4-9 cm long, 2-5 cm wide, base hastate, basal lobes triangular acute or obtuse, tips acuminate. Flowers solitary or occasionally in 2 or 3 flowered cymes pedicel 2-7 cm long. Usually floating on stagnant water but sometimes found on the bank of pools, canals and rivers.

Fls. & Frts.:- September to March.

Scrophulariaceae



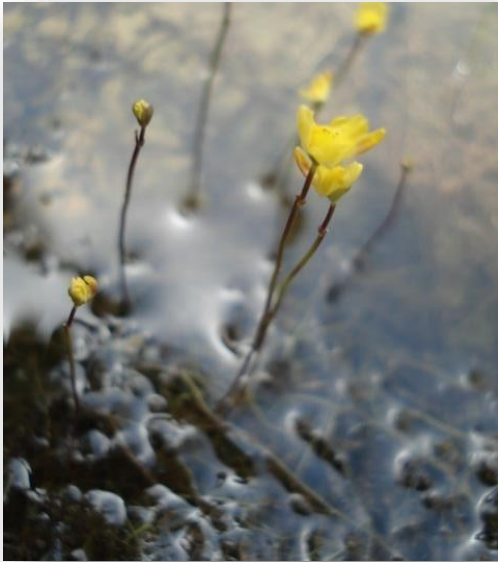
Botanical Name: *Limnophila indica*

Family: Scrophulariaceae

Herb; often rooting from lower nodes. Leaves whorled, dimorphic. Lower submerged; upper leaves entire or 3-lobed; segments entire or serrate; the upper leaves lanceolate, serrate-dented, acute, sometimes opposite. Flowers axillary, solitary; bracteoles linear-subulate; pedicels slender, spreading. Calyx membranous, finely glandular, divided half way down; teeth narrowly triangular, acute. Corolla bi-lipped, blue, pale purple or white with purple tinge; tube long. Stamens 4; anther cells separate and stalked. Ovary 2-celled. Capsules ellipsoid-quadrangular, truncate at one end, black, smooth.

Fls. & Frts. : August to March.

Lentibulariaceae



Botanical Name: *Utricularia exoleta*

Family: Lentibulariaceae

Annual or perennial. Rhizoids absent or filiform, sometimes stolen –like stolons, usually numerous, much branched and often mat forming filiform, terate, glabrous, up to 20 cm long and longer, leaves. Inflorescence stalk erect, emergent sometimes submerged with cleistogamous flower together; flowers pedicelate erect or spreading, filiform, treat. Sepals subequal, Filament curved. Anther thecae confluent. Capsule globose.

Fls. & Frts. : July to November



Botanical Name: *Utricularia stellaris*

Family: Lentibulariaceae

Aquatic, free floating herbs, solons submerged. Leaves whaled with capillary segments interspersed with minute's bladders. Scales and bracteoles absent. Flowers yellow with short pedicals. Calyx lobes sub equal, upper lobe rounded, lower lobe ovate, spur straight, stamens 2. Capsule globose. Seeds winged.

Fls. & Frts. : July to November

Acanthaceae



Botanical Name: *Hygrophilla schulli*

Family: Acanthaceae

Local Name: Kate-korenti

Shrubby herbs with axillary spines upto 4 cm long. Stems up to 1m or more tall, mostly unbranched, hispid, thickened at the nodes. Leaves sessile or nearly, simple in spurious whorl of 6 thorns & 8 leaves longest, lanceolate to inner lanceolate, hairy when aerial, base cuneate, margins minutally dentate, tips acute, thorns up to 30 cm long. Flowers in axillary whorls, usually surrounded by spines; bracts & bracteoles leafy. Sepals tube unequally 4 lobed, the longest lobe linear- lanceolate. Petals blue, purple or sometimes pink, glabrous, upto 2.5 cm long; petal lobe surrounded to acute, the middle lobe of the abaxial lip with yellow spot. Stamens filament in 2 pairs; anthers unequal. Capsules linear oblong. Seeds 4-8 orbicular; retinacula long & curved.

Fls. & Frts. :- June to February

Amaranthaceae



Botanical Name:- *Alternanthera sessilis*

Family: - Amaranthaceae

Prostrate or erect herb; much branched, glabrous, rooting at nodes. Leaves lanceolate-spathulate, oblong-obovate, entire, acute. Inflorescences of white globose or oblong heads, sessile in the axil of persistent or fallen leaves. Flowers sessile, in dense, 1-4 axillary spikes. Bracts and bracteoles ovate-lanceolate. Perianth 5, unequal, white or pinkish, 1-nerved or obscurely 3-nerved at base. Stamens 3; staminodes 2; pseudo-staminodes minute or very obscure, united below into a short tube. Utricle cordiform, compressed. Seeds orbicular.

Fls. & Frts. : Throughout the year.

Polygonaceae



Botanical Name: - *Persicaria glabra*

Family: Polygonaceae

Procumbent, perennial herb or undershrub; stems stout, slightly branched, green with reddish brown tinge at base. Leaves narrowly lanceolate, tapering at base, entire, finely acuminate, glabrous, gland-dotted, lateral nerves many, young leaves usually red, stipules closely sheathing the stem young. Flowers in panicle terminal racemes, pink; bract ovate, obtuse with membranous ciliate margins. Perianth rose-pink, segments oblong, obtuse. Stamens 6-8, included. Styles 2, connate at base. Nutlets broadly ovoid or sub-orbicular, compressed, biconvex, black. Shining.

Fls. & Frts. : September to April.

Euphorbiaceae



Botanical Name: - *Homonoia riparia*

Family: - Euphorbiaceae

Shrubs, 3m tall, diecious, branchelets, pubescent. Leaves 13-18 x 1-2 cm, linear-lanceolate, acute rounded at the base, entire, acute, orbicular scaleous, and pubescent on veins below. Flowers in axillary spikes, sessile, peduncle pubescent, bracts ovate, acuminate, pubescent. Capsule puberulous, seeds rounded on the black, slightly angular on the inner face, smooth, yellow.

Fls. &Frts.: November- January.

Hydrocharitaceae



Botanical Name: *Hydrilla verticillata*

Family: Hydrocharitaceae

Local Name: Chilla

Herbs, submerged. Leaves 3-8 in a whorl, linear-oblong, entire or serrulate, with a strong midrib, sessile. Flowers unisexual, minute. Male flowers shortly pedicellate. Sepals ovate, green. Petals oblong. Female flowers sessile. Sepals and petals as in male, narrow. Fruits shortly apiculate at both ends.

Fls. & Frts. : November to April.



Botanical Name: *Ottelia alismoides*

Family: Hydrocharitaceae

Local Name: Chilla

Herbs, submerged or partially floating in fresh water. Root fibrous. Leaves radical, crowded, of 2 forms; submerged leaves narrow, shortly petiolate; floating ones ovate, lanceolate or suborbicular, broad, long petiolate, acute or acuminate at apex, cordate at base, undulate, 3-11 nerved. Flowers solitary, bisexual, sessile, within a tubular, long pedunculate spathe. Sepals 3, linear or oblong. Petals 3, obovate or orbicular, longer than the sepals, with fleshy basal appendages. Stamens 6-15 in 2-5 series; anthers erect. Ovary oblong, beaked; ovule many; styles 6, 2-fid. Fruit oblong or ellipsoid, enclosed in a spathe, 3-6 winged. Seed many.

Fls. & Frts. : November to March



Botanical Name: *Vallisnaria spiralis*

Family: Hydrocharitaceae

Local Name: Chilla

Herbs, submerged, tufted. Leaves linear, ribbon-shaped, sheathing at base, apex obtuse, margins faintly dented or entire. Flowers dioecious, on long or short scapes; male spathes shortly peduncled, ovate; female spathes connate, tubular. Fruits 5-10 cm long, linear, included in spathes. Seeds numerous, oblong to fusiform, embedded in a gelatinous mass.

Fls. & Frts. : October-April.

Commelinaceae



Botanical Name: *Murdania nudiflora*

Family: Commelinaceae

Local Name: – Kena

Herbs, suberect or diffuse, ascending. Stems glabrous, 5-50 cm long, rooting at nodes. Leaves linear-lanceolate, rarely at apex, rounded or subcordate at base, glabrous, sessile; sheaths sparsely hairy, ciliate at mouth. Flowers in terminal and axillary, lax, cymose panicles, bracteate. Sepals ovate. Petals purple, blue or whitish, orbicular. Fertile stamens 2, including; filaments hairy. Capsules with purple streaks, subglobose, mucronate, 6-seeded. Seeds trigonous, tuberculation.

Fls. & Frts. : July to November

Lemnaceae



Botanical Name: *Lemna perpusilla*

Family: Lemnaceae

Perennial Fronds floating, flattended, ovate to lanceolate 1-6.5 mm long, 0.8-4.5 mm wide, 1-2times as long as wide, the upper surface green, bearing 2 papilae, the one above the node smaller than the one at tip, veins 3 roots up to 3.5 cm long, root sheath winged, the wing 1-2.5 times as long as wide, root cap sharply pointed, seeds 1 per fruit, 0.45-0.8 mm long, 0.3- 0.7 mm in diameter,. Brownish with 8-26 longitudinal ribs released from the fruit when ripe.

Fls. & Frts. : May to January



Botanical Name: - *Spirodela polyrhiza*

Family: - Lemnaceae

Herbs, free floating. Fronds green above, purple beneath, orbicular ovate, 1-3.5 x 1-2.5 mm; nerves 5-11; daughter fronds budding from near the point of root insertion in a slit in the parent thallus. Flowers surrounded by a small, open spathe in a lateral slit-pouch. Staminate flowers 2-3 Stamen 1. Pistillate flowers with 2 ovules. Fruits slightly winged on margin.

Fls. & Frts.: February - April.

Aponogetonaceae



Botanical Name: *Aponogeton undulatus*

Family: Aponogetonaceae

Perennial. Tuber globose or elongate up to + 2.5cm in diameter, smooth and whitish, submerged leaves invariable present; petioles 10-35 cm long; blades elongate 10-25 cm long, alternately transparent or opaque between the veins in an irregular patterns, at base and tip rounded, margins undulate, midrib wide with 2-4 parallel veins on each side. Floating leaves occasionally absent; petioles up to 70 cm long. blades lanceolate up to 20 cm long and 3.5wide. Young plant also proliferate and develop more plantlets 16 cm elongated fruit. Flower bisexual, perianth segment, petal like, white or pinkish. Filament white. Anther blue.

Fls. & Frts. : July to November

Potamogetonaceae



Botanical Name: *Potamogeton crispus*

Family: Potamogetonaceae

Local Name: Chilla

Herbs, aquatic, floating or submerged. Stems compressed, dichotomously branched. Leaves narrow, 2-7 & 0.3-0.7 cm, finely serrate, distichous, half amplexicaul, sessile, 3-nerved; stipules small, obtuse, caduceous. Spikes generally aerial, small. Flowers green, ca 2 mm long. Tepals suborbicular. Druplets oblique-obovoid, ca 3 mm long, turgid, shortly beaked, rounded and obscurely 3-keeled on the back.

Fls. & Frts. : January to April.

Najadaceae



Botanical Name: *Najas graminea*

Family: Najadaceae

Local Name: Chilla

Herbs , annual, aquatic, submerged , short grass- like, plumose, stems slender fragile, with densely foliose , branches, leaves , narrowly , linear , 2.5-3.5 cm long 0.7 mm broad, with numerous. Oblique, spinals on each side sheaths long aurcled, auricle lanceolate, denticulate. Flowers, solitary, or 2-4 together,. Pistil ca 2 mm long . Achenes ellipsoid, oblong areoles minute, sub quadrate or polyhedral irregularly, disposed or in distinct longitudinal lines .

Fls. & Frts. : July to November

Eriocaulaceae



Botanical Name: *Eriocaulon quinquangulare*

Family: Eriocaulaceae

Herbs, rootstocks absent, leaves linear or lanceolate , glabrous, head grey or white globose or cylindrical ,3-6mm, colored , oblong-obovate, obtuse black hairs, toward the apex, acuminate, hairy ,anthers black, female flowers sepals 3,black, spatulate, petals 3, seeds ovoid or oblong, seed coat transversely elongated, appendages, rectangular structure or ribbon like arising from transverse radical walls .

Fls. & Frts. : July to November.

Cyperaceae



Botanical Name: *Cyperus pangorei*

Family: Cyperaceae

Rhizomes decumbent, 3-8 mm thick, culms laxly tufted or arranged in a row along the rhizome, erect, 50-150 cm tall, 2-7 mm thick, 3 angled above, the slides flat or convex, light green smooth. Leaves usually reduced to bladeless sheath scale-like below the uppermost 20-32 cm long, cinnamon colored to purplish or grey, blades rarely present, erect up to 10 cm long. Involucral bracts 3-5, unequal, overtopping the inflorescences, the lowest 17-30 cm long. Inflorescence compound lax; rays 4-12 up to 16 cm long. Spikes up to 4 cm long, arranged in corymbs, with 2-14, subremote, spikelet. Spikelets spicate 10-30 mm long, 1-2 mm wide, strawcoloured with a reddish tinge, 10-36 flowered; rachilla flexuous, persistent, winged; wing 1.5 mm wide, reddish-brown, persistent. Glumes oblong- elliptical, obtuse, mucronulate at tip. Nuts 3- sided. oblong-obovoid to ellipsoid, rounded to apiculate. Straw- coloured maturing to dark-brown.

Fls. & Frts. : July to February

Eleocharis

Botanical Name: *Eleocharis acutangula*

Family: Cyperaceae

Stoloniferous, the stolons often terminated by a small tuber 3-5 mm in diameter. Culms tufted, erect, 30-90 cm tall, 2-5 mm in diameter, sharply 3 angled with flat or shallowly concave sides, pale green, spongy inside sheaths 3 or 4, the lower ones scales like brownish, the uppermost ones 5-10 cm long, pale green, obliquely truncate above. Spikelet cylindrical, to oblong elongate, 10-60 mm long, 3-5mm in diameter, the glumes firm, ovate to ovate-elliptical, 4-5 mm long, 2-4mm wide, dirty straw-coloured, several nerved on the sides, narrowly hyaline margins, rounded at apex, obscurely keeled. Nuts unequally obovoid, flattened- triangular to biconvex, 1.4-2 mm long, 1.2-1.6mm wide, glossy, yellowish-brown. Longitudinally striate with 13-15 rows of cells, apically constricted to an angular neck almost half as wide as the nut.

Fls. & Frts. : October to December



Botanical Name: *Eleocharis dulcis*

Family: Cyperaceae

Stolons present, often terminating in tubers; tubers brown to blackish. Culms tufted, erect, 40- 100 cm tall, terete, hollow but with transverse septa, deep green, somewhat shiny, sheaths obliquely obtuse, purplish spikelet cylindrical to oblong obovate, 5-7 mm long, 1.7-4 mm wide, grayish-green to straw colored, many nerved, margins narrowly hyaline, rounded at apex, distinctly keeled; keel green. Perianth bristles 6-8, subequal as long as the nut. Stylons 7-8 mm long, 2 or 3 clefts; style base elongates, conical, flattened, 2-2.5 mm long almost as wide as the nut. Nuts obovoid, biconvex with obtuse edges, 1.5-2.2 mm long, 1.3-1.8 mm wide, smooth yellow or grayish brown shiny.

Fls. & Frts. : August to March



Botanical Name: *Eleocharis geneculata*

Family: Cyperaceae

Culms densely tufted, slender but rather rigid, 15-25 cm tall, 0.2-0.4 mm diameter, sheaths herbaceous, obliquely acute or attenuate, green, often, often tinged red brown below, spikelet globose to ovoid, very obtuse, 3-4 mm long, 2-4 mm in diameter, much wider than the culms, usually rusty brown glumes membranous, the lower ones. Sterile and covering the fertile glumes in young buds, ovoid to sub orbicular, 1.8-2 mm long, 1.3-1.6 mm wide, grayish below, pale brown to straw colored above. The sides sometimes tinged with purple, nerveless, very obtuse at apex, indistinctly keeled; keel green. Perianth bristles smooth, rusty to purplish grey 6-10, equal, up to 1.5 mm long, slightly longer than the nut. Styles 1.5-1.7 mm long, 2-clefts; styles base depressed conical, whitish, spongy not as wide as the nut.

Fls. & Frts. : September to January



Botanical Name: *Furena ciliaris*

Family: Cyperacea

Annuals, 10.5 cm high, densely hairy on stem, leaves. And glumes. Leaves linear-lanceolate, 5-15 cm long, 3-5 nerved, partial panicles usually more or less congested at the tip. Spikelets in clusters of 3-10, grayish green, ovoid-oblong, 5-15 mm long. Glumes, 1.5-17 mm long, quinque, hairy, usually recurved, perianth bristles, variable length, sometimes absent, perianth scales brown, 3-dentate at the apex, 3-nerved, claw ca 0.7 mm long, nuts brownish, broadly obovoid, 0.7-1 mm long, apiculate, smooth or faintly transversely lineolate.

Fls. & Frts. : July to November



Botanical Name: - *Scirpus articulatus*

Family: - Cyperaceae

Annuals or perennials. Stems terete, spongy, 5-15 (-35)cm long, 4-8 mm thick, transversely septate. Leaves absent; sheaths 1-3, laxly enveloping the stem, stramineous to brownish, sometimes bearing a short lamina. Inflorescence capitate, pseudolateral, 1-3 cm across, bearing 15-60 spikelets; bracts solitary, erect, stem like, 20-50 (-100) cm long, transversely septate. Spikelets ovoid-oblong, terete, 8-17 x 4-6 mm, subacute. Glumes rufous, broadly ovate or suborbicular, 3-5 mm long, acute or mucronulate. Perianth absent. Stamens 3. Stigmas 3. Nuts brown or ultimately black, obovoid, triquetrous, 1.7-2 mm long, apiculate, sessile, transversely wavy-wrinkled.

Fls. & Frts.: October to December.



Botanical Name: - *Scirpus lateriflorus*

Family: - Cyperaceae

Perennials, 0.5-1.5 m high. Rhizomes shortly creeping . Stems terete or Trigonous above, 8-15 thick. Leaves usually absent, sometimes up to 60 cm long. Anthela usually compound or decompounds, sometimes much reduced; bracts glumaceous; rays more or less flattend. Spikelets solitary or in clusters of 2-4, avoid-oblong, terete. Glumes rufous, ovate, mucronate, notch at the tip, puberulous. Perianth bristles 5-6, retrorsely scrabrid, longest equaling or exceeding the nut. Stamens 3. Stigmas 2-3. Nuts black, beaked, sessile, smooth; beak.

Fls. &Frts.: December to February.

Poaceae



Botanical Name: *Cynadon dactylon*

Family: Poaceae

Local Name: Durva

Perennial, culms terete, 7-40 cm tall. Slender, stoloniferous, rooting at lower nodes, nodes glabrous. Leaf sheath compressed or terete, 2-8 cm long glabrous, ligule a rim of white hairs. Leaf blade flat, linear ovate, glabrous, usually distichous, apex acute to acuminate. Spikes 2-8, whorled, erect or spreading, 2-7 cm long, rachis slender, compressed or angled. Spiklet sessile or subsessile, elliptic. Lower glume membranous, narrowly ovate, 1.2-2.2 mm, glabrous, 1-nerved, 1-keeled, keel scabrous, apex acute. Lodicules 2, stamens 3, anthers 0.4-0.5 mm. Pistil 1-1.2 mm long. Caryopsis up to 1.2 mm long.

Fls. & Frts. : Throughout the year.



Botanical Name: - *Oryza rufipogon*

Family: - Poaceae

Local Name: Dev dhan

Annual. culms 1-1.5m tall, lower spot spongy, leaves linear, acuminate at apex, scabrid on margins and veins; sheaths terete, loose, glabrous, auricle; ligules up to 1.7 cm long, splitting at tip . Inflorescence an exserted ,compound panicle; main branches angular and scabrid. Spikelets 8-9 mm long , falling with age; lemma III ca 0.7 cm long, strongly folded about the mid nerve; awn ca 7 cm long, scabrid. palea similar; awn ca 6 mm long. Anthers 6, yellow. Caryopsis 4-5 mm long . similar to oryza sativa.

Fls. &Frts.: September to November



Botanical Name: *Phragmites karka*

Family: Poaceae

Perennial, Extensive rhizomes: clumps 1-2m Tall, erect, fistular, leaves 30-40 cm long ventrally glabrous, dorsally, rough, sheath loose hairy, ligules 2-3 mm long; membranous, Inflorescence large, open panicle, rachilla fragile 4-7 mm long with white hairs on joints spikelet's, pedicels long. Lower glumes lanceolate nerved; upper glume elliptic 4-4.5 mm long acute, lower lemma empty fertile lemma narrowly lanceolate, 8-10 long. palea 2-2.5 mm long. Caryopsis purplish narrowly ellipsoide.

Fls. & Frts. :- Flower from July to November



Botanical Name: - *Sacciolepis indica*

Family: - Poaceae

Annuals. Culms 20-60 cm tall, slender, spreading. Leaves flat to involute, glabrous; sheaths slightly keeled, shorter than internode; ligules membranous. Inflorescence a spike like, 1-4 cm long panicle; pedicles discoid-tipped. Spikelets ca 2.5 mm long, glabrous or pilose near the summit. Lower glume ovate, $1/2-2/3$ as long as the spikelet, 3-7-nerved; upper glume 7-11-nerved. Lower lemma empty; upper lemma pale yellow, narrowly ovate, about half of the spikelet, acute, shining. Anthers 3, purple, ca 0.7 mm long. Caryopsis ellipsoid, ca 0.8 mm long.

Fls. & Frts. :- August- December.

Pteridophyte

Marsileaceae



Botanical Name: *Marsilea minuta*

Family: Marsileaceae

Rhizome wide creeping rooting in mud. Fronds erect, stipe length depends upon the depth of water, usually 0.5-30 cm, leaflets 4, cruciform, oblanceolate or obovate; size depends upon ecological conditions, thin shining dark-green; margins entire to crenate, if water is plenty, leaflets are of bigger size. Much reduced under xerophytic conditions. Sporocarps plenty, stalked comprising of two types of spores, the larger megaspores and smaller microspores.

Plants growing abundant, especially in plains during rainy season and along the edges of water ponds; ditches.

Result and Conclusion

The survey results showed that there were 38 plant species in total in the Kasvi pond, among which there were 35 common species, 02 carnivores plant species viz. *Utricularia stellaris*, *U. exoleta*. and one pteridophyte.

Pond and river of kasvi is harbour a large number of hydrophytic plants. Pond and river are filled up with water during monsoon, in the second half of which a number of plants of the hydrophytic plant appear. These hydrophytes can be classified as

1. Floating hydrophytes
2. Submerged hydrophytes
3. Emergent hydrophytes.

1. Floating hydrophytes

These are three types of plants in this division basing on the relationship between the plant and substratum. They are free floating on the water surface. In this subtype the plants have no contact with the soil.

- A) They float freely on the surface of water and are in contact with air and water. *Lemna perpusila*, *Spirodela polyrhiza* etc.
- B) Attached hydrophytes with floating shoots : These plants are attached to the muddy floor by their roots, but their shoots come out and float on the water surface of water. The examples of this category are *Ipomea aquatic*, *Ludwigia adscendens* etc.
- C) Attached hydrophytes with floating leaves : In this category the plants are attached to the substratum and their stem (mostly rhizome) remain under water in contact with soil and water while the leaves float on the water surface. *Aponogeton undulatus*, *Nelumbo nucifera*, *Nymphaea pubescens*, *N. rubra*, *Nymphoides cristatum*, *N. indicum*, *Ottelia alismoides*, *Potamogeton crispus* etc.

2. Submerged hydrophytes

These plants always remain under water surface and can be grouped into categories viz. suspended submerged hydrophytes and attached submerged hydrophytes.

A) Suspended submerged hydrophytes : These plants remain submerged in water but have no contact with the soil. Their flowers come above the water level eg. *Utricularia stellaris*, *U. exoleta* etc.

B) Attached submerged hydrophyte : These plants remain in contact with soil and water. Their vegetation portion remains completely submerged in water, while the flowers may come out of water surface. *Hydrilla verticillata*, *Najas graminea*, *Vallisneria spiralis* etc.

3. Emergent hydrophytes

Plant which are attached to soil covered with but most of their vegetative parts come out of water surface e.g. *Ammania baccifera*, *Cynodon dactylon*, *Cyperus pangori*, *Eleocharis acutangula*, *Eleocharis dulcis*, *Eleocharis geneculata*, *Eriocaulon quinquangulare*, *Furena ciliaris*, *Scirpus articulatus*, *Scirpus lateriflorus*, *Limnophila indica*, *Oryza rufipogon*, *Polygonum barbatum*, *Phragmites karka* etc.

Wetland hydrophytes or marshy plant

The plant include in this category are rooted to the soil saturated with water, which may also survive in dried condition too in the later part of their life cycle. A large number of species are found in this habitat. Some typical examples are *Hygrophilla sculli*, *Murdania nudiflor*, *Sacciolepis indica* etc.

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Field Photographs



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DEPARTMENT OF CHEMISTRY

PBR-2016-17

INTRODUCTION: -

Gadchiroli, emerged as a district on 26 Aug 1982 having area about 14412 sq. Km. Geographically Armori tahasil is towards northern west side of Gadchiroli and Kasvi village is 5 Km from Armori to the east. River Gadhavi is flowing northern south direction which met to Vainganga river at Awalgaon.

Altitude range of Kasvi village is 20°32'6'' north and longitudinal range is 80°00'8'' east.

Our college adopted kasvi village for the development as per University guideline and hence we are studying village in different parameters. This year department of chemistry takes over issue of fertilizer used and turns them towards organic farming.

METHODOLOGY

The complete PBR project consists of two parts.

1. Survey of Kasvi village using questionnaires and interact with peoples attitude about used of fertilizers, type of fertilizer and their consequences on the health of people.
2. To create awareness among the people about chemical fertilizer and motivated them towards use of organic farming.

❖ Survey of Kasvi village on Agriculture Information

For this purpose, we used sample selection method in which we select twenty farmers for the study as a sample and their critical analysis was done as follows.

MAHATMA GANDHI COLLEGE, ARMORI**Peoples Biodiversity Register of Kasvi****2016-17****Survey on Agriculture Information**

Villager Name:- Balkrushna Namdev Meshram Age:- 56 House No:- 128 Land Area:-

QUESTIONNAIRE

Q. 1 - What type of fertilizer you are using in your farming whether chemical or organic ?

Ans:- chemical fertilizer

Q.2 - Which type of chemical composition you preferred for chemical fertilizer ?

a) 18:18:10 b) 20:20:0 c) 15:15:15 d) urea e) super phosphate f) other

Ans:- urea

Q.3 - Which company brand is more useful as per your opinion?

a) R.C.F. b) krushiudhyog c) Ujjwala d) Krishidhan e) other

Ans:- krushiudhyog

Q.4 - How many kilogram or bag of chemical fertilizer you require per acre?

Ans:- 3 Bags per acre

Q.5 - From how many years you are using chemical fertilizer ?

Ans:- About 10 to 15 years

Q.6 - During use of chemical fertilizer what was the percentage of crop production? Whether increased or decreased?

Ans:- crop production increased

Q.7 - During use of organic fertilizer what was the percentage of crop production? Whether increased or decreased?

increased.

Ans.: - crop production increased

Q.8-Compare the chemical fertilizer and organic fertilizer. which is best ?

Ans.: - organic fertilizer

Q.9-During use of chemical fertilizer what was percentage of insect or pest attack on crop ?
Whether increased or decreased?

Ans.: - insect attack increased

Q.10 - During use of organic fertilizer what was the percentage of insect or pest attack on crop ?
Whether increased or decreased?

insect attack decreased

Q.11 What type of pesticide and insecticide you were using before 20 years ? chemical or self made from plant extract

organic

Q.12 - Please tell names some self made pesticide or insecticide if you know?

Ans.: -

Q.13 - what amount you spend on insecticide and pesticide before and now.

Ans.: - 500 RS before
1000 RS now

Q.14 - Are you ready to do the Organic Farming as before if you get some scheme or facilities by the government?

Ans.: - Yes

Q.15 - Do the soil fertility of your land increased or decreased than previous?

Ans.: - Yes

Q.16 - Is there any difference in production rate and selling rate of crop?

Ans.: - Yes

Q.17 - Have you ever done the 'Agriculture Audit'?

Ans.: - Yes

Q.18 - Did you ever compared the production rate and amount you spend for paddy Crop in one acre? - 10000 rupee acre

Q.19 - Last year Soil Analysis was done by our college through RCF. Did you participated there?

Ans:- NO

Q.20 - Are you ready to do the Soil Analysis in current year?

Ans:- Yes

Q.21 - Do you have any experience of Bagayati Agriculture?

Ans:- Yes

Q.22- If so, is it more useful than Traditional Agriculture?

Ans:- Bagayati Agriculture

Q.23 - Do you have proper facility of Irrigation?

Ans:- NO

Q.24. - Is it useful to take the production of Oil Seeds?

Ans:- Yes

Q.25. - Do you take the production of cereals?

Ans:- Yes

Q.26. - If so, is it profitable?

Ans:- Yes

वर्तमान में प्रयोग में

Place:- Armori

Date:-23/12/2016

Prepared by

Department of Chemistry

M.G. College Armori

MAHATMA GANDHI COLLEGE, ARMORI

Peoples Biodiversity Register of Kasvi

2016-17

Survey on Agriculture Information

Villager Name:- मोती शर्मा ---Age:- 61 House No: - Land Area:-QUESTIONNAIRE

Q. 1 - What type of fertilizer you are using in your farming whether chemical or organic ?

Ans:- Chemical

Q.2 - Which type of chemical composition you preferred for chemical fertilizer ?

a) 18:18:10 b) 20:20:0 c) 15:15:15 d) urea e) super phosphate f) other

Ans:- Urea

Q.3 - Which company brand is more useful as per your opinion?

a) R.C.F. b) krushiudhyog c) Ujjwala d) Krishidhan e) other

Ans:- Krishidhan

Q.4 - How many kilogram or bag of chemical fertilizer you require per acre?

Ans:- 2 bags per 2 acre

Q.5 - From how many years you are using chemical fertilizer ?

Ans:- 3 years

Q.6 - During use of chemical fertilizer what was the percentage of crop production? Whether increased or decreased?

Ans:- decreased

Q.7 - During use of organic fertilizer what was the percentage of crop production? Whether increased or decreased?

Increased .

Ans.:- increased

Q.8-Compare the chemical fertilizer and organic fertilizer. which is best ?

Ans.:- organic fertilizer

Q.9-During use of chemical fertilizer what was percentage of insect or pest attack on crop ?
Whether increased or decreased?

Ans.:- increased (high percent)

Q.10 - During use of organic fertilizer what was the percentage of insect or pest attack on crop ?
Whether increased or decreased?

decreased (low percent)

Q.11 What type of pesticide and insecticide you were using before 20 years ? chemical or self made from plant extract

Q.12 - Please tell names some self made pesticide or insecticide if you know?

Ans.:-

Q.13 - what amount you spend on insecticide and pesticide before and now.

Ans.:-

Q.14 - Are you ready to do the Organic Farming as before if you get some scheme or facilities by the government?

Ans.:- yes

Q.15 - Do the soil fertility of your land increased or decreased than previous?

Ans.:- decreased

Q.16 -Is there any difference in production rate and selling rate of crop?

Ans.:- both are decreased

Q.17 - Have you ever done the 'Agriculture Audit'?

Ans.:- No

Q.18 - Did you ever compared the production rate and amount you spend for paddy Crop in one acre? - *No*

Q.19 - Last year Soil Analysis was done by our college through RCF. Did you participated there?

Ans:- *No*

Q.20 - Are you ready to do the Soil Analysis in current year?

Ans:- *Yes*

Q.21 - Do you have any experience of Bagayati Agriculture?

Ans:- *No*

Q.22- If so, is it more useful than Traditional Agriculture?

Ans:-

Q.23 - Do you have proper facility of Irrigation?

Ans:- *No*

Q.24. - Is it useful to take the production of Oil Seeds?

Ans:- *yes*

Q.25. - Do you take the production of cereals?

Ans:- *yes*

Q.26. - If so, is it profitable?

Ans: - *yes*

Place:- Armori

Date:-23/12/2016

Prepared by

Department of Chemistry

M.G. College Armori

MAHATMA GANDHI COLLEGE, ARMORI

Peoples Biodiversity Register of Kasvi

2016-17

Survey on Agriculture Information

Villager Name:- Raashobh A. Kantode ---Age:- 54 House No: - Land Area:-QUESTIONNAIRE

Q. 1 - What type of fertilizer you are using in your farming whether chemical or organic ?

Ans.:- chemical

Q.2 - Which type of chemical composition you preferred for chemical fertilizer ?

a) 18:18:10 b) 20:20:0 c) 15:15:15 d) urea e) super phosphate f) other

Ans.:- urea

Q.3 - Which company brand is more useful as per your opinion?

a) R.C.F. b) krushiudhyog c) Ujjwala d) Krishidhan e) other

Ans.:- b) krushiudhyog

Q.4 - How many kilogram or bag of chemical fertilizer you require per acre?

Ans.:- 2 bags

Q.5 - From how many years you are using chemical fertilizer ?

Ans.:- 20 years

Q.6 - During use of chemical fertilizer what was the percentage of crop production? Whether increased or decreased?

Ans.:- 10 %

Q.7 - During use of organic fertilizer what was the percentage of crop production? Whether increased or decreased?

decreased

Ans.:-

Q.8-Compare the chemical fertilizer and organic fertilizer. which is best ?

Ans.:- chemical fertilizer

Q.9-During use of chemical fertilizer what was percentage of insect or pest attack on crop ?
Whether increased or decreased?

Ans.:- decreased increased 80%

Q.10 - During use of organic fertilizer what was the percentage of insect or pest attack on crop ?
Whether increased or decreased?

decreased 50%

Q.11 What type of pesticide and insecticide you were using before 20 years ? chemical or self made from plant extract

yes

Q.12 - Please tell names some self made pesticide or insecticide if you know?

Ans.:- ~~Ben~~ Neem

Q.13 - what amount you spend on insecticide and pesticide before and now.

Ans.:- ₹5000 Rs.

Q.14 - Are you ready to do the Organic Farming as before if you get some scheme or facilities by the government?

Ans.:- yes

Q.15 - Do the soil fertility of your land increased or decreased than previous?

Ans.:- decreased

Q.16 -Is there any difference in production rate and selling rate of crop?

Ans.:- decreased

Q.17 - Have you ever done the 'Agriculture Audit'?

Ans.:- yes

Q.18 - Did you ever compared the production rate and amount you spend for paddy Crop in one acre? - *yes*

Q.19 - Last year Soil Analysis was done by our college through RCF. Did you participated there?

Ans:- *No*

Q.20 - Are you ready to do the Soil Analysis in current year?

Ans:- *yes*

Q.21 - Do you have any experience of Bagayati Agriculture?

Ans:- *No*

Q.22- If so, is it more useful than Traditional Agriculture?

Ans:- *yes*

Q.23 - Do you have proper facility of Irrigation?

Ans:- *yes*

Q.24. - Is it useful to take the production of Oil Seeds?

Ans:- *No*

Q.25. - Do you take the production of cereals?

Ans:- *yes*

Q.26. - If so, is it profitable?

Ans:- *yes*

Place:- *Armori*

Date:-*23/12/2016*

Prepared by

Department of Chemistry

M.G. College Armori

सिद्धि कृष्ण कृष्ण

MAHATMA GANDHI COLLEGE, ARMORI

Peoples Biodiversity Register of Kasvi

2016-17

Survey on Agriculture Information

Villager Name:- Bhaulal T. Meshram Age:- 50 House No: - Land Area:- KasaQUESTIONNAIRE

Q. 1 - What type of fertilizer you are using in your farming whether chemical or organic ?

Ans:- chemical

Q.2 - Which type of chemical composition you preferred for chemical fertilizer ?

a) 18:18:10 b) 20:20:0 c) 15:15:15 d) urea e) super phosphate f) other

Ans:- d) urea

Q.3 - Which company brand is more useful as per your opinion?

a) R.C.F. b) krushiudhyog c) Ujjwala d) Krishidhan e) other

Ans:- e) other , c) Ujjwala

Q.4 - How many kilogram or bag of chemical fertilizer you require per acre?

Ans:- 2 Bag for three per acre .

Q.5 - From how many years you are using chemical fertilizer ?

Ans:- 15 years

Q.6 - During use of chemical fertilizer what was the percentage of crop production? Whether increased or decreased?

Ans:- Increased

Q.7 - During use of organic fertilizer what was the percentage of crop production? Whether increased or decreased?

- Decreased

Ans.:-

Q.8-Compare the chemical fertilizer and organic fertilizer. which is best ?

Ans.:- *chemical fertilizer*

Q.9-During use of chemical fertilizer what was percentage of insect or pest attack on crop ?
Whether increased or decreased?

Ans.:- *Decreased*

Q.10 - During use of organic fertilizer what was the percentage of insect or pest attack on crop ?
Whether increased or decreased?

- *Increased*

Q.11 What type of pesticide and insecticide you were using before 20 years ? chemical or self made from plant extract

Q.12 - Please tell names some self made pesticide or insecticide if you know?

Ans.:-

Q.13 - what amount you spend on insecticide and pesticide before and now.

Ans.:- *500 per acre*

Q.14 - Are you ready to do the Organic Farming as before if you get some scheme or facilities by the government?

Ans.:- *Yes*

Q.15 - Do the soil fertility of your land increased or decreased than previous?

Ans.:- *Increase*

Q.16 -Is there any difference in production rate and selling rate of crop?

Ans.:- *Yes*

Q.17 - Have you ever done the 'Agriculture Audit'?

Ans.:- *No*

Q.18 - Did you ever compared the production rate and amount you spend for paddy Crop in one acre? -

Q.19 - Last year Soil Analysis was done by our college through RCF. Did you participated there?

Ans:- Yes

Q.20 - Are you ready to do the Soil Analysis in current year?

Ans:- Yes,

Q.21 - Do you have any experience of Bagayati Agriculture?

Ans:- No .

Q.22- If so, is it more useful than Traditional Agriculture?

Ans:- No ,

Q.23 - Do you have proper facility of Irrigation?

Ans:- Yes ,

Q.24. - Is it useful to take the production of Oil Seeds?

Ans:- Yes ,

Q.25. - Do you take the production of cereals?

Ans:- Yes ,

Q.26. - If so, is it profitable?

Ans: - Yes .

Pr. Ch. - 27/8/12

Place:- Armori

Date:-23/12/2016

Prepared by

Department of Chemistry

M.G. College Armori

MAHATMA GANDHI COLLEGE, ARMORI**Peoples Biodiversity Register of Kasvi****2016-17****Survey on Agriculture Information**Villager Name:- Haridas G. Chabande Age:- 62 House No:- Land Area:-**QUESTIONNAIRE**

Q. 1 - What type of fertilizer you are using in your farming whether chemical or organic ?

Ans:- chemical

Q.2 - Which type of chemical composition you preferred for chemical fertilizer ?

a) 18:18:10 b) 20:20:0 c) 15:15:15 d) urea e) super phosphate f) other

Ans:- urea

Q.3 - Which company brand is more useful as per your opinion?

a) R.C.F. b) krushiudhyog c) Ujjwala d) Krishidhan e) other

Ans:- ujjwala

Q.4 - How many kilogram or bag of chemical fertilizer you require per acre?

Ans:- 1 bag per acre

Q.5 - From how many years you are using chemical fertilizer ?

Ans:- 15 years

Q.6 - During use of chemical fertilizer what was the percentage of crop production? Whether increased or decreased?

Ans:- increased

Q.7 - During use of organic fertilizer what was the percentage of crop production? Whether increased or decreased?

Ans.:- Increased

Q.8-Compare the chemical fertilizer and organic fertilizer. which is best ?

Ans.:- organic fertilizers

Q.9-During use of chemical fertilizer what was percentage of insect or pest attack on crop ?
Whether increased or decreased?

Ans.:- increased

Q.10 - During use of organic fertilizer what was the percentage of insect or pest attack on crop ?
Whether increased or decreased?

decrease

Q.11 What type of pesticide and insecticide you were using before 20 years ? chemical or self made from plant extract → chemical pesticide

Q.12 - Please tell names some self made pesticide or insecticide if you know?

Ans.:-

Q.13 - what amount you spend on insecticide and pesticide before and now.

Ans.:-

Q.14 - Are you ready to do the Organic Farming as before if you get some scheme or facilities by the government?

Ans.:- yes

Q.15 - Do the soil fertility of your land increased or decreased than previous?

Ans.:- Decreased

Q.16 -Is there any difference in production rate and selling rate of crop?

Ans.:- Both are decrease

Q.17 - Have you ever done the 'Agriculture Audit'?

Ans.:- yes

Q.18 - Did you ever compared the production rate and amount you spend for paddy Crop in one acre? - *yes*

Q.19 - Last year Soil Analysis was done by our college through RCF. Did you participated there?

Ans:- *NO*

Q.20 - Are you ready to do the Soil Analysis in current year?

Ans:- *yes*

Q.21 - Do you have any experience of Bagayati Agriculture?

Ans:- *NO*

Q.22- If so, is it more useful than Traditional Agriculture?

Ans:-

Q.23 - Do you have proper facility of Irrigation?

Ans:- *yes*

Q.24. - Is it useful to take the production of Oil Seeds?

Ans:- *NO*

Q.25. - Do you take the production of cereals?

Ans:- *NO*

Q.26. - If so, is it profitable?

Ans:- *yes*

Place:- Armori

Date:-23/12/2016

Prepared by

Department of Chemistry

M.G. College Armori

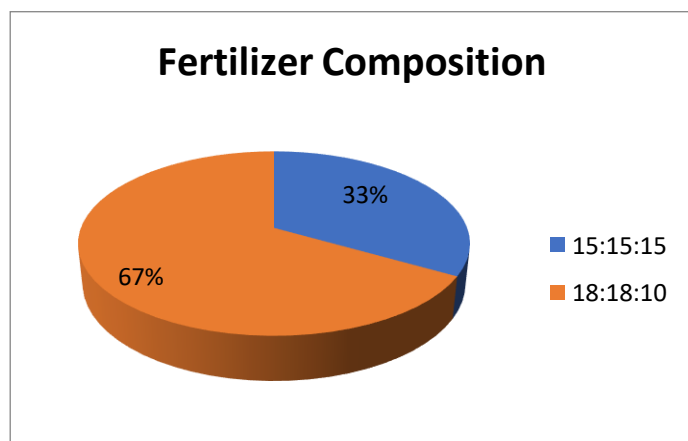
Result and Discussion:-

1) Fertilizer used by the farmers:-

From the survey of Kasvi village it is observed that almost all the farmer (100%) used chemical fertilizer in the farming.

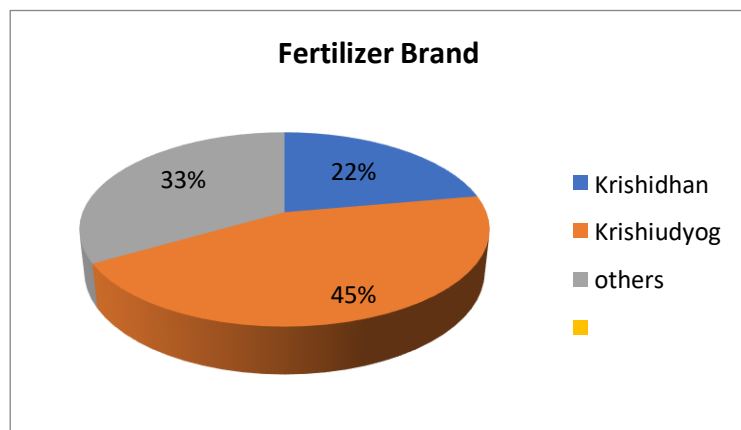
2) Chemical Composition of Fertilizer :-

It is observed that 33% people of Kasvi village used (15:15:15) NPK composition in farming where as (66.79%) people used (18:18:10)NPK composition in the farming and urea used by all the people of the village as growth supplement.



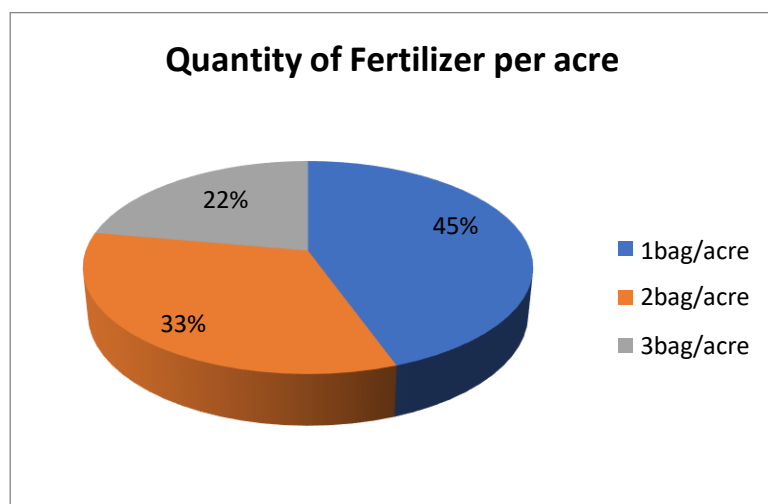
3) Fertilizer Company Brand:-

In the selection of company brand(44.49%)people prefer Krishiudyog where as (22.20%) people used Krishidhan brand in the farming.



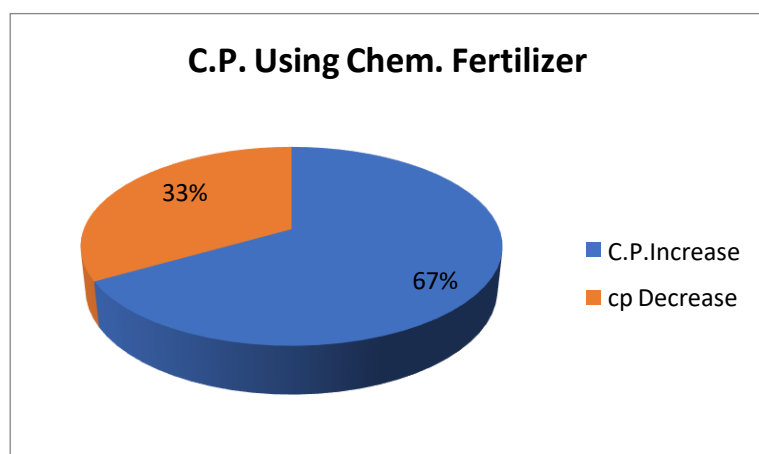
4) Fertilizer quantity used per Acre: -

Survey on quantity of fertilizer used per acre by the farmers in kasvi village it is observed that(22.20%) people used 3bag (150kg)per acre,33.29% people used 2bag (100kg)per acre where as 44.49% peoples used one bag(50kg) fertilizer per acre.



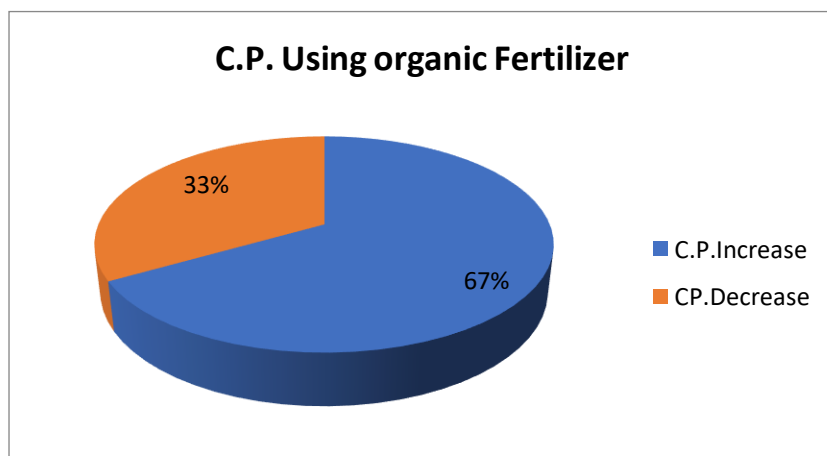
5) Crop Production using chemical Fertilizer: -

Nearly 66.79% peoples think that crop production increased using chemical fertilizers where as 33.29% says that crop production decreased using chemical fertilizers.



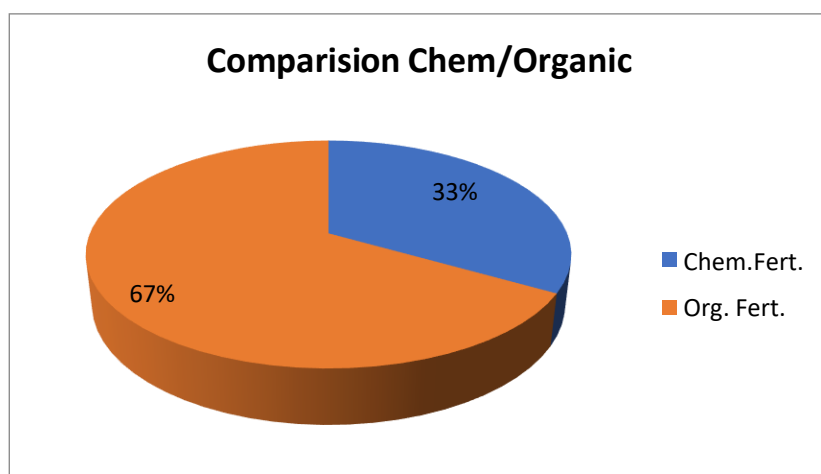
6) Crop Production using Organic Fertilizer: -

Nearly 66.79% peoples think that crop production increased using organic fertilizers where as 33.29% says that crop production decreased using organic fertilizers.



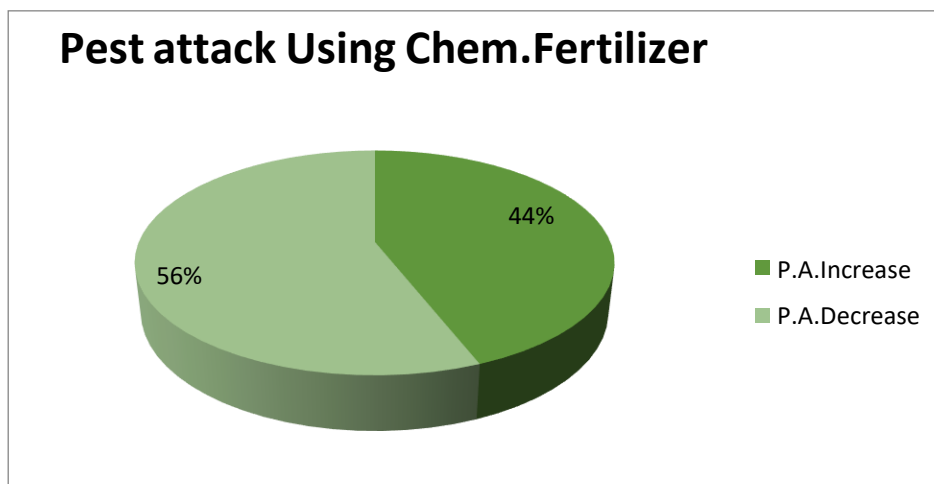
7) Comparison: - Chemical/Organic Fertilizers

As per peoples opinion (66.79%) farmers says that organic fertilizer are best in comparison with chemical fertilizers(33.29%).



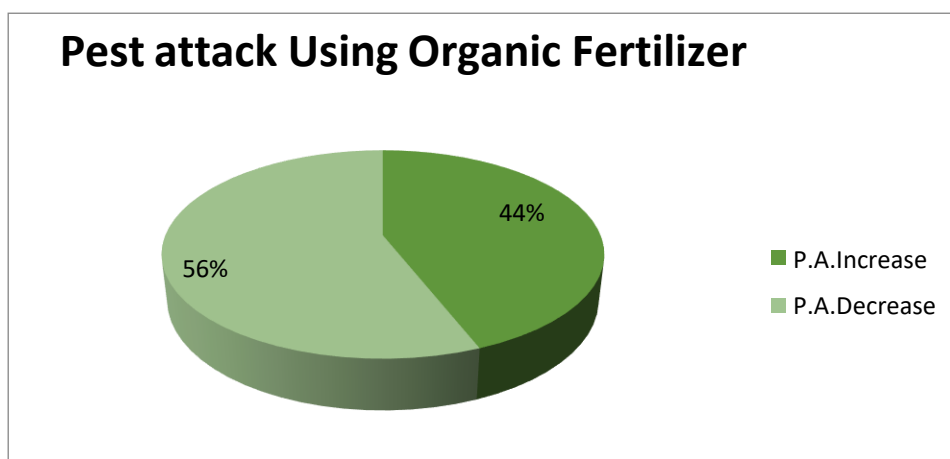
8) Pest/Insect attack within chemical fertilizers: -

In the survey of pest /insect attack increased using chemical fertilizer as per opinion given by(44.45%)farmers where as 55.55% farmers says that pest/insect decreased using chemical fertilizers.



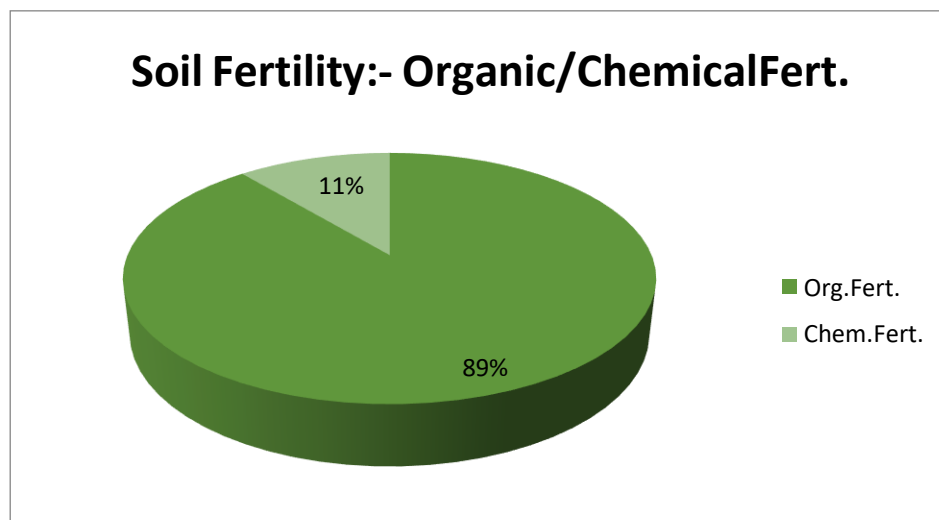
9) Pest/Insect attack within Organic fertilizers:-

In the survey of pest /insect attack increased using organic fertilizer as per opinion given by(33.29%)farmers where as (66.79%) farmers says that pest/insect decreased using organic fertilizers.



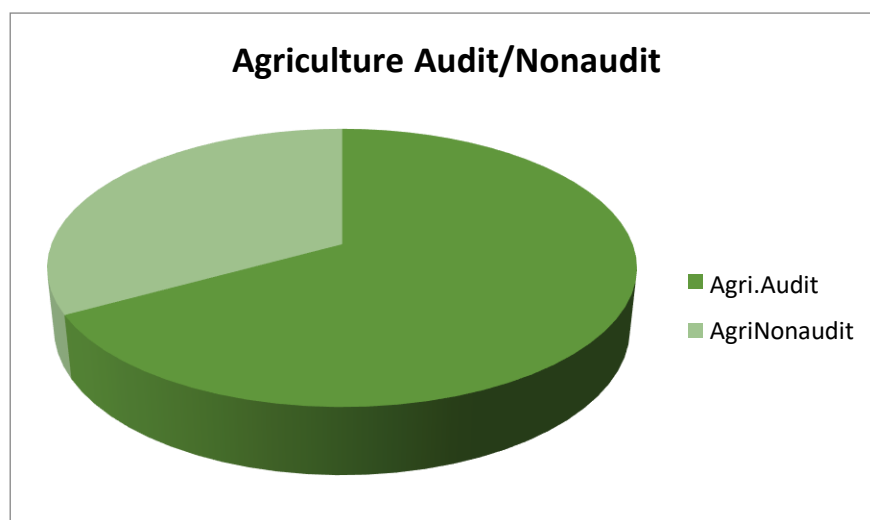
10) Soil Fertility:

It is observed that (88.89%) farmers opinion soil fertility increased using organic fertilizers 11.11% farmers think that soil fertility decreased using organic fertilizers due to lack of knowledge.



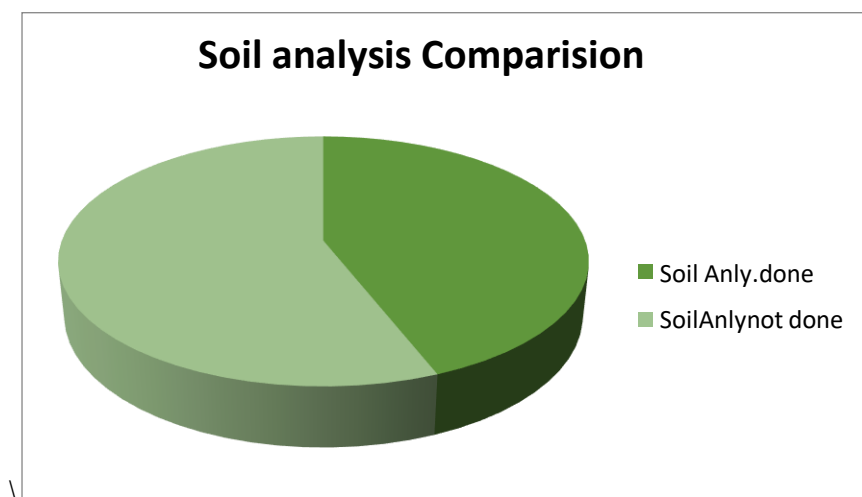
11) Agriculture Audit:-

During survey of kasvi village it is observed that (33.29%) farmers perform agriculture audit whereas(66.79%) do not have any idea of agriculture audit.



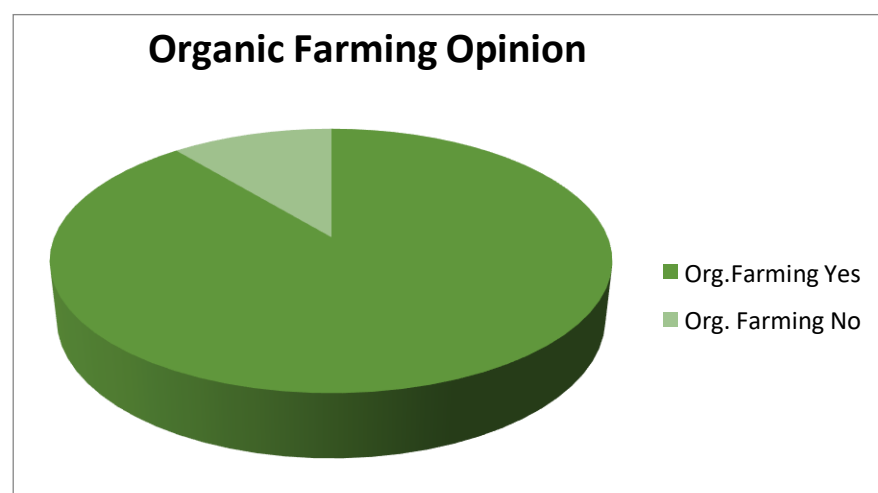
12) Soil Analysis: -

Previous year chemistry department in collaboration with Rashtriya Chemical Fertilizer, Nagpur carry out soil sampling of 30 farmers and presented report giving suggestion to them. Nearly 45% have done their soil sampling and remaining 55% have remains to done.



13) Organic Farming: -

Due to lot of drawbacks of chemical fertilizer farmers of Kasvi village wish to perform organic farming. Nearly (88.89%) farmers wish to do organic farming whereas (11.11%) do not wish to perform organic farming.



Conclusion: -

Present study reveals that farmers are interested in organic farming due to decrease in soil fertility using chemical fertilizer which is very clear from previous soil analysis report. We are turning them towards organic farming through PGS India under NCOF run by ATMA Gadchiroli.

List of Farmers of Adopted village Kasvi

Sr. No.	Name of Famers
1)	Mr. Raghunath v. Bawne
2)	Mr. Tatoba Bhoyar
3)	Mr.Ganoba D. Pusam
4)	Mr. Hiranman K.Bawne
5)	Mr. Ganesh M.Bande
6)	Mr. Divakar Kantode
7)	Mr.Pandurang Meshram
8)	Mr.Maniram S. Kumbhare
9)	Mr.Dnyandev Kantode
10)	Mr.Dadaji Bawne
11)	Mr.Suryabhan Madavi
12)	Mr.Murlidhar Dighore
13)	Mr.Mansaram pusam
14)	Mr.Bhojraj Lingayt
15)	Mr.Prashant Thakre
16)	Mr. Narayan sayam
17)	Mr. Sukhdev Bande
18)	Mr. Yadav Sayam
19)	Mr.Dilip Kantode
20)	Mr. Dipak Dupare
21)	Mr. Prabhu Bawne
22)	Mrs. Vimal Nandanwar
23)	Mrs. Kalpana Meshram
24)	Mrs.Chandraprabha Chahande

PBR Preparing student taking interview on agriculture Information





Department of Chemistry (Student List)

Nr.No.	Name Of Student (Group 1)	Signature
1	Mr Ajay Ramdas Kulsange	A. Kulsange
2	Mr Amar Dipak Hemke	A. Hemke
3	Mr Aniket Purushottam Walke	A. P. Walke
4	Mr Ankit Gajanan Bansod	A. G. Bansod
5	Ku Ankita Thakurdas Akare	A. Akare
6	Mr Anmol Tarachand Ganvir	A. T. Ganvir
7	Mr Ashish Bharatji Talmale	A. B. Talmale
8	Mr Ashish Nanaji Chaudhary	A. Chaudhary
9	Ku Ashwinee Ashok Meshram	A. A. Meshram
10	Ku Ashwini Shivram Barsagade	A. Barsagade
11	Ku Asmita Shamrao Dhonge	A. Dhonge
12	Mr Bhupesh Bapuji Uikey	B. Uikey
13	Mr Bhushan Ramkrushan Mohurle	B. R. Mohurle
14	Mr Bhushan Sukhadeo Kannake	B. S. Kannake
15	Ku Chanda Khushal Waghdhare	C. Waghdhare
16	Ku Damini Lomeshwar Meshram	D. L. Meshram
17	Mr Daymand Prakash Rahate	D. P. Rahate
18	Mr Dipratna Domaji Sahare	D. Sahare
19	Mr Durvesh Manik Gonnade	D. Gonnade
20	Mr Ganesh Ashok Salve	G. Salve
21	Ku Gayatri Deorao Meshram	G. Meshram
22	Mr Gayatri Gurudas Lonare	G. Lonare
23	Mr Gokul Purushottam Deshkar	G. P. Deshkar
24	Mr Harichandra Ramdas Bhandarkar	H. R. Bhandarkar
25	Mr Harshal Yadavrao Bhoyar	H. Y. Bhoyar
26	Mr Hitesh Shankar Ghormode	H. S. Ghormode
27	Ku Joshana Namdeo Kokode	J. Kokode
28	Mr Kailash Anil Sidam	K. A. Sidam
29	Ku Lina Dnyaneshwar Urkude	L. Urkude
30	Mr Mayur Bhaskar Meshram	M. B. Meshram
31	Mr Mayur Madhukar Thakare	M. M. Thakare
32	Mr Mitali Manoj Gedam	M. Gedam
33	Ku Nikita Ghanshyam Chaple	N. Chaple
34	Ku Pallavi Namdeo Satpute	P. Satpute
35	Mr Payal Dilip Burande	P. D. Burande
36	Mr Abhijeet Ramkrushna Bhoyar	A. R. Bhoyar
37	Mr Aniket Devendra Damale	A. D. Damale
38	Ku Anjali Dipak Deoskar	A. D. Deoskar
39	Mr Ankush Bhaskar Deulkar	A. B. Deulkar
40	Ku Arati Gangadhar Meshram	A. G. Meshram
41	Ku Disha Satyawar Donadkar	D. Donadkar
42	Mr Harish Yashwant Mandave	H. Y. Mandave
43	Ku Hemant Subhash Sapate	H. S. Sapate
44	Ku Kanchan Dadaji Bansod	K. D. Bansod
45	Mr Lalesh Ramesh Bangare	L. R. Bangare
46	Ku Mansi Purushottam Bhagadkar	M. P. Bhagadkar
47	Ku Nayna Ashok Tembhurne	N. A. Tembhurne
48	Mr Nitin Narendra Khobragade	N. N. Khobragade
49	Mr Nitin Vijay Khobragade	N. V. Khobragade

Nr.No.	Name Of Student (Group 2)	Signature
1	Ku Payal Ramesh Sahare	<i>Payal Sahare</i>
2	Ku Pooja Jagdish Meshram	<i>Pooja Meshram</i>
3	Mr Pradnyasurya Anil Ramteke	<i>Pradnyasurya Ramteke</i>
4	Mr Praful Dudharam Raut	<i>Praful Raut</i>
5	Ku Pranali Moreshwar Borkar	<i>P. M. Borkar</i>
6	Mr Prashant Sudhakar Pusam	<i>P. S. Pusam</i>
7	Mr Pratik Kalidas Bhoyar	<i>P. K. Bhoyar</i>
8	Ku Priyanka Chandrashekhar Uikey	<i>P. C. Uikey</i>
9	Ku Priyanka Moreshwar Thengari	<i>Amey</i>
10	Ku Punam Yashwant Gaikwad	<i>P. Gaikwad</i>
11	Ku Rasmita Ghanshyam Waghade	<i>Rasmita Waghade</i>
12	Mr Ritesh Rajaram Uinwar	<i>R. Rajaram</i>
13	Ku Ritu Dnyaneshwar Nakhate	<i>R. Nakhate</i>
14	Ku Riya Vilas Potuwar	<i>R. V. Potuwar</i>
15	Mr Rchit Subhan Kumare	<i>R. Subhan</i>
16	Ku Sanket Umaji Madankar	<i>S. Madankar</i>
17	Ku Savitri Dhananjay Nawghare	<i>S. Nawghare</i>
18	Ku Sharmin Munawwarkhan Pathan	<i>S. M. Pathan</i>
19	Ku Shital Kalidas Madavi	<i>S. K. Madavi</i>
20	Ku Sneha Pandhari Meshram	<i>S. P. Meshram</i>
21	Ku Snehal Vilas Bhoyar	<i>S. V. Bhoyar</i>
22	Ku Soni Ravindra Nimkar	<i>S. Nimkar</i>
23	Mr Subodh Sudhakar Hajare	<i>S. Hajare</i>
24	Ku Sukanya Chandrashekhar Sontakke	<i>S. Sontakke</i>
25	Mr Sunil Keshao Usendi	<i>S. Usendi</i>
26	Ku Suprita Sudhakar Katlam	<i>S. Katlam</i>
27	Mr Suraj Nawlu Usendi	<i>S. Usendi</i>
28	Mr Swapnil Parshuram Madavi	<i>S. Madavi</i>
29	Ku Swati Vilas Hedau	<i>S. Hedau</i>
30	Ku Trupti Satish Thakur	<i>T. S. Thakur</i>
31	Ku Vaishnavi Shamrao Pradhan	<i>V. Pradhan</i>
32	Ku Vidya Arun Barde	<i>V. Barde</i>
33	Ku Vishakha Maroti Naitam	<i>V. Naitam</i>
34	Mr Wrushabh Gopalkrushna Nakhate	<i>W. Nakhate</i>
35	Ku Yogita Madhukar Sorte	<i>Y. Sorte</i>
36	Ku Pragati Banduji Bankar	<i>P. B. Bankar</i>
37	Ku Pranjali Narhari Mate	<i>N. P. Mate</i>
38	Mr Raju Shankar Mhaske	<i>S. M. Raju</i>
39	Mr Rakesh Badal Raha	<i>R. B. Raha</i>
40	Mr Roshan Subhash Rathod	<i>R. S. Rathod</i>
41	Mr Ruchit Shrihari Paulbudhe	<i>P. S. Paulbudhe</i>
42	Ku Rupali Dilip Hajare	<i>R. P. Hajare</i>
43	Mr Sandesh Bhashkar Ramteke	<i>S. B. Ramteke</i>
44	Mr Swapnil Janbaji Dadmal	<i>S. J. Dadmal</i>
45	Mr Tushar Moreshwar Meshram	<i>T. M. Meshram</i>
46	Mr Vaibhav Gurucharan Allewar	<i>V. G. Allewar</i>
47	Mr Viplove Hiralal Yerame	<i>V. H. Yerame</i>
48	Mr Vipul Rajendra Kalbandhe	<i>V. R. Kalbandhe</i>

DEPARTMENT OF ZOOLOGY

PBR-2016-17

INVERTEBRATE DIVERSITY IN KASVI VILLAGE

SILVER FISH

CLASSIFICATION

Kingdom : Animalia
Phylum : Arthropoda
Subphylum : Hexapoda
Class : Insecta
Subclass : Apterygota
Order : Thysanura
Family : Lepismatidae
Genus : *Lepisma*



CHARACTER

- A Silverfish (Lepisma saccharinum) is a small, wingless insect in the order Thysanura, found mostly in books.
- Its common name derives from the animal's silvery light grey and blue colour, combined with the fish-like appearance.
- Its movement, while the scientific name (L. Saccharinum)
- Indicates the silverfish's diet consists of carbohydrates such as sugar or starches.

HONEY BEE

CLASSIFICATION

Kingdom: Animalia

Phylum: Arthropoda

Class: Insecta

Order: Hymenoptera

Fmily; Apidae

Genus: *Apis*

Species: *Indica*



CHARACTERS

- Honey bees are found in my college area.
- THEY are found in just infront of my college gate.
- A honey bee, in contrast with the stingless honey bee, is any member of the genus apis.
- Primarily distinguished by the production and storage of honey and the construction of perennial colonial nest from wax.
- Currently, only seven species of honey bee are recognised, with a total of 44-subspecies.
- Through the historically, from 6 to 11 species have been recognised.
- The study of honey bees is known as apiology.

IDENTIFICATION

- Honey bee's measure about 15 mm long and are light brown in colour.
- Honey bees are usually ovate shaped creatures with golden yellow colors and brown bands.
- Although the body colour of honey bees various between species and some honey bees have predominantly black bodies. Almost all honey bees varying black to light striations.
- It serves for purpose of survival of honey bee.

HABITAT

- "Habitat of honey bee, researchers believe that the original habitats of the honey bee are tropical climates and heavily forested areas.
- Honey bees can thrive in natural or domesticated environments.

COCKROACH

CLASSIFICATION

Kingdom: Animalia

Phylum: Arthropoda

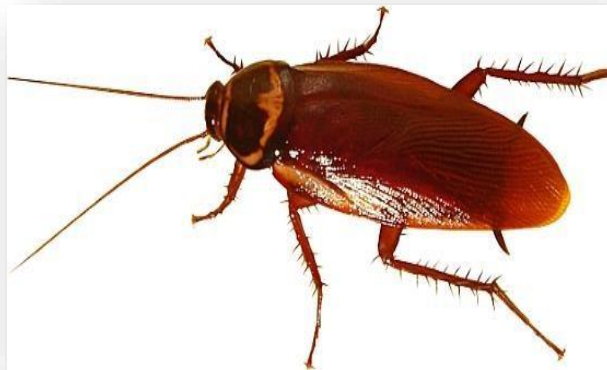
Class: Insecta

Order: Blattodea

Family: Blattellidae

Genus: *Periplaneta*

Species : *Americana*



CHARACTERS

- Cockroach common name for an order of insects.
- The most familiar of which are characterized by their oval shape, foul dour and their status as household pests.
- About 4000 species are known worldwide.
- Most inhabit in warm tropical region of the globe.
- About 25 species have attained worldwide distribution due to accidental transport in commerce and their affinity for human habitations.
- The most important pest species, cockroach are an ancient group.
- Having change little in appearance in 320 million years.
- Fossil records indicate that they are the predominant insect during the carboniferous period 345 to 280 million years ago.

HABITAT

- With trillions of cockroaches walking the earth.
- Large percentage is never seen by humans.
- Most cockroaches live in kitchen, forest, caves, burrows and brush.

BUTTERFLIES

CLASSIFICATION

Kingdom: Animali
Phylum: Arthropoda
Class: Insecta
Order: Lepidoptera
Suborder: Rhopalocera
Butterflies



CHARACTERS

- Butterflies are part of the class of insects in the order Lepidoptera. Adult butterflies have large, often brightly coloured wings, and conspicuous, fluttering flight. The group comprises the true butterflies (superfamily Papilionoidea), the skippers (superfamily Hesperioidea) and the moth-butterflies (superfamily Hedyloidea). Butterfly fossils date to the mid Eocene epoch, 40–50 million years ago.
- Butterflies exhibit polymorphism, mimicry and aposematism. Some, like the Monarch, will migrate over long distances. Some butterflies have parasitic relationships with organisms including protozoans, flies, ants, other invertebrates, and vertebrates.

IDENTIFICATION

- Adult butterflies have four wings: a forewing and hindwing on both the left and the right side of the body.
- The body is divided into three segments: the head, thorax, and the abdomen.
- They have two antennae, two compound eyes, and a proboscis.

HABITAT

- Butterflies feed primarily on nectar from flowers.
- Some also derive nourishment from pollen, tree sap, rotting fruit, dung, decaying flesh, and dissolved minerals in wet sand or dirt.
- Butterflies are important as pollinators for some species of plants, although, in general, they do not carry as much pollen load as bees.
- They are, however, capable of moving pollen over greater distances.
- Flower constancy has been observed for at least one species of butterfly

GERRIDAE

CLASSIFICATION

Phylum: Arthropoda

Class: Insecta

Order: Hemiptera

Family : Gerridae

Water spiders



CHARACTERS

- Gerridae is a family of insects in the order Hemiptera, commonly known as water striders, water bugs, magic bugs, pond skaters, skaters, skimmers, water scooters, water skaters, water skeeters, water skimmers, water skippers, water spiders, or Jesus bugs.
- Consistent with the classification of Gerridae as true bugs (i.e., sub-order Heteroptera), gerrids have a mouthpart evolved for piercing and sucking, gerrids distinguish themselves by having the unique ability to walk on water.
- Gerridae, or water striders, are anatomically built to transfer their weight to be able to run on top of the water's surface.
- As a result, one could likely find water striders present in any pond, river, or lake. Scientists have identified over 1,700 species of gerrids, 10% of them being marine.

IDENTIFICATION

- Family Gerridae are physically characterized by having hydrofuge hairpiles, retractable preapical claws, and elongated legs and body.
- Hydrofuge hairpiles are small, hydrophobic microhairs. These are tiny hairs with more than one thousand microhairs per mm.
- The entire body is covered by these hairpiles, providing the water strider resistance to splashes or drops of water.
- These hairs repel the water, preventing drops from weighing down the body.

HABITAT

Gerridae generally inhabit surfaces of calm waters. The majority of water striders inhabit freshwater areas, with the exception of *Halobates*.

THRIPS

CLASSIFICATION

Kingdom: Animalia

Phylum: Arthropoda

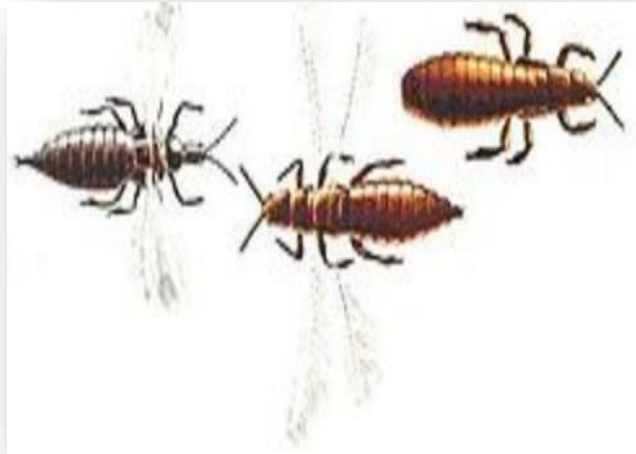
Class: Insecta

Subclass: Pterygota

Super order : Exopterygota

Order: Thysanoptera

Thrips



CHARACTER

- Thrips (Order Thysanoptera) are minute, slender insects with fringed wings(thus the scientific name, from the Greek thysanos
- Other common names for thrips include thunder flies, thunderbugs, storm bugs, corn flies, corn lice, freckle bugs, and physopods.
- Thrips species feed on a large variety of plants and animals by puncturing them and sucking up the contents.
- A large no. of thrips species are considered pests, because they feed on plants with commercial value.
- Thrips are generally tiny(1mm long or less) and are no good flyers.

CORIXIDAE

CLASSIFICATION

Kingdom: Animalia

Phylum: Arthropoda

Class: Insecta

Order: Hemiptera

Suborder: Heteroptera

Infraorder: Nepomorpha

Family: corixidae



CHARACTER

- Corixidae is a family of aquatic insects in the order hemiptera that inhabit ponds and slow moving streams where they swim near the bottom
- There are about 500 known species worldwide, in 33 genera including the sigara.
- Members of the corixidae are known in the united states as water boatmen, a term that is sometimes used in the united kingdom for Notonectidae, and Corixapuncyayta is “lesser water botman”.

EMBLA

CLASSIFICATION

Kingdom: Animalia ,

Phylum: Arthropoda

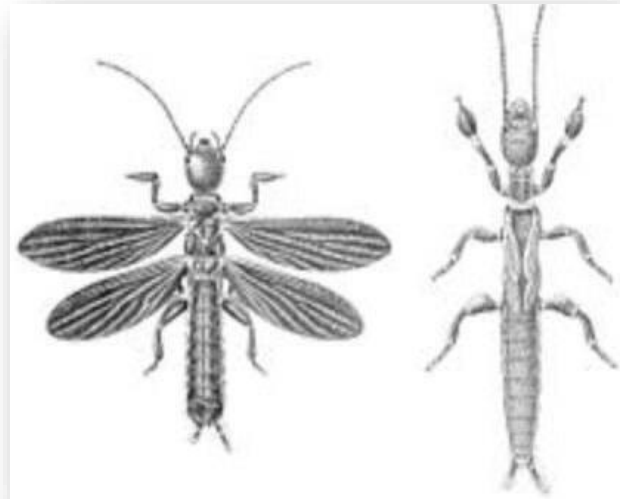
Class: Insect

Subclass: Pterygota

Infraclass: Neoptera

Order: Embioptera

Webspinners



CHARACTERS

- The orders Embioptera, commonly known as webspinners. Are a small group of mostly tropical and subtropical insects, classified under the subclass Pterygota.
- The order has also been referred to as Embiodea or Embiidina.
- The name Embiodea or Embiidina
- The name Embioptera comes from Greek, embios meaning “lively” and pteron meaning “wing”
- They use the silk to make a web-like pouch or gallery in which they live.

BELOSTOMA

CLASSIFICATION

Kingdom: Animalia

Phylum: Arthropoda

Class: Insecta

Order: Hemiptera

Infraorder: Nepomorpha

Family: Belostomatidae

Genus: Belostoma



CHARACTER

- Belostomatidae is a family of freshwater hemipteran insects known as giant water bugs or colloquially as toe-biter, Indian toebiters, electric-light bug, alligator ticks, or alligator fleas (in Florida).
- They are the largest insect in the order Hemiptera, and occur worldwide.
- The largest are members of this genus.
- Giant water bugs are a popular food in parts of Southeast Asia.

AQATIC BUG

CLASSIFICATION

Kingdom : Animalia

Phylum: Arthropoda

Class: Insecta

Order: Hemiptera

Suborder: Heteroptera

Family: Nepidae

Genus: Ranatra

Species: linearis



CHARACTER

- *Ranatra linearis* is a species of aquatic bug in the nepidae family
- They are typically five cm long
- The breathing tube tail is often half the length of the insect.
- Their habitat is usually shallow water in weedy pond.
- They are feeding on zooplankton present in the pond.
- While feeding these bugs jump inside the water

DAPHNIA PULEX

CLASSIFICATION

Kingdom: Animalia

Phylum: Arthropoda

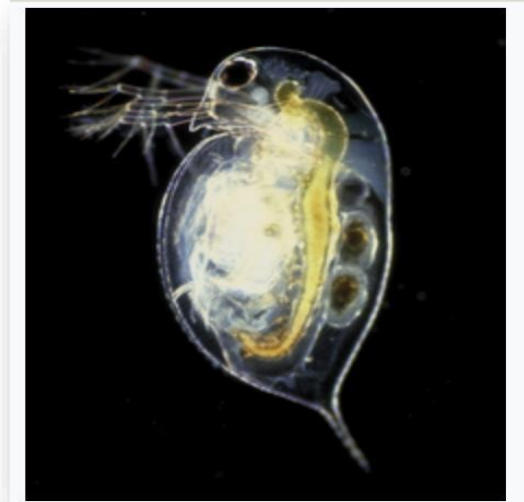
Subphylum: Crustacea

Class: Brachiopoda

Order: Cladocera

Family: Daphniidae

Genus: *Daphnia*



CHARACTER

- Daphnia, a genus of small planktonic crustaceans, are 0.2 -5 millimeters (0.01-0.20 in) in length .
- Daphnia are members of the order cladocera, and are one of the several small aquatic crustaceans.
- Commonly called water fleas because their saltatory swimming style resembles the moments of fleas.
- The two most readily available species of Daphnia are D.pulex.
- They are often associated with a related genus in the order Cladocera.

GNATHOPHAUSIA ZOEAE

CLASSIFICATION

Kingdom: Animalia

Phylum: Arthropoda

Subphylum: Crustacea

Class: Malacostraca

Order: Lophogastrida

Family: Gnathophausiidae

Genus: *Gnathophausia*

Species: *Zoea*



CHARACTERS

- *Gnathophausia. zoea* is a species of lophogastrid crustacean.
- It is widely distributed in the pond and river.
- It is more restricted to tropical areas.
- The adult may reach 40-50 millimeters .
- (1.6-2.0) in long , excluding the rostrum, or around 70mm (2.8) including the rostrum.

GREY SWIMMING CRAB

CLASSIFICATION-

Kingdom: animalia

Phylum: Arthropoda

Subphylum: Crustacea

Class: Malacostraca

Order: Decapoda

Suborder: Pleocyemata

Infraorder: Brachyura

Grey Swimming Crab



CHARACTERS

1. Crabs are decapod crustaceans of the infraorder |Brachyura.
2. Which typically have a very short projecting “tail” (abdomen) .
3. Usually entirely hidden under the thorax.
4. They live in all the pond and river.
5. Many other animals with similar names such as carbs.

MYTILUS

CLASSIFICATIONS

Kingdom: Animalia

Phylum: Mollusca

Class: bivalvia

Subclass: Pteriomorpha

Order : Mytiloida

Family : Mytilidae

Genus : *Mytilus*



CHARACTERS

1. *Mytiluscoruscus*, common name the river mussel.
2. The hard-shelled mussel, is a species of mussel.
3. A marine bivalve mollusc in the family Mytilidae.
4. This species is used as a food item in tribal people.

PRAWN

CLASSIFICATION:

Kingdom: Animalia

Phylum: Arthropoda

Class: Malacostraca

Order: Decapoda

Suborder: Dendrobranchiata

Family: Penaeidae

Genus: *Fenneropenaeus*

Species: *Indicus*



CHARACTERS

- The Indian prawn indicus, is one of the major commercial prawn species
- In the villages , the term is used less frequently, typically for fresh water shrimp.
- The term shrimp and prawn themselves lack scientific standing.
- Prawn are used has changed, and nowadays the terms are almost interchangeable.

HOBO SPIDER

CLASSIFICATION:

Kingdom: Animalia

Phylum: Arthropoda

Class: Arachnida

Order: Araneae

Family: Agelenidae

Genus: *Tegenaria*

Species: *agrestis*



CHARACTER:

- The hobo spider is known as an aggressive spider that comes into the houses of people.
- And leaves a very nasty bite.
- This spider can be fairly large with the female can reach up to 15mm.
- The hobo spider catches its prey by forming silk.
- Then when the insect is trapped in the webs, it will use paralyzing venom and wrap its prey.

WASP

CLASSIFICATION:

Kingdom: Animalia

Phylum: Arthropoda

Class: insecta

Order: Hymenoptera

Suborder: Apocrita

Wasp



Character:

- A wasp is any insect of the order Hymenoptera and suborder Apocrita.
- The most commonly known wasp such as yellow jackets and hornets.
- Eusociality is favoured by the usual haplodiploid system of sex determination.
- The majority of wasp species are solitary.
- Each adult female living and breeding independently.

Conclusion:-

All the student visited to *Kasvi* observed and study invertebrate animals. All these insect habituated in *Kasvi* on land, water, plants. During the late rainy and winter season abundant invertebrates found especially aquatic insect, shell bearing animals and land insect.

For the PBR peoples of the village helps the students and giving zoological knowledge about insect & animals this knowledge helps the student to prepare PBR.

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- | | |
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“STUDY OF SOME DOMESTIC ANIMALS OF KASVI VILLAGE WITH RESPECT TO RELATIONSHIP AND WORSHIP”

Introduction:-

Each individual species depends upon others for its existence and the links between different species hold life together. If one species is removed then the others that depend upon it will also either die or be seriously affected. Some species are particularly important because without them their whole ecosystem will collapse. For example, forest trees and ocean plankton, which control our climate, are often little valued by people, but their role in controlling our environment is the single most important aspect of biodiversity. A second reason for protecting biodiversity is because human beings are dependent upon it. We depend on biodiversity for our food, medicines, shelter, for many industrial products. As we lose species, we are also losing potential new medicines and foods that may be needed to continue human life on Earth. For example, over half of our medicines come originally from plants, and new ones are still being discovered.

The mammals arose from reptiles in the Jurassic period and are now the dominant form of terrestrial vertebrate life. Like the birds, they have a four-chambered heart and a double-circuit circulatory system and are able to regulate body temperature. In the case of mammals the insulating covering is provided by hair, a feature unique to the class, although in a few forms (particularly in marine species) nearly all the hair is lost, and insulation is provided by fat. A second distinguishing characteristic of mammals is the production of milk by the females for the nourishment of the young.

Birds (class Aves) are a group of endothermic vertebrates, characterized by feathers, a beak with no teeth, the laying of hard-shelled eggs, a high metabolic rate, a four-chambered heart, and a lightweight but strong skeleton. They rank as the class of tetrapods with the most living species, at approximately ten thousand, with more than half of these being passerines, sometimes known as perching birds or, less accurately, as songbirds. Flora and fauna: - in the present PBR we studied about the vertebrates fauna from this Kasvi area. The birds evolved from reptiles in the Jurassic period. Their front limbs are modified into wings, and the breastbone is greatly enlarged to support flight muscles. They have an insulating covering of feathers, which has been an important factor in their ability to regulate body temperature. The other advance that enabled birds to become warm-blooded was the evolution of a four-chambered heart, making the circulatory system a complete double circuit: oxygenated blood is pumped from the lungs to the tissues, and deoxygenated blood is pumped from the tissues to the lungs. The only major groups besides insects

to invade the air, birds are much less restricted by external temperature requirements than cold-blooded animals, and they have spread throughout every part of the world. They live in many kinds of habitat and have evolved a diversity of forms. Some have become flightless terrestrial animals, while others are aquatic, using their wings for swimming instead of or in addition to flying. Fertilization is internal. The eggs of birds are similar to those of reptiles, but parental care of the eggs and young is highly developed.

Objectives: -

- ❖ To document, assess and review the present status of the biodiversity of Adopted Village Kasvi at ecosystem and species level.
- ❖ .To studies the impact of human activity and development generally on biodiversity.
- ❖ To understand the causes of biodiversity degradation.



Methodology: -

An attempt was made to make the process of preparation of the PBR with help of students (B.Sc. II) as a part of the environment studies. We visited to Kasvi village many times during the academic year 2016-17 and observed domesticated animals in the houses of the villagers. We prepare the questionnaire in respect to study the impact of human activity, causes of degradation of biodiversity and present status of the biodiversity of domesticated animals and bird. Each and every student of PBR groups was enthusiastic during the work. In fact, the present PBR reports have been prepared in English, and are based on active contributions from the villagers themselves. The fairly large amount of material already available in English was also used during the work.

Study Areas: - Small village **Kasvi** which is belongs to tahsil **Armori** of **Gadchiroli** district of Maharashtra state, India. It is **6 – 7 km** away from the Armori tahsil place. Village Kasvi **adopted** by **M. G. College Armori**, hence number of survey conducted at Kasvi. It one of the survey or observation of the farmers of Armori conducted in respect to relationship and worship of domesticated animals with the farmers or people of Kasvi village.

Observation and Discussion:

In the present study, students observed the following domesticated animals form the village Kasvi of Armori tahsil, District Gadchiroli. Domesticated dog is common in the families of the farmers. Dogs are seen anywhere in the village. Students studies about the important of dogs in

the life of the inhabitants. The present observation intended to study on domesticated animal's studies in respect to relationships between domesticated animals and farmers.

For mutual benefit: - The most numerous large mammals, apart from humans, are cows, sheep, goats, pigs, Cats and dogs. The domestication of animals is based on an ancient contract, with benefits on both sides, between man and the ancestors of the breeds familiar to us today.

DOG: Kasavi villagers are mostly from low income generated families and farming background, the village is totally out sided from the main roads Wadsa and Armori. They have number of cattle like cows, goats, buffaloes and bulls for the work of the farming. Hence, they need guards like Dogs. Dog is a domestic animal. He is a loving friend of humans. He guards the house of human whole day. He gives respect to his master. He can smell his master from far off. He is a four-footed animal. Dogs have sharp teeth. He has four legs, a tail and straight ear. He is very useful in catching thieves and criminals by its powerful sense of hearing and smelling. Each dog has a different nose print. People love him for its noble service. Dogs eat rice, bread, fish, meat and other eatables. The dog is an omnivores animal. They are intelligent and faithful to their master. They can take good training. Intelligent dogs are trained and used by the police or army to smell the traces of criminals and also in investigation work, either indoor or outdoor. A particular puppy in a litter is favoured because it has an attractive coat, barks well, is unusually friendly or obedient, noticeably large or small. This is the dog which is kept and, in its turn, has puppies.

Dog worship: - Dogs have a major religious significance among the Hindus in India. The dogs



are worshipped as a part of a five-day. In Hinduism, it is believed that the dog is a messenger of *Yama*, the god of death, and dogs guard the doors of Heaven. Socially, they are believed to be the protectors of our homes and lives. So, in order to please the dogs, they are going to meet at Heaven's doors after death. Actual dog worship is uncommon.

Cat: Apart from dogs, cats are the only domesticated animals to dwell indoors with humans. It is also the only one which is solitary in the wild, as opposed to living in packs, herds or flocks. As a result, the cat has been able to take what it wants from man (food, shelter, play) and to pay its dues in return (pest control) without losing contact with its original identity. Cats have remained closer than other domesticated animals to their wild cousins, partly because it is so difficult to control their breeding. And they are more able than any other to fend for themselves, in the village or even in a city, if human support is withdrawn. It is not known when cats are first domesticated. But by

the time of the earliest civilization they have already acquired in the human mind a characteristic which they have never lost - the quality of mystery. In folk stories of all nations a cat is the natural companion for people who possess an alarming second sight, such as witches. Domestic animals are common in the Indian households. Since ancient times, people of India have been domesticating animals like dog, goat, cows, and ox for various purposes.

COWS are members of the sub-family 'Bovinae' of the family 'Bovidae'. This family also includes Gazelles, Buffalo, Bison, Antelopes, Sheep and Goats. Cows are raised for many reasons including: milk, cheese, other dairy products, also for meat such as beef and veal and materials such as leather hide. In India, cows were classed as sacred animals and were used in religious ceremonies and treated with much respect. Today, cows are domesticated ungulates (hoofed animals with two toes on each hoof) that we see very often chewing the grass in farmers' fields as we walk or drive. Cows are referred to as the 'fosters mothers to the human race' because

they produce most of the milk that people drink. The mature female of the species is called a '**cow**'. The mature male of the species is called a '**bull**'. A group of cows is called a '**herd**'. A young female cow is called a '**heifer**'. A baby cow is called a '**calf**'. A cow spends up to 6 hours a day eating. Cows spend over 8 hours a day chewing their cud which is regurgitated, partially digested food. Cows each drink equivalent to a bath tub full of water a day.



In India, it is easily heard that cow is our mother. Even, from the very early of life, this lesson is taught to us that we should respect the cow too as a mother. Cow is a very calm domestic animal. She has two eyes, two ears, four legs, two horns, one nose, a mouth and a long tail with a huge body. She gives us milk which is very tasty and useful. By using its milk we can make so many nutritious and healthy things as cheese, butter, yogurt etc. The baby of a cow is called as calf. It is very cute and useful too just like his/her mother. The male calf is called as bull in his young age and helps farmers to plough their fields. Cow is the one of the respected domestic animals. We keep her in our houses. She is found all over the world. She is very useful to us. She is a huge body domestic animal with two eyes, two ears, two horns, four legs and a long tail. She gives us milk which is very nutritious and by using it we can make various tasty and healthy dishes like: cheese, curd, butter, mawa, etc. She eats grasses, grain, fodders and hay. She is counted under the category

of mammals as it gives birth to a baby and feed her milk. Cow is very calm and loving domestic animal. She is much respected animal in India. Indian people worship cow as their mother. For Hindus, she is a holy animal as it is considered that worshipping a cow may easily happy all Gods and Goddesses. Everything what we get from cow has their own importance. Her milk is very useful especially for the growing age children and patients. Her milk is also used in pooja, Dudh Abhishek and other religious purposes. Even her dung is used as a good fertilizer. Farmers use its dung in cultivating their fields for the better growth of crops. Her toilet (Gau mutra) is used as a medicine to treat various diseases. Not only the cow but also its baby calf is very useful for the

farmers. Male calf is called as bull in its young age and used to plough the fields of farmers. Bull is called as the farmer's best friend in India. So, we should take care of her.



Worship of Bull and cattle: - Many religions have considered cattle to be sacred, most famously Hinduism from India. Cattle and buffalo are respected by many pastoral peoples that rely on the animals for sustenance and the killing of an ox is a sacrificial function. In India respect for the cow is widespread, but is of post-Vedic origin; there is little actual worship, but the products of the cow are important in magic. In Hinduism, the cow is a symbol of wealth, strength, abundance, selfless giving and a full Earthly life.

GOATS, CATTLE, PIGS AND HENS: The first reason for herding goats, or keeping cattle, hens, and pigs in the village, is to secure a regular supply of fresh meat. These animals also provide for almost every other need of man. While they are alive, they produce dung to manure the crops. The four basic farm animals, cattle represent the most significant development in village life. Not only does the cow provide much more milk than its own offspring require, but the brute strength of the ox is an unprecedented addition to man's muscle power. The plough immeasurably increases the crop of wheat or rice. The wagon enables it to be brought home from more distant fields. Kasavi villagers use another version of the domesticated ox i.e. buffaloes. Whether dragging a plough-like tool through a flooded field or hauling a cart on a trackters, buffalo is ideally suited to the role of a farm animal in rice-growing areas. Like other members of the ox family, it also provides a good supply of milk.

Goats: The domestic goat (*Capra aegagrus hircus*) is a subspecies of goat domesticated from the wild goat of southwest Asia and Eastern Europe. The goat is a member of the family Bovidae and is closely related to the sheep as both are in the goat-antelope subfamily Caprinae. There are over 300 distinct breeds of goat. Goats are one of the oldest domesticated species, and have been used for their milk, meat, hair, and skins over much of the world. Female goats are referred to as "does" or "nannies;" intact males are called "bucks" or "billies;" and juveniles of both sexes are called "kids". Castrated males are called "wethers". Goat meat from younger animals is called "kid" or *cabrito* (Spanish), while meat from older animals is known simply as "goat" or sometimes called *chevon*, or in some areas "mutton" (which more often refers to adult sheep meat).

Worship of Goats:-

This type of worship has sometimes been said to have originated from the goat's increased sex drive. One male goat was capable of fertilizing 150 females. The goat was commonly associated with dark arts and the devil. Goats have revealed ancient ritual goat-burial that show a religious significance of the goat predominantly in the area.

B. Sc. II year students Group of PBR visited to Adopted village Kasavi and studied the relationship between farmers and domesticated animals also studied the worship of domesticated

animals. The group of students visited house to house and collecting information, with help of questionnaire prepared by the students for the farmers, common man & tribes. What they know?



People biodiversity register (PBR), it is a part and parcel of the study for the second year student, through this type of study, each and every students of college, aware and knowing about





the lifestyles of farmers, common villagers and tribals of Kasavi village. What is the relationship with goats, cow and bull etc? Students know that how the animals are useful for them? They were enjoying while PBR study, taking photos and collecting information from the villagers.

Dog is a domestic animal. He is a loving friend of humans. He guards the house of human whole day. He gives respect to his master. He can smell his master from far off.

The first reason for herding goats, or keeping cattle, hens, and pigs in the village, is to secure a regular supply of fresh meat. These animals also provide for almost every other need of man. Hens give an egg, fresh meat, and it is economical source to the farmers. Some hens are use for fighting. It's a one type of race (Dangal or cock fighting) between two cocks.

Conclusion: - The present study concluded that all farmers of Kasavi village depends upon domesticated animals purposely. Cow, goats buffaloes gives milk and fertilizers. It is a source of income. It is to secure a regular supply of fresh meat. These animals also provide for almost every other need of man. While they are alive, they produce dung to manure the crops.

GROUP PHOTO OF PBR



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21	Mr Shubham Bharat Magare	Magare
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45	Ku Pratiksha Prabhakar Borkar	P.P. Borkar
46	Mr Pritam Subhash Bodhankar	P.S. Bodhankar

DEPARTMENT OF

GEOLOGY

PBR-2016-17

GEOLOGICAL STUDY AND SITE SELECTION FOR ARTIFICIAL RECHARGE IN KASVI VILAGE OF ARMORI TALUKA DIST. GADCHIROLI

1. Introduction

The geological field work is carried out to search mineral deposits and to explore ground for many civil engineering works. During the geological survey sufficient data are gathered to prepare geologic maps and reports about a particular area of interest.

1.1. Field Equipments

The equipments that are commonly required for doing a geological field work are as follows.

1.1.1. Topographic map.

1.1.2. Compass.

1.1.3. Hammer

1.1.4. Haversack

1.1.5. Measuring Tape

1.1.6. Field Notebook

1.1.1. Topographic map

First the topographic map of the area to be investigated is procured. It is the most important tool of the geological field work. The map should show topographic details on a sufficiently large scale that is $1\text{cm} = 2.5\text{ km}$ or $1: 50,000$ it serves as a base map for systematic field work and geological mapping.

1.1.2. Compass

A magnetic compass is used for finding directions, taking traverses and locating one's own position on the map. The magnetic needle of the compass always points towards the magnetic north. The chief compasses used by geologists for the field work are: (a) "clinometer compass", and (b) "Brunton compass". These compasses have some additional arrangements for measuring dips of bedding planes. Brunton is superior to clinometers as it can also be used as a hand level.

A Brunton compass consists of three units: (a) a clinometer, used for measuring dip angles, (b) a compass, used for measuring directions, and (c) a sighting device, used in taking bearings and in hand leveling. While measuring dip, not only angle but direction of dip must also be noted. One of these sides is placed on an inclined bedding plane in the direction of dip. In this position the dial of the instrument lies in the vertical plane. The tube bubble of the clinometer is then centered by rotating a lever. The amount of dip is read on the inner scale in degrees.

The compass direction of the horizontal line on an inclined plane is called. In order to measure a compass direction, the Brunton is held face up. It is then leveled by using the circular level bubble. The hinged mirror and sight help in taking bearings of selected points. The reading of directions is taken of the outer circular scale.

1.1.3. Hammer

A hammer is essential for chipping rocks and collecting rock samples. A geological hammer generally has one chisel end and another flat end. The flat end is used for breaking rocks while the chisel end is used for trimming and sizing the specimens. The common field hammers may weigh 0.5 to 1.0 kilogram.

1.1.4. Haversack

It is used for carrying compass, notebooks and rock samples collected in the field.

1.1.5. Measuring Tape

A steel or metallic tape of 30 meter length and a pocket steel tape of 2 meter length are required for the field work. The first is used for ground measurements, measuring traverse lines, etc., and the other of measuring shorter units such as thickness of strata veins, etc.

1.1.6. Field Notebook

A field notebook is used for keeping a record of observations made in the field. Field notes should be brief but clear. It must contain the following information.

- The exact location of an outcrop.
- Nature of the rock as seen in the outcrop
- Dip and strike of rock beds and other structural features like Ripple marks, current bedding, etc.
- Location of samples collected.
- Relation between different rock types
- Any other special information.

1.2. Artificial Recharge

The artificial recharge to ground water aims at augmentation of ground water reservoir by modifying the natural movement of surface water utilizing suitable civil construction techniques. Artificial recharge techniques normally address to following issues;

- To enhance the sustainable yield in areas where over-development has depleted the aquifer.
- Conservation and storage of excess surface water for future requirements, since these requirements often changes within a season or a period.
- To improve the quality of existing ground water through dilution.
- To remove bacteriological and other impurities from sewage and waste water so that water is suitable for re-use.

The basic purpose of artificial recharge of ground water is to restore supplies from aquifers depleted due to excessive ground water development. basic requirements for recharging the ground water reservoir are:

- Availability of non-committed surplus monsoon runoff in space and time.
- Identification of suitable Hydrogeological environment and sites for creating subsurface reservoir through cost effective artificial recharge techniques.

Drainage basins are the fundamental units to understand geometric characteristics of fluvial landscape, such as topology of stream networks, quantitative description of drainage texture, pattern, shape and relief characteristics. Morphometric analysis is an important technique to

evaluate and understand the behavior of hydrological system. It provides quantitative specification of basin geometry to understand initial slope or inconsistencies in rock hardness, structural controls, recent diastrophism, geological and geomorphic history of drainage basin. Morphometric parameters along with physical aspects such as slope, lithology, elevation, land use/land cover etc. are used to identify suitable sites and structures for groundwater recharge, which are useful in water resources development plan.

In the recent past several studies have been carried out based on GIS and remote sensing applications in delineating groundwater potential zones so as to formulate water resource development plan. Few researchers have used varying number of thematic layers, such as geology, geomorphology, drainage density, slope, aquifer transmissivity, water table fluctuations or depth to groundwater level, lineament density etc., for identification of artificial recharge sites. Others have attempted to select suitable sites for artificial recharge as well as to suggest site specific recharge structures. Remote sensing and GIS have been employed in the present study superimposing thematic maps like Drainage, Geology, Geomorphology, Digital Elevation Model (DEM) and Slope to extract useful information so, as to formulate a water resource development plan.

1.2.1. Methodology

1.2.1.1. Area Selection - Selection of area is the first step towards artificial recharge planning, following is aspects which are to be considered before actual work;

- Areas where ground water levels are declining on regular basis.
- Areas where substantial amount of aquifer has already been desaturated.
- Areas where availability of ground water is inadequate in lean months.
- Areas where salinity ingress is taking place.

1.2.1.2. Scientific Inputs – Scientific study of targeted area is the most important step to identify appropriate sites for artificial recharge. This is done by various steps like,

- Hydro-meteorological Studies – Rainfall pattern, evaporation loss & climate.
- Hydrological Studies – In situ precipitation, Surface supplies etc
- Soil Infiltration Studies – Soil pattern, infiltration rate etc
- Hydro geological Studies – Rocks, Structures, geological features etc.
- Geophysical Studies – Resistivity, conductivity survey, water flow etc.
- Chemical Quality of Source Water – Chemical & bacteriological analysis.

1.2.2. Artificial Recharge Techniques and Designs

A wide spectrum of techniques is in vogue to recharge ground water reservoir. Similar to the variations in Hydrogeological framework, the artificial recharge techniques too vary widely. The artificial recharge techniques can be broadly categorized as follows,

1.2.2.1. Direct surface techniques

- Flooding
- Basins or percolation tanks
- Stream augmentation

- Ditch and furrow system
- Over irrigation

1.2.2.2. Direct sub surface techniques

- Injection wells or recharges wells
- Recharge pits and shafts
- Dug well recharge
- Borehole flooding
- Natural openings, cavity fillings.

1.2.2.3. Combination surface – sub-surface techniques

- Basin or percolation tanks with pit shaft or wells.

Chapter 2

Mapping & Sampling

2.1. Geological Mapping

It is a basic geological survey, which actually operates on the field area. Generally maps of 1:50000 to 1: 25000 are used. Survey on field is done with the help of base line and traverse line, which is described below.

• **Base line:** It is the reference line assumed along the regional strike of Formation. The position from where the survey is initiated is considered as zero. Assuming the North direction east and west segments of base line are considered. The segments can be of any interval as per the requirement. The points along East are considered as E₁, E₂, and so on where as along west will be W₁, W₂ and so on.

• **Traverse line:** It is a line perpendicular to base line and will be complimentary to direction of base line, for above case say north and south with points placed at specified intervals say N₁, N₂, so on and S₁, S₂,so on respectively.



North

N ₃ W ₃	N ₃ W ₂	N ₃ W ₁	N ₃	N ₃ E ₁	N ₃ E ₂	N ₃ E ₃
N ₂ W ₃	N ₂ W ₂	N ₂ W ₁	N ₂	N ₂ E ₁	N ₂ E ₂	N ₂ E ₃
N ₁ W ₃	N ₁ W ₂	N ₁ W ₁	N ₁	N ₁ E ₁	N ₁ E ₂	N ₁ E ₃
W ₃	W ₂	W ₁	O	E ₁	E ₂	E ₃
S ₁ W ₃	S ₁ W ₂	S ₁ W ₁	S ₁	S ₁ E ₁	S ₁ E ₂	S ₁ E ₃
S ₂ W ₃	S ₂ W ₂	S ₂ W ₁	S ₂	S ₂ E ₁	S ₂ E ₂	S ₂ E ₃
S ₃ W ₃	S ₃ W ₂	S ₃ W ₁	S ₃	S ₃ E ₁	S ₃ E ₂	S ₃ E ₃

The position shown on the grid points are the sites of grab sampling. In case of uranium, we determine the radiation, whereas in case of metal we determine metal concentration. After this each grab point is assigned with respective values. Then the points of equal values are joined together.

2.2. Detail Survey

After completion of reconnaissance survey, we get assured with our area of interest. Hence, we start detail survey in interest area. Following are the procedures,

2.2.1. Rock Sampling

The rock sampling is the collection of representative sample from the bulk of rock, to understand the character like, mineralogy, texture, genetic aspects, etc. There are two types of fundamental importance

• Grab Sampling

It is a random sample collection of rock fragments, along the line of traverse. It generally represents the bulk of rock body.

• Channel Sampling

It is done by sample collection along small trenches and Pits in accordance with the dip and across the strike of ore body. Intervals of specific distance are maintained.

2.2.2. Soil Sampling

Soil is nothing but the weathered product of bed rock, therefore mineralogy content of bed rock and soil cover over it will be probably equivalent. Soil generally develops in stages which can be observed along soil profile.

Stage	Composition
A	Regolith and Humus.
B	Fresh Soil without Humus.
C	Weathered Bed Rock.
D	Compact (unweathered) Bed Rock.

B horizon of the soil is very much preferred for sampling, as it does not contain humus and rock fragments. An instrument known as “Auger” is used to dig out the fresh soil of B horizon.

2.2.3. Geological Mapping of the Area

For exploration purposes, published maps of the area may be used or if none is available, mapping may be required. This may be done using remote sensing techniques. A suitable map scale for such an exercise is 1: 50,000. Maps of this scale may help in locating the most probable and potential geologic environments. In the initial stages of the exploration program, geological maps help in the interpretation of geophysical and geochemical anomalies. In the advanced stages of exploration of more detailed map, perhaps on scales of 1: 2000 or 1:1000 may need to be prepared. For the purpose of study of given area Toposheet No – 64D/2, 64D/3 has been used.

The traverses line along these lat and long passes through many political benchmarks like villages (Jogisakhara, Kasvi, Astha). Some topographic benchmarks like hillocks trending in specific direction river called Nala, also act as benchmarks in topography of given area. The traverse line will proceeds from the point located at latitude and longitude. After proceeding from kasvi, Astha and Jogisakhara area is traced via crossing Gadhvi Nala. First of all grid pattern is prepared for the sake of sampling, following pattern is prepared of which 100 m interval distance is maintained. This interval is because of preliminary survey, if it would have been detailed survey then distance was supposed to be 50 m.

2.2.4. Topography and Geology of Kasvi Area

The point of initiation was located at an undulating topography. The Gadhvi Nala act as a natural benchmark to understand the position more precisely. The prominent rock types which we encountered were of Gondwana Age and are as follows:

- **Sandstone** - This one is gritty sandstone as it contents coarse grains of feldspar and quartz. It is classified under arenaceous group. In appearance rock is reddish in color. Sorting is poor due gritty constitution.
- **Laterite Soil** - It is a Residual Sedimentary soil indicating chemical weathering. It's red color signifies iron content..
- **C** – It is a meta-sedimentary rock formed by metamorphism of sedimentary rock.

Age	Stratigraphic status		Lithology
	Group	Formation	
Quaternary, Mesozoic,	----- ----- Gondwana Supergroup	----- ----- Kamthi Formation	Alluvium Laterite Sandstone, Ferruginous sandstone
Palaeo to Mesoproterozoic	Sakoli Group	-----	Conglomerate, Phyllite Quartzite,



Picture showing lateritic soil along river bank & bedding plane in sandstone



Picture showing joint plane in sandstone

Chapter 3

Water Bearing Qualities of Rocks

3.1 Aquifer

It is defined as a rock mass, layer or formation which is saturated with groundwater and which by virtue of its properties is capable of yielding the contained water at economical costs when tapped. Quantity of water a rock formation can hold per unit volume and at what rate it can yield water when tapped for supplies. It is a storage reservoir and a transmission conduit at the same time. Gravels, limestone and sandstones generally form good aquifers when occurring in suitable geological conditions and geographic situations.

3.2 Aquiclude

A rock body or formation which may be porous enough quantity of water but which by virtue of its other properties does not allow an easy and quick flow through it, is called an Aquiclude. It is to be treated as a practically impermeable rock mass. Compacted clay formations are the best examples of Aquiclude.

3.3 Aquifuge

It is an absolutely impermeable rock formation through which there is no possibility of storage or movement of water. Such a formation is almost free from pores and other interstices. Examples: Compact interlocking granites and quartzite's.

3.4 Aquitard

It is a less common term used sometimes for an Aquiclude that has become locally leaky due to development of partial porosity caused because of profuse jointing or cracks.

Chapter 4

Hydrogeomorphic Units

The study area comprises land use/land cover categories such as agricultural land, uncultivated land, open forest, open scrub, wasteland, and water body, and settlement, ravenous land with and without scrub and exposed rock and wasteland (quarry).

In field observation following geomorphic units were observed;

Hydrogeomorphic units	Description (Field observation)	Slope (degrees)	Drainage density	Groundwater potential/ prospects
Alluvial plain	Gently sloping tract produced by deposition of alluvial. Material consisting of gravel, sand, silt and clay of varying lithology.	Gentle (0 - 7)	Low	Good to moderate
Ravenous/Gullied land	Ravine is usually associated not with an isolated gully but an intricate network of gullies formed generally in deep. Alluvium and entering a nearby river, flowing much lower than the surrounding tablelands.	Gentle (0 - 7)	Moderate high	Moderate to poor

Buried pediment	Unconsolidated alluvial materials fill irregularities on the sandstone surfaces. Mostly vegetated or cultivated lying at foot hills.	Gentle moderate (8 - 14)	Low moderate	Good to moderate
Hills and ridges	Acts as barrier as well as carrier for ground water flow represents areas of high runoff.	Moderate-Steep (15 - 21)	Low	Very poor to poor

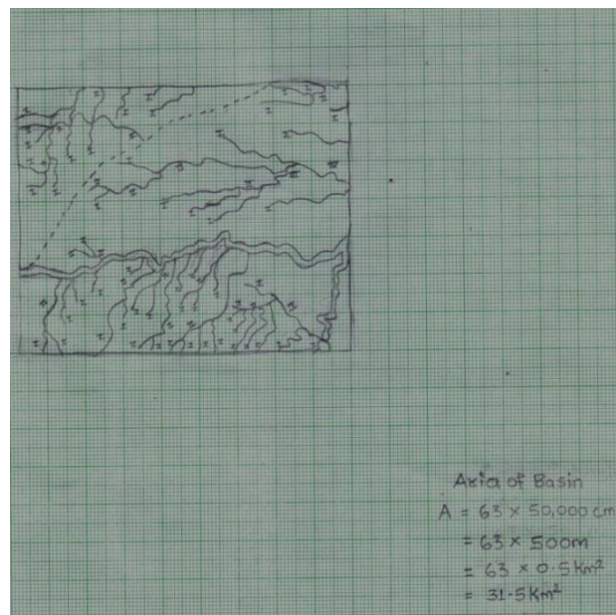
Chapter

5

Morphometric Analysis of Study Area

Kasvi area of Armori Taluka, Dist. Gadchiroli comes under Toposheet no. 64 D/3. From this Toposheet morphometric analysis is done of Kasvi area from which fundamental information regarding Hydrogeological parameter can be deduced. Drainage pattern of Kasvi area gives relevant information about flow pattern, lithology, slope of land etc.

To the northeast of Kasvi Gadhavi river channel exists. This river has created various alluvium deposit which act as local aquifer. Gadhavi river act as influent stream which recharges the water table, network of small gullies are prevalent in surrounding area. Following is the morphometric map of Kasvi region;



Morphometric analysis of Kasvi area

Chapter 6

Site Selection Criteria for Proposed Structures

Site Selection Criteria for Proposed Structures

Proposed structure	Land use	Drainage order
Percolation tank, nala bund, check dam	Ravenous land (open scrub), uncultivated land, open forest	1st, 2nd or 3rd
Nala bund, check dam	Ravenous land (open scrub), uncultivated land, ravenous land	1st or 2nd
Check dam, percolation tank	Ravenous land (open scrub), uncultivated land, exposed rock	1st or 2nd
Percolation tank, nala bund, check dam	Exposed rock, ravenous land (open scrub), uncultivated land	1st or 2nd
Nala bund, check dam	Open scrub, ravenous land, uncultivated land	2nd or 3rd

Conclusion

Kasvi area is a region with great potential of groundwater assemblage, because of its geographical & geological configuration. In considering future population growth, essential measures for groundwater enrichment are in need.

7.1. Lithology -

- Alluvium & Laterite are Quaternary sediments.
- Sandstone & Ferruginous sandstone are equivalent to Gondwana super group.
- Meta-sedimentary rocks like quartzites can be traced probably belonging to Sakoli super group.

7.2. Hydrogeological aspects -

- To the North-East of Kasvi hilly region provides slope for water runoff which accumulates towards Kasvi village which is South-West.
- Gadhavi river act as a source point for groundwater recharge.
- Gadhavi River created various deposit features of alluvium, which holds & transmit water with great efficiency.
- Ravenous/Gullied land North-East of Kasvi acts as a moderate infiltrating zones.

7.3. Recommendation -

- Check dam & percolation tank are suggested for ravenous land, uncultivated land to the North-East of Kasvi.

- Discharge point towards South-West is suggested to be treated with impervious material like shale to check groundwater flow.

Field Pictures



Dr. C. P. Dorlikar & P. S. Ganvir studying exposed rock along Gadhvi river bank.



Dr. C. P. Dorlikar studying water level among bore wells

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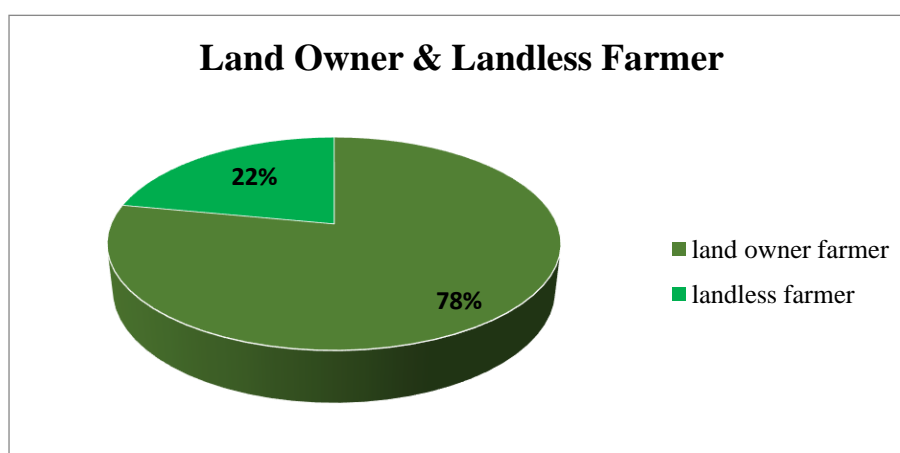
**DEPARTMENT OF
GEOGRAPHY
PBR-2016-17**

PEOPLES BIODIVERSITY REGISTER OF KASVI TO STUDY PADDY CROPPING PATTERN OF KASVI VILLAGE

For the preparation of PBR of kasvi village **Department of Geography** conducted survey of 158 families with special reference to paddy cropping pattern, variety of paddy seeds, nature of secondary crops, production of crops, fertilizer used and agriculture audit etc.

1) Land related information of kasvi village

Land owner farmer	Landless farmer
123	35
78%	22%

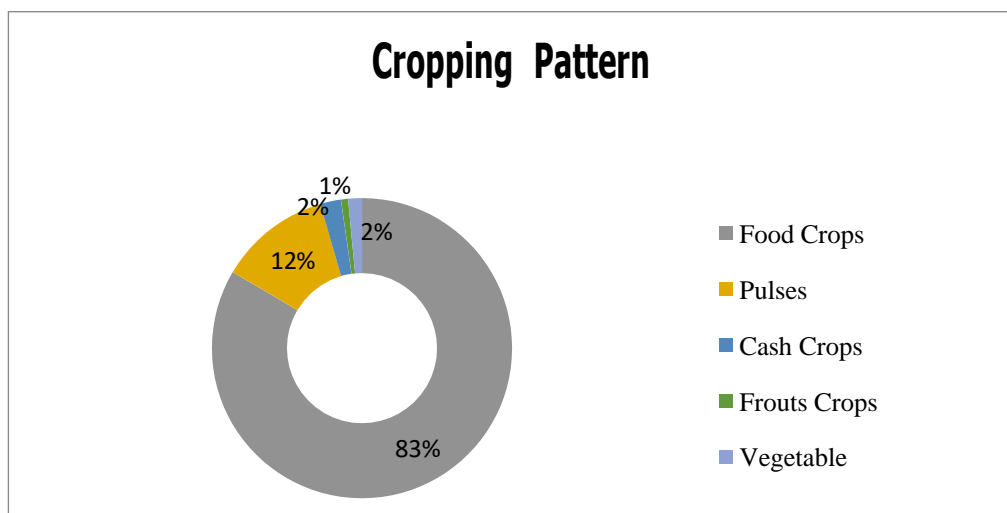


As per the information collected by PBR students it is observed that 78% people are land owner whereas 22% people are landless.

2) Cropping pattern of kasvi village

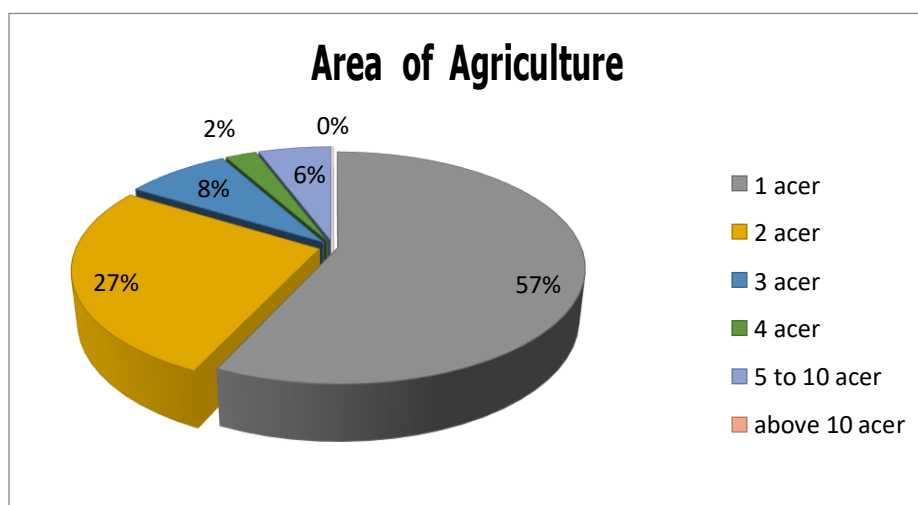
Sr.No.	Food Grains	Pulses	Cash Crops	Fruits Crops	Vegetables	Total
Numbers	111	16	3	1	2	133
Percentage	83.45%	12.03%	2.25%	0.75%	1.50%	100%

In the survey of cropping pattern, 83.45% farmer cultivate food grain, 12.03 % farmers cultivate pulses, 2% farmers cultivate cash crops whereas 1.5 % vegetable & only 0.70 % farmers cultivate fruits crops. In this connection it is observed that paddy crop is major crop pattern of kasvi village.



3) Area of land acquired by kasvi farmers

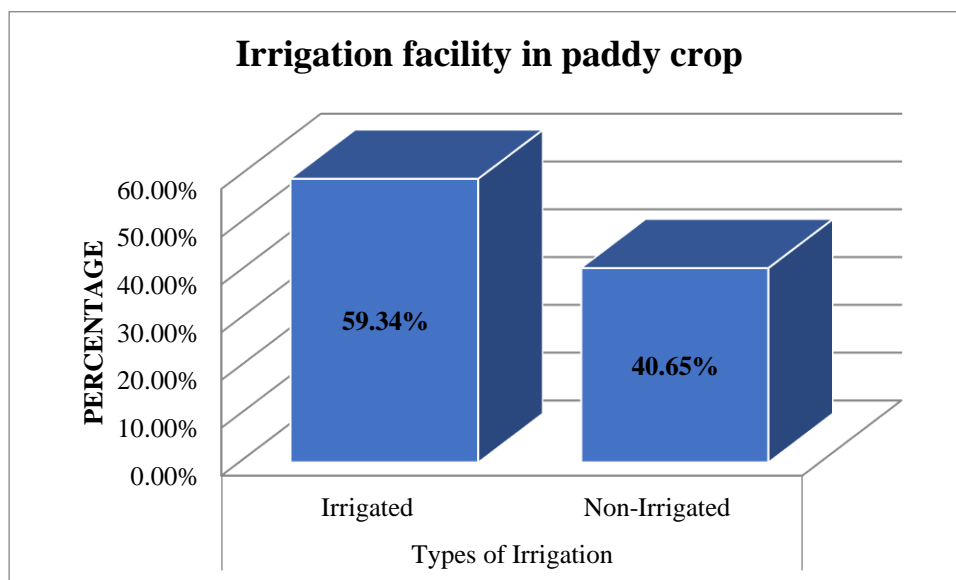
Sr.No.	1 acre	2 acre	3 acre	4 acre	5 to 10 acre	Above 10 acre	total
No.of farmers	70	33	10	3	7	0	123
Percentage	56.91%	26.82%	8.13%	2.43%	5.69%	0	100%



It is observed that in kasvi 56.91% farmer acquired 1 acre land whereas 2.43% farmer acquired 4 acre land.

4) Irrigation facility for paddy crop

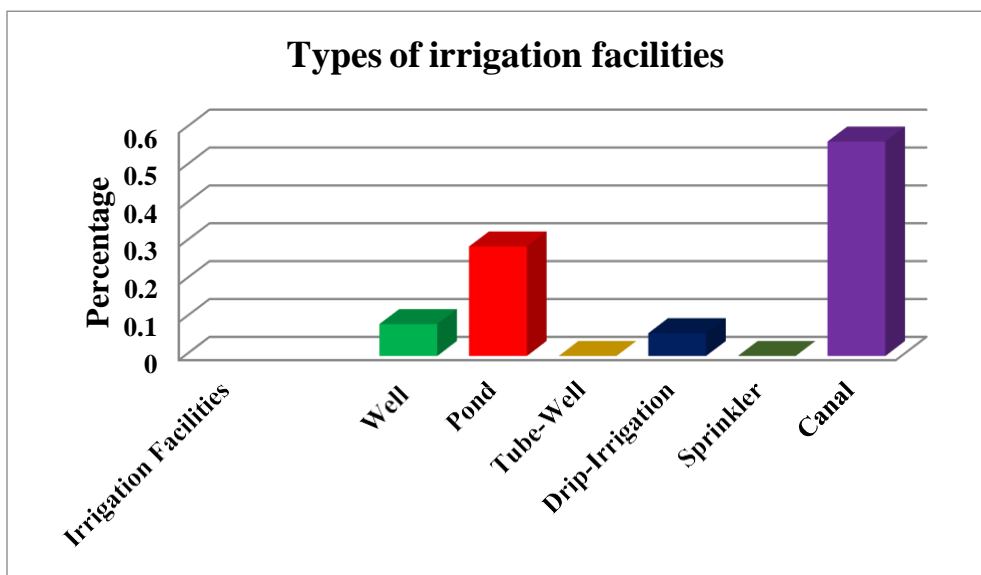
Sr. No.	Non-Irrigated	Irrigated	Total
No. of farmers	73	50	123
Percentage	59.34%	40.65%	100%



In relation to irrigation facilities 40.65% farmer uses itiadoh project water for paddy crop in summer season as double crop whereas 59.34% farmer are not interested in double crop due to lack of irrigation facilities

5) Types of irrigation used for paddy crop

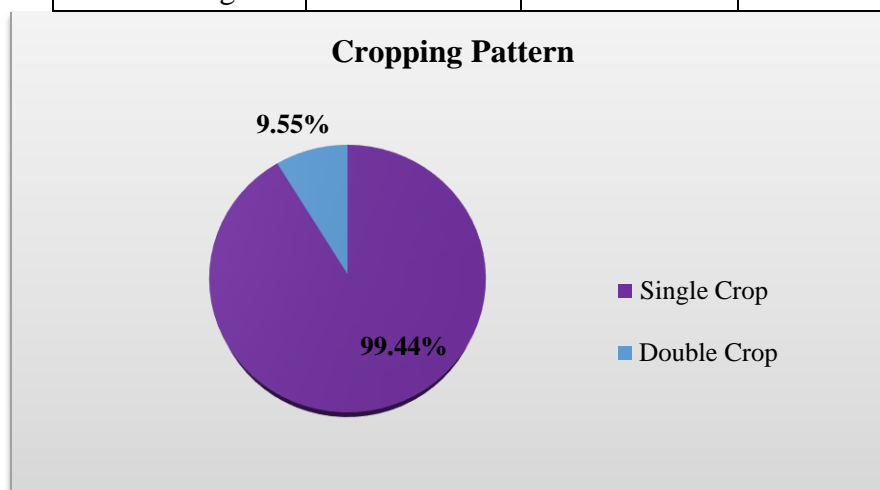
Sr. No.	Dug-well	pond	Drip irrigation	canal
No. of farmers	7	25	5	47
Percentage	8.43%	28.91%	6.02%	56.62%



In the survey of kasvi village largest farmers (56.62%) uses Itiadoh project water for irrigation purpose whereas drip irrigation is used by very few farmers (6.02%) and tube well & sprinkler has no use for irrigation in kasvi village.

6) Single & double cropping pattern

Sr. No.	Single crop	double crop	total
No. of farmers	113	13	128
Percentage	90.44%	9.55%	100%

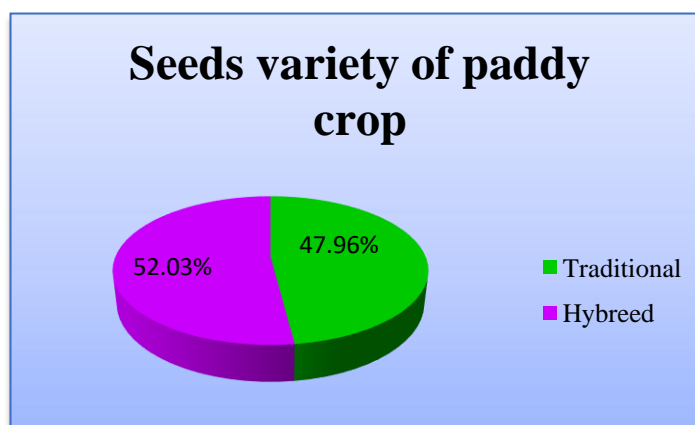


From the survey of kasvi village regarding cropping pattern 90.44% farmer used single crop and only 9% farmer uses double crop.

7) Seed variety of paddy crop

Sr. No.	Traditional	Hybreed	Total
No. of farmers	59	64	123
Percentage	47.96%	52.03%	100%

In survey of seed variety of paddy crop 47.96% farmer used traditional seed prepared by them whereas 52.03% farmer used hybrid variety in cultivation.



8) Traditional seed variety used by kasvi farmers

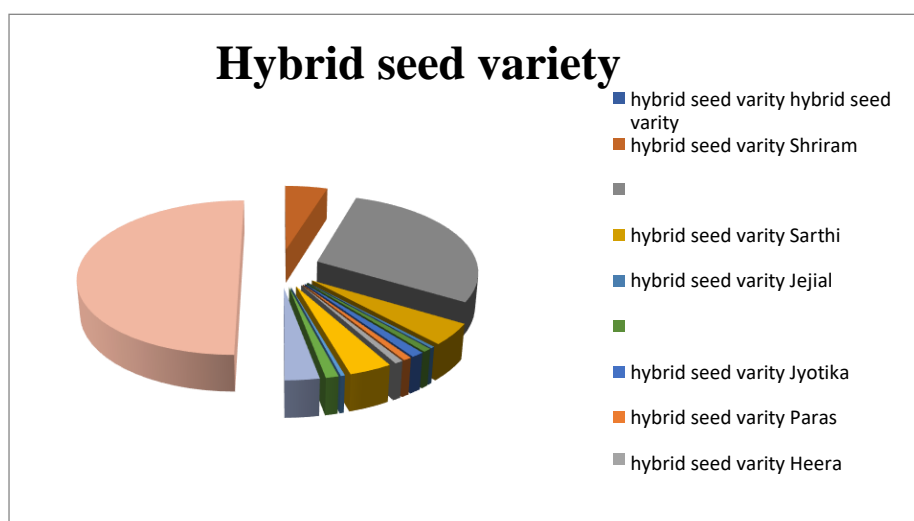
Sr. No.	Shriram	R. P. N.	Sarathi	Jejial	HMT	Jyotika	Paras	Heera	1010	Kesar	Suvarna	Ramu	Total
No. of farmers	17	88	21	2	1	4	1	3	17	1	5	7	167
Percentage	10.17%	52.69	12.57%	1.19%	0.59%	2.39%	0.59%	1.79%	10.17%	0.59%	2.99%	4.99%	100%

Traditional seed variety means those seeds which are cultivated by them & further used in next year for cultivation. In survey of kasvi village with respect to traditional seeds variety 52.69% seed of RPN used by the farmer whereas 0.59% of Paras seed variety are used by kasvi farmers.

9) Hybrid seed variety used by kasvi farmer

Sr. No.	Shriram	R. P. N.	Sarathi	Jejial	HMT	Jyotika	Paras	Heera	1010	Kesar	Suvarna	Ramu	Total
No. of farmers	13	77	12	1	11	3	2	2	10	1	3	9	134
Percentage	9.70%	57.46%	8.95%	0.74%	1.49%	2.23%	1.49%	1.49%	7.46%	0.74%	2.23%	5.97%	100%

Hybrid seed variety means those seeds which are purchased from the market and used for the cultivation. In survey of kasvi village with respect to hybrid seeds variety 57.46% seed of RPN used by the farmer whereas 0.74% Jejial & kesar seed variety are used by kasvi farmers.



10) Secondary crops in addition to paddy crop

Sr. No.	Tur	Popat	Ground nut	vegetable	Udid	Cash crops	other	total
No. of farmers	46	13	8	2	3	4	12	88
Percentage	52.27%	14.77%	0.89%	2.27%	3.40%	4.54%	13.63%	100 %

During survey of kasvi village it is observed that in addition to paddy crop secondary crop used by the farmer is highest in case of tur (pulses) while ground nut only 0.89% are cultivated by kasvi farmer

11) Comparative study of seed variety production per acre

Seed variety	Production/acre	no. of farmer	percentage
Shriram	15	28	23.83%
RPN	21	73	60.83%
1010	18	07	6.66%
HMT	14	03	2.5%
Suvarna	22	08	6.66%

From the survey student observed that RPN seed variety are used by maximum famers (60.83%) because it has highest production rate while HMT seed variety used by small number (2.5%) farmers. Shriram seed variety has frequent demand by the farmers (23.83%).

12) Agriculture Audit of paddy crops:-

Seed variety	Production cost/acre	Farmers no.	percentage
Shriram	10000	35	64.28
RPN	6000	28	25
1010	5000	06	5.35
Suvarna	6000	01	0.89
HMT	12000	05	4.46

Agriculture audit of paddy crop shows that there is maximum investment of money on variety HMT, Shriram as well as production is less whereas RPN is most prefer variety by the farmers. Some farmers used 1010 variety for paddy crop.

13) Traditional & modern equipment used by the farmer

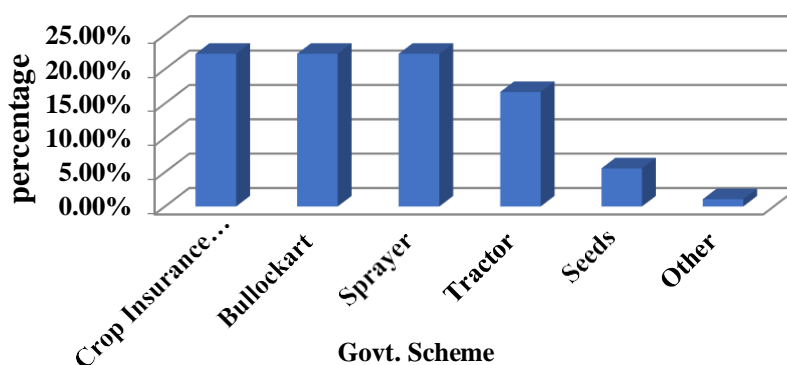
Sr. No.	Traditional	modern equipment	total
No. of farmers	88	88	176
Percentage	50%	50%	100%

With the advancement of modern technology in agriculture 50% farmer used modern equipment whereas 50% farmers used traditional equipment for the cultivation of land.

14) Various government schemes for agriculture

Government Schemes	Crop Insurance Scheme	Bullock art	Sprayer	Tractor	Seeds	Other	Total
Scheme Used By The Farmers	4	4	4	3	1	2	18
percentage	22.22%	22.22%	22.22%	16.66%	5.55%	1.06%	100%

Various Govt. Scheme for Agriculture



Government implementing various scheme in agriculture sector in kasvi 22.22% farmers using crop insurance scheme, bullock art scheme & sprayer scheme whereas 16.66% farmer used tractor and seed scheme of government.

Conclusion:-

Paddy crop is basic crop of kasvi farmers and Variety RPN is most prefer brand of the farmers. There is equal proportion of using both traditional as well as hybrid seed and frequent percentage of the farmer having double crop.





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The traditional and folk knowledge has been appreciated by Gadchiroli District Collector Nayak Sir and assured that PBR will be published and get benefitted for public domain

