

CHAPTER – II

REVIEW OF LITERATURE

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1. In this chapter, an attempt is made to review the findings of the earlier studies related to rice cultivation prevention in the country. In this respect, **C. C. Maji**¹ in this paper sought to examine the functional relationship between of fertilizer, water, labour and plant protection devices and crop output. He estimated the marginal products of each of these inputs in aman rice and jute in West Bengal. In the study it was observed that there was a higher marginal productivity of irrigation which suggested economic opportunity for increased use of water in jute and aman rice and further scope for integrated development of major medium and minor irrigation work. Moreover, he pointed out that the farmers were not efficient in investing their available funds in variable resources. He emphasized that large portion of the investment should be diverted from the production of jute to aman rice under the prices of inputs and outputs that prevailed during 1966-67.

2. **V. N. Misra**² examined the economics of fertilizer use in a predominantly paddy growing area, in Dinara block of Shahabad District in Bihar. It was observed that the composition of marginal returns with their cost revealed that there did not appear too much difference in the efficiency of resources between users and non-users of fertilizer. He emphasized that the use of fertilizer assumed a crucial role in obtaining a higher level of gross income. However, on an average the cultivators were using fertilizers in far smaller quantity than the optimum because of the low risk bearing capacity of the farmers availability of limited capital and poor knowledge about the possibilities of fertilizer use for attaining higher level of production.

3. **Parmatma Singh** and **D. D. Gupta**³ in their study pointed out that the average input, output returns of crop were very low in the dry farming areas with the result that the economic conditions of the farmers remained very precarious in Mohindergarh District. Moreover, the farmers in this area were aware of the technological advance, made in the field of agricultural and they were adopting it on a wider scale in wheat and to some extent in basra.

4. An attempt was made by **A. S. Sirohi** and **B. S. Sharma**⁴ to examine the role of optimal farm planning in increasing or maintaining agricultural production of farm returns under fertilizer constraints. They observed from the study that the resource optimization and multiple cropping increased the farm returns on small farms by 68 percent, whereas the decrease in returns due to reduction in the supply of fertilizer was only 10 percent leaving a net positive effect of 58 percent increase in farm returns. About the medium farm a net positive effect of 44 percent increase in farm returns and on the large farms, it was 29 percent. Moreover, they pointed out that the positive effect of resources optimization and multiple cropping was several times greater than the absolute negative effect of reduction of fertilizer on farm returns.

5. **J. Lal**, **L. R. Singh** and **R. V. Singh**⁵ in their study, made an attempt to examine the cropping pattern, crop yields and resources productivity on sample farms operating at different levels of farm mechanization in Meerut District of Western Uttar Pradesh. It was observed that the yield of the important crop showed a positive trend on the mechanized farms because of the timely accomplishment of tillage operations, more number of irrigations and higher use of fertilizer per acre. About the expenditure on fertilizer and manure they found that, it was highest on the mechanized farms and also the per acre expenditure on

irrigation was found to be high on mechanized farms as against the bullock farms which reflected a higher level of use of these two points on the mechanized farms. They pointed out that the marginal value productivity of land was quite high on all the three categories of farms and reflected an increasing trend with the level of mechanization.

6. **C. G. Ranade**⁶, examined the effect of cropping pattern, fertilizer and irrigation on agricultural output per hectare across 54 agro-climatic regions covering 16 major states during the pre-green revolution period from 1960 to 1965 and then for the post green revolution period. He observed that, the correlation co-efficient between the cropping pattern, fertilizer and irrigation was not higher than 0.4 in the two periods. Thus, growing high value crop did not necessarily have high fertilizer use and more irrigation. The regression results showed that the higher the cropping pattern index, the higher will be the agricultural productivity. Lastly, he pointed out that the marginal change in the cropping pattern in a region could increase agricultural productivity significantly even if fertilizer and irrigation use remain unchanged.

7. **R. K. Pandey and Shanti Swarup**⁷ analyzed the changes in the distribution pattern of land holdings. In the study, it was observed that there was an increase in the number of holdings in all the states and over the years. The availability of land for cultivation on an average has declined on each holding. The marginal small holding size contributed significantly to the higher cereal productivity.

8. **Ushaben Sharma**⁸ attempted to measure the contribution of HYV's for output, yield and area during 1951-52 to 1977-78 in Gujrat State. In the study, she observed the contribution of HYV's to output

yield and area for wheat was remarkably higher as compared to other cereal crops.

9. **C. Ramasamy P. Paramsiram and Otsuka**⁹ examined the factors which determine the rate of adoption of modern varieties and their effects on fertilizer use rice cropping intensity and adoption of labour saving technologies across the different rice production environments in the District of Tamil Nadu. In this study, it was observed that the adoption of modern varieties has increased yield and helped to crop intensification, which raised the demand for human, and bullock labour. Moreover, the farm size, tenure, social and institutional factors did not significantly affect the adoption of modern varieties and increase in fertilizer use. The adoption of modern varieties did not bear any significant relationship with adoption of tractor technology. However, irrigation significantly affected the tractor adoption. Hence, they argued that the adoption of modern varieties has helped to increase rice cropping intensity in favourable areas, thereby expanded the employment prospects. Moreover, irrigation was an important determinant of modern varieties and fertilizer adoption.

10. **Joybed Sasmal**¹⁰ in this study estimated production function of HYV Paddy in District Midnapur of West Bengal. It was observed that the marginal effect of inputs on mean output and variance of output were independent i.e. an input which has positive marginal effect on mean production did not necessarily have similar effect on the risk of production. The inputs like fertilizer, pesticide and labour had significant impact on mean output of HYV paddy both in the rainy and dry seasons, fertilizers become more effective in raising mean output especially in dry season, whereas the quality of seed had important effect on mean output particularly in rainy season.

11. **Kailas Sarap and D.C.Vashistha**¹¹ analyzed the characteristics of farm households, the degree of adoption of modern varieties and the intensity of adoption of modern varieties in Sambalpur District of Orissa. In the study, they found that the indicators of adoption i.e. adoption rate, degree of adoption and intensity of adoption significantly were influenced by credit borrowing and farm size. It was noticed in the study that the diffusion of modern technology improved through the provision of adequate credit on time in the Kharif Season.

12. **D.Neena**¹² made an attempt to analyse the changes in cropping pattern in various states during 1970-71 to 1993-94. The study shows favourable shifts in cropping pattern in almost all states. They are more prominent in case of developed states Andhra Pradesh, Gujrat, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan, Tamil-Nadu and Uttar Pradesh have relatively diversified cropping patterns. But the states like Arunachal Pradesh, Nagaland, Punjab, Orissa, Tripura and West Bengal have cropping patterns which are concentrated around few crops.

13. **Subrahmanyam and Sekhar (2003), Rao & Dev (2003)**¹³, earlier argued that Andhra Pradesh has lost its competitiveness in rice production due to higher cost of rice production in comparison to other rice producing states like Punjab and Uttar Pradesh. The comparative analysis of production level among major rice producing state of India indicates that the production volumes of rice in West Bengal and Uttar Pradesh are higher than that of Andhra Pradesh. The rice yield rates in the state although indicated modest increase in recent times, it remained below the level of Punjab. The comparison of cost of cultivation showed that cost of producing paddy remained high in the state of Andhra Pradesh, Haryana and Tamil-Nadu, however, the cost of paddy

cultivation in Andhra Pradesh remained substantially higher as compared to other rice producing state, viz. Punjab, Uttar Pradesh, West Bengal, Assam & Haryana. The analysis based on the broader definitions of cost of cultivation that includes cost of leading land, capital input or family labour does not change the assertion.

14. **Parshuram Samal and Sushil Pandey**¹⁴ examined that effect of male labour migration in rainfed rice based farming systems in the case of coastal Orissa. The specific objectives of the paper were to analyse the pattern of employment and income diversification among the farmers in two rainfed districts, Balasore and Kendrapara of Coastal Orissa, to study the migration pattern among different categories of farm and to identify the sources contributing to inequality in income among farming community. The hypothesis considered for the study was that significant amount of total family income of farmers comes from migrant workers in rainfed areas. The contribution of different sectors of the economy to total net state domestic product has undergone significant changes during the period 1950-51 to 2008-09 in Orissa. Creation of more non-farm employment opportunities in the study area, development of tube well irrigation and rice varieties will help in increasing and stabilizing the income of farmers in coastal Orissa and reduce migration.

The research study referred to above are related to the rice and jute farming the different states of the country. The research on Ghansal variety of rice is in the initial stage barring sporadic works going on. The Ghansal variety of rice is well known for its aroma tests, and flavour, are appearance. If improved varieties of Ghansal rice developed and an efficient network of marketing are created Ghansal rice can compete with Basmati rice. Grown unlarge scale in north india and exported in huge quantity.

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