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Changes of Cotton Cropping Pattern in Yavatmal District - 2007 to 2018

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Abstract: -

Present paper studies the changes in the cropping pattern of crops in Yavatmal district as case study for the period 2007-2018. The trends in the production of Cereal Crops, Pulses and Cash Crops are observed using mean comparison. These statistical and simple economic ethic exercises support the noticeable change occurred in the cropping pattern in the Yavatmal district during the economic reforms period. The results can be concluded as the production of wheat increased marginally but production of Jawar crops has drastically declined and its place has been taken over by Soybean and Sunflower crops in the recent past. The production of Bajara declined during the same period.

In the category of pluses, the production of Gramhas significantly increased but the production of Tur has not increased at all during the span of 10years. The production of Mung and Udid crops significantly declined during the study period. Theaggregate production of Pluses has also declined. This change is also mater of worry for the government and also public. The price level of pluses has been increasing because o shortfall in the production.

Major Cash crops comprises Sugarcane, Cotton, Sunflower and Soybean. Among these crops production of Cotton and Soybean has been significantly increased during second period 2017-2018. However the production of sugarcane has been suffered but not significantly. Another noticeable change is that the production of Sunflower crop has been declined. In the cashcrops, the production of Cotton and Soybean were scaled up due to the use of BT Cotton seeds and betters up port prices declared to both crops by government. The overall production trends in the cereal are acause of concern for the government in particular and public in general.

Key words: - The effect of global warming & climate change on agriculture, Climatic condition of cotton crop & Climatic condition of Yavatmal District, cropping pattern, Agriculture productivity

Study area:-

Yavatmal district lies in the South-Western part of the Wardha Penganga -Waingangā plain. The district lies between 19°.26' and 20°.42' north latitudes and 77°.18' and 79°.9' east longitudes. It is surrounded by Amravati and Wardha district to the north. Chandrapur district to the east. Andhra Pradesh State and Nanded district to the south and Parbhani and Akola district. Yavatmal District occupies an area of approximately 13584 square kilometers. And Yavatmal District population is 2775457. It is 15 th Largest District in the State by population. It is too hot in summer. Yavatmal District summer highest day temperature is in between 33° C to 46° C. Yavatmal District Administrative head quarter is Yavatmal. Cropping Intensity and Rainfall

The changes in cropping in tensity reflect the sensitivity of agricultural activities to agro-biological and socio-economic condition from time to time. Cropping in tensity indexisaration of grosssown area to the net sown area. It measures the extent of landutilization by taking into account the area plantedmore than once. In 2008-09 the cropping intensity actually calculated as 101.6 percent. Yavatmallocated at western plateau and hills regions (XI). Highest rainfall measured in Kelapur, Ghatnanji and Ralegaon 1117 cm., normally rain begins from June 11-17 and fall until October 01-07.

Objective:

- To find out Decrease or increase in cotton area & growth in other crops
- To study the impact of change in temperature and climate on cotton crop.
- To study increase in temperature and variation in rainfall of Yavatmal District.
- To find out new genres of cotton that would be able to face increasing temperature.
- To study the farmer's trend to cultivate various other crops, govt. policy & the impact of geographical factor, climatic changes on cotton cropping pattern.

Methodology: -

The research is based on the secondary data of meteorological department and district gazetteer of Yavatmal District. Agriculture data is used in socio-economic survey & statistical department of Yavatmal District and implementing a general cropping pattern method. Statistical information during 2007 to 2018 is derived from the socio-economic survey of Yavatmal District.

Taluka wise cotton cropping pattern in Yavatmal District: -

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Cropping pattern of 10 crops that were selected for Taluka wise cropping pattern from Yavatmal divided in the division- very high (above -60%), high (40-60%), medium (20-40%), & low (0district are unitarity to the following formula is used for getting cotton cropping pattern.

CP = Ca ÷ N × 100

Cp = cropping $\frac{20\%0}{\text{Formula}} : \quad \text{CP} = \text{Ca} \div \text{N} \times 100$ Cp = cropping pattern

Ca = cotton crop area in study area

N = total cropping area in selected region for study

ralika wise cotton cropping pattern in Yavatmal district- 2007& 2018

Talu		2007& 2018						
	Taluka's	Year 2007 - 2008		Year 2017 - 2018				
sr.		Total area under crops	Area under cotton crop	cotton cropping pattern	Total area under crops	Area under cotton crop	cotton cropping pattern	
_	Ner	59054	24004	40.64	62131	16260		
	Babhulgaon	45417	16850	37.10	66418	16360	26.33	
<u>2</u>	Kalamb	49227	20383	41.40	63993	15145	22.80	
3	Yavatmal	62216	22374	35.96		25268	39.48	
<u>4</u> 5	Darwha	68662	30884	44.97	81559	27282	33.45	
	Digras	40064	15914	39.72	83328	41814	50.18	
$\frac{6}{7}$	Pusad	80398	32844	40.85	58738	17480	29.75	
8	Umarkhed	73323	16922	23.07	101832	25223	24.76	
<u>0</u>	Mahagaon	57850	26213	45.31	99910	18500	18.51	
10	Aarni	57291	27643	48.25	96117	31052	32.30	
11	Ghatanji	59562	34939	58.65	57988	34226	59.02	
	Kelapur	51463	27448	53.33	77536	42123	54.32	
12	Ralegaon	56464	27225		62375	37894	60.75	
13	Maregaon	44071	23075	48.21	76915	40780	53.01	
14	Zari-jamni	43879		52.35	52542	24260	46.17	
15		60271	20100	45.80	53007	27496	51.87	
16	Wani		35010	58.08	71214	47099	66.13	
	Total	909212	401828	44.19	1165603	472002	40.49	

Source: District Socio - Economic Survey, Yavatmal District. 2006-2007, 2017-2018

A comparative study of cropping pattern has been carried out between the crop year 2007 and 2018 in the Yavatmal District. During 2007 high cropping pattern area was (40 - 60%) in Ner, Kalam, Darwha, Pusad, Mahagaon, Aarni, Ghatanji, Kelapur, Maregaon, Zari-jamni, Wani Talukas. There was a medium cropping pattern (20 - 40%) of cotton seen in talukas like Babhulgaon, Yavatmal, Digras, and Umarkhed. The lowest cotton cropping pattern (0-20%) was not seen in Yavatmal District. According to the study ofthe cottoncropping pattern of the Yavatmal district seems that during the year 2007 cotton cropping pattern was highly concentrate in 11 talukas and other five talukas comes in medium

During the year 2017-18 the Very high (above -60%) cotton cropping area comes underWani and Ghatanjitaluka and the highcropping pattern (40 - 60%) rang was seen inDarwha, Aarni, Kelapur, Ralegaon, Maregaon, Zari-jamni, Talukas and the medium range (20 - 40%) cropping pattern seems in Ner, Babhulgaon, Kalamb, Yavatmal, Digras, Pusad, Mahagaon Talukas .Umarkhed was the single taluka comes in (0-20%) lowest cotton cropping pattern Rang during this year.

As per the comparative studyof both study years it seen that the cropping pattern of cotton was dramatically changed. In 2007 Ner, Babhulgaon, Kalamb, Yavatmal, Digras, Pusad, Mahagaon Talukas comes near 40% cotton crop concentrated area rang but in 2018 these talukas cotton concentration area continuously decaling and other handDarwha, Aarni, Ghatanji, Kelapur, Ralegaon, Zari-jamni and Wani talukas cotton concentrated area group above 50% rang than the year 2007.

Conclusion: -

1. In Yavatmal district cotton crop area seems to have been replaced by total oilseed (soybean, sunflower, groundnut & safflower etc.) crop in year 2018 compared to year 2007.

- *Challenges of Higher Education in India a Court of 16 talukas in Yavatmal district but the
- proportion will change in 2018

 3. In 2007 not a single taluka was come under very high (above -60%) cotton crop rang but the situation
- will change in 2018 and the Wani and Ghatanji talukas comes under this rang.
- will change in 2018 and the Wani and Ghatanji talukas comes under any will change the oilseeds area increase 4. In the Year 2017-18 cotton cropping pattern area show a significant change the oilseeds area increase
- instead of cotton crop area.

 5. There results can be concluded as the production of wheat increased marginally but production of Jawar.

 5. There results can be concluded as the production of wheat increased marginally but production of Jawar. 5. There results can be concluded as the production of Wilcar in South and Sunflower crops in the crops has drastically declined and its place has been taken over by Soybean and Sunflower crops in the
- 6. The production of ajara declined during the same period. 6. The production of ajara declined during the same period.

 7. Major Cash crop comprises Sugarcane, Cotton, and Sunflower andSoybean. Among these erops.

 1. Major Cash crop comprises Sugarcane, cotton, and Sunflower andSoybean. Among these erops.
- Major Cash crop comprises Sugarcane, Cotton, and Cotton and Soybean has been significantly increased during second period 2017-2018
 Supflower crop has been declined. In the control of Supflower crop has been declined. In the control of Supflower crop has been declined. production of Cotton and Soybean has been significantly lower crop has been declined. In the casherops, 8. Another noticeable change is that the production of Sunflower crop has been declined. In the casherops, 8. Another noticeable change is that the production of Santon use of BT Cotton seeds and better support the production of Cotton and Soybean were scaled updue to the use of BT Cotton seeds and better support prices declared to both crops by government.
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