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rural areas. Innovations in infrastructure financing are essential for mobilizing capital, unlocking investment opportunities, and accelerating infrastructure development. Such innovative financing solutions are bound to play a crucial role in addressing infrastructure gaps, promoting sustainable development, and building resilient and inclusive infrastructure systems for the future.

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Cropping Pattern in Krishna River Basin of Palus Tahsil, Maharashtra

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Abstract:

This article is about Cropping Pattern & major crops along Krishna River in Palus Taluka. Sugarcane is an important and major crop. Fertile land required for sugarcane crop, perennial water, modern technology, proper transportation facilities, large scale use of chemical fertilizers, capital and sugarcane processing industries are concentrated here. Due to all these factors, per hectare and per capita production and yield of sugarcane in Krishna riverside area of Palus Taluka is good. Also, along with sugarcane, groundnut, soybean, wheat, maize, and gram are grown in this area to a lesser or greater extent. The Krishna riverside areas of Palus Taluka are intensively cultivated and many people have been provided employment due to the sugar factory, which is why the farmers of Krishna riverside of Palus Taluka are known as prosperous farmers.

Keyword: Cropping Pattern, Major Crop, Crop concentration, Agriculture, River Basin

Introductions:

Geographers have employed the location quotient method to assess the degree of crop concentration in specific regions, offering insights into crop spatial distribution and diversity. Understanding crop concentration and

diversification aids in effective agricultural land use planning, which is crucial for optimizing productivity and economic sustainability. Notable contributions from geographers such as Florence, Chisholm, Bhatia, and Singh have paved the way for methodologies like the quotient method to delineate agricultural regions. Essentially, cropping pattern signifies the allocation of land to different crops at any given time, which evolves in response to changing needs and is influenced by natural and human factors.

Methodology –

This Research Paper is studied on the basis of data from two secondary sources, namely the Palus Taluka Handbook of Statistics and the Chief Planning Officer of Sangli District. To determine crop concentration for selected crops in the study area, Bhatia's (1965) location quotient method was used. Crop diversity was calculated using the same method and crop rankings were analyzed based on simple statistical methods such as percentages and averages. Crop intensity was calculated by dividing the cross-crop area by the net sown area.

The present study is descriptive; Data for this study was obtained from secondary sources. The secondary is compiled from various references that already exist in published form; Part of the research is based on literature review which includes collecting all available papers related to them and selecting relevant papers/books for the purpose of review. Papers are selected based on their relevance and contribution to the body of knowledge. Primary and secondary data collected from various articles, thesis, books, newspapers and internet related to Problems of Sugarcane Farmers.

OBJECTIVE OF THE STUDY:

The present study is directed to the following main objectives

- 1) To study the Cropping Pattern in Krishna river bank of Palus Tahsil
- 2) To study the Major crop in Krishna

river basin of Palus Tahsil

- 3) To study the Crop concentration in Krishna river basin of Palus Tahsil

CONTENT:

Important cropping Pattern in Krishna River Basin of Palus Tahsil:

1) Sugarcane – Groundnut:

Sugarcane – Groundnut Palus Taluka covers about 16210 hectares of sugarcane which is 44% of the total cultivated area. Sugarcane-wheat is the most important crop sequence in sugarcane belt. The major problem in Palus Taluka is that the crop productivity of sugarcane and groundnut is very low in areas with high rainfall.

2) Sugarcane - Soybeans:

Sugarcane-soybean cropping system has emerged as an important cropping system only after 1980s and soybean is known as kharif crop in sugarcane growing areas of the country especially under irrigated ecosystems. Recent introduction of soybean as a crop, limited genetic diversity, short growing season available in Indian latitudes, availability of inputs at field level, rainfed nature of the crop and water deficit at critical stages of plant growth, insect pests and diseases, quality. Improvement problem, inadequate mechanization and partial adoption of technology by farmers have created constraints limiting soybean production and productivity. This cropping system is also viable when water is available for irrigation in winter.

3) Sugarcane – Wheat:

About 16080 hectares of sugarcane is cultivated in Palus Taluka which is 18% of the total cultivated area. Sugarcane-wheat is the second most important crop sequence in the sugarcane belt. The system is gaining importance in sugarcane producing districts like Ahmednagar, Kolhapur and Sangli in Maharashtra. Late planting of both crops, imbalanced and inadequate utilization of nutrients, low nitrogen use efficiency in sugarcane and low productivity of ratoon crop

are major problems in sugarcane - wheat system.

4) Legume based cropping systems:

Pulses and oilseed crops are popular for their utility in various cropping systems. Recent progress in the development of a large number of varieties of pulses and oilseeds, varying widely for maturity period, has made it possible to include them in the sequence of irrigated crops. Major problems with regard to pulse production constraints are lack of technological advancement, water logging of pulses, high susceptibility to diseases and pests, low harvest index, flower drop, erratic growth habit and very low response to fertilizers and water. Legume - based cropping systems.

5) Horticultural Crops:

Productivity of fruit and vegetable crops in the country is low as compared to developed countries. Information on cropping patterns of horticultural crops especially vegetables and tuber crops are not collected and readily available. Low productivity is a major feature of vegetable production in India. Predominance of hybrid varieties and protected cultivation are mainly responsible for high productivity in developed countries. Maharashtra is located in the central tropical zone of vegetable growing with lack of production planning, non-availability of seeds of improved varieties, high cost of inputs, Productivity levels are low due to inadequate plant protection, weak marketing and post-harvest losses. Vegetable crops can be incorporated into various cropping systems by removing major constraints to their production.

Table 1: Mandal wise Crop Concentration in Krishna river basin of Palus Tahsil (Area in Hector)

Sr.No	Mandal	Sugar cane	Maize	Groundnut	Soybeans	Gram	Wheat
1	Analkhop	1038	12	235	770	250	310
2	Palus	1471	131	1202	1268	670	80
3	Kundal	501	81	675	650	70	50
4	Bhilwadi	1230	35	574	1312	400	150

Major Crops in Krishna River Basin of Palus Tahsil

1) Sugarcane –

The study found that sugarcane cultivation covers a total area of 14460 hectares, which is 67% of the total cultivated area in the basin. There are total four mandals in Palus taluka out of which three mandals have high sugarcane crops while one mandal has moderate amount. The north-eastern mandals of the valley have significantly less sugarcane crops, while Palus, Bhilwadi and Kundal mandals have the highest sugarcane area and production. Peak concentrations are illustrated in Table 1.

2) Soybeans -

The study found that soybean cultivation covers a total area of 4500 hectares, which is 19% of the total cultivated area in the basin. Palus taluk has total four mandals out of which two mandals have high amount of soybean crops while one mandal has moderate amount. The remaining one circle has a lower proportion. The southern mandals of the valley have a significantly lower soybean crop, while the Bhilwadi and Palus mandals have higher soybean production. Peak concentrations are illustrated in Table 2.

3) Gram -

The study found that gram cultivation covers a total area of 2350 hectares, which is 9% of the total cultivated area in the basin. There are total four mandals in Palus taluk out of which one mandal has high amount of gram crops while two mandals have moderate amount. The remaining one circle has a lower proportion. North mandals of the valley have significantly less gram production, while Palus and Bhilwadi mandals have high production of gram. Peak concentrations are illustrated in Table 2.

4) Groundnut -

The study found that groundnut cultivation covers a total area of 1,520 hectares, which is 6% of the total cultivated area in the basin. There are total four mandals in Palus taluk out of which one mandal has high amount of groundnut crops while three mandals have moderate amount. Groundnut crops are

significantly higher in the northern and northeastern circles of the valley; crop concentration is illustrated in Table 2.

5) Maize -

The study found that maize cultivation covers a total area of 405 hectares, which is 1.89% of the total cultivated area in the basin. There are total four mandals in Palus taluk out of which one Mandal has more maize crops, while one Mandal has medium amount and one Mandal has very low amount of crop. The southern and southeastern circles of the basin have significantly less maize crops, crop concentration is illustrated in Table 2.

6) Wheat -

The study found that wheat cultivation covers a total area of 1,620 hectares, which is 5.5% of the total cultivated area in the basin. There are total four mandals in Palus Taluka out of which one Mandal has moderate amount of wheat crop while three mandals have less amount. The North and North - Eastern circles of the valley have a significantly higher proportion of wheat crops; the crop concentration is illustrated in Table 2.

Table 2: Mandal / Year wise crop concentration in Krishna river basin of Palus Tahsil. (area In Hector)

Sr.No	Mandal	Crop	2016	2018	2020	2022
1	Bhilwadi	Sugar cane	1139	1230	1135	1168
		Maize	100	90	75	80
		Groundnut	615	450	478	510
		Soybeans	1200	1845	1208	1194
		gram	415	350	345	390
		Wheat	120	115	100	120
2	Ankalkhop	Sugar cane	950	1035	890	1020
		Maize	46	50	35	40
		Groundnut	170	240	220	210
		Soybeans	450	416	250	360
		gram	200	225	234	201
		Wheat	275	274	270	265.6
3	Palus	Sugar cane	1046	1471	1063	1193
		Maize	164	131	100	124
		Groundnut	1135	1000	960	1024
		Soybeans	1542	2831	1137	1553
		gram	550	610	590	570
		Wheat	110	112	105	104
4	Kundal	Sugar cane	1339	1200	959	920
		Maize	84	43	39	55
		Groundnut	705	330	393	476
		Soybeans	1022	1045	584	756
		gram	85	80	75	80
		Wheat	55	65	60	55

From the above table 2 it can be seen that after the circle wise study of Krishna river basin in Palus Taluka it is noticed that in Krishna river basin sugarcane is mainly cultivated as a cash crop. At the same time, other crops like soybeans, maize, groundnuts, pulses, wheat and gram are grown to a lesser extent. Crop patterns and cropping systems found in the Krishna River basin have not been discussed in any way.

In order to maintain the soil fertility in the river basin, mainly small amount of crop formation is done but permanent cropping pattern and cropping system are not done.

This research showed that the Krishna river basin is the leader in development not only in Maharashtra but also in the country because sugarcane as a crop has improved the living conditions of the people and because sugarcane is the raw material, more sugar factories have been located in this area. The per capita and per hectare yield of sugarcane in this area is higher in Sangli district.

CONCLUSION:

A comprehensive analysis of agricultural landscapes in the Krishna River basin reveals a complex interrelationship of factors affecting crop concentration, diversification and crop intensity. Palus Taluka is spread over a vast area of 27446 hectares and the valley has a variety of crops including pulses like Sugarcane rice, Groundnut, Soybeans along with gram, as well as cash crops like chilli, groundnut, and sugarcane. Spatial distribution patterns highlight regional concentration, with certain crops showing high proportions in certain circles, particularly for maize, soybean and groundnut in the north and central regions, and for sugarcane in the north, north-west and north-east, while significant changes in crop diversification are observed.

There is no mention of any method of crop formation in the Krishna river basin. The peak format is the same. Sugarcane is a cash crop grown on a large scale. Along with this, a

lot is done about the crop to increase the productivity. Because to increase the productive capacity of the land.

These concentration patterns reflect a combination of ecological, socio - economic and historical factors, emphasizing the importance of understanding regional agricultural dynamics for making informed decisions for agricultural planning, resource allocation and policy making in the Krishna River basin.

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An Analytical Study of Assessing Employment Opportunities in the Dairy Business with Special Reference to Haroli Village of Kolhapur District

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Abstract –

This study studies the socio-economic conditions of rural dairy workers in Haroli Village, with a focus on employment opportunities, income disparities, and the influence of different dairy business. Data were collected from 156 respondents involved in rural dairy activities and analyzed using descriptive statistics and cross-tabulation. A Chi-square test was conducted to evaluate the association between the role in the dairy business and average monthly income. Although the Pearson Chi-square test indicated no statistically significant association ($p = 0.098$) at the 0.05 level, the findings highlight the diversity in operational scales and reveal challenges such as low wages, seasonal employment instability, and partial skill development. These results highlights the need for enhanced government support and infrastructural improvements to foster sustainable economic development in rural dairy entrepreneurship.

Keywords: Dairy Industry, Rural Employment, Socio-Economic Conditions, Income Variation, Dairy Business Models, Chi-Square Test, Dairy Entrepreneurship

Introduction -

The dairy industry is a keystone of rural economies, which providing vital employment opportunities, ensuring nutritional security, and



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