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CONSTRAINTS FACED BY FARMERS IN ADOPTION OF INTEGRATED FARMING SYSTEM IN VINDHYAN PLATEAU OF MADHYA PRADESH

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Abstract

Agriculture in India has a long history dating back to nearly ten thousand years. In ancient times, farming means not just for food production or income generation but it was a source for community development. Agriculture is not only the main source of livelihood but also a tradition and the most common way of life. It has been enjoying since times immemorial a place of pride in our economic and social life. Indian agriculture has accountability of providing national as well as household food and nutritional security to its spilling over millions. However, in the course of development agriculture, the means of livelihood of almost two-thirds of the work force in the country has been revolutionized by the *Green Revolution*. That has also changed India's status from a starving nation to one of the world's leading agricultural nation. Though, the green revolution proved a boon for hungry India, it has created severe consequences on our ecosystem and its sustainability.

Keywords **:** Green revolution, Integrated farming, Vindhyan Plateau

Introduction

Agriculture has a large potential to contribute to the national income while at the same time provide direct employment and income to the numerically larger and vulnerable sections of the society and to increase the exports to earn the much needed foreign exchange. Agriculture continues to hold the key to the progress of the country. Agriculture has also importance due to that it produces raw material for the industries. Some of the biggest industries, e.g., cotton, jute and sugar for their raw materials, depend on agriculture. Again, agriculture provides the bulk of the demand or the main market for industrial goods. Therefore, for food and clothing, the two primary necessaries of life, we have to depend on cultivation, It is serious challenge for agriculture planner that the Indian farmers poses a serious problem that majority of them are have dry lands, which depend on erratic monsoon rains. The farmers concentrate mainly on crop production, which is invariably subjected to a high degree of uncertainty in income and employment.

So as to relieve dangers and vulnerabilities of salary from harvest endeavors and to diminish the time slack among venture and returns, it is fundamental that the ranchers incorporate such of those enterprises in their production programme that yield regular and evenly distributed income throughout the year and are not subjected to vagaries of nature. Further the income from farming alone is hardly sufficient to sustain the farmer's family and therefore the farmers are to be assured of a regular income by adopting other allied enterprises which will complement their cropping activity. The adoption of enterprise must be based on the principle of minimizing the competition and maximizing the complementarities among the enterprises.

Agriculture in Madhya Pradesh is also characterized among other things, by the problem of wide year-to-year fluctuation in production and hence, the farm income also varies. The absence of assured irrigation in most of the areas of the state and lack of appropriate technology for dry land and drought prone areas further compound the problem. The low crop yield and high year-to-year variations continue to be a major problem in the state. Further the variation in fertility status of soils is quite high and so is the vegetative cover across the agro-climatic zones.

In the economic point of view the importance of farming system can be determine that agriculture, as in any other business, the efficiency is achieved by an optimum utilization of resources. Resources include land, labour, capital, irrigation facilities etc. Optimum allocation of land and other resources is defined as what crops to undertake, how much land to allocate to each crop activity and what method and combination of inputs to use for each crop so that the farm returns are maximum. In a traditional agriculture, little allocative inefficiency is reported. Increasing cost of farm inputs and decreasing profitability of production of farm commodities has been making, agriculture a loosing proposition. In view of this, it is necessary that the available inputs should be used economically and efficiently. The efficiency of farming depends on such combination of resources that is most economical to secure a given output. The relation between the money value of outputs and inputs is thus a measure of efficiency. The higher the output per unit of input, the greater is the efficiency of a given resource and conversely, the greater the efficiency of resources, the greater would be the output. The maximization of efficiency is therefore a condition for the maximization of income.

Materials and Methods

The present study confined to Vindhyan Plateau agro-climatic region of Madhya Pradesh. There are seven districts comes under Vindhyan Plateau i.e. Bhopal, Sagar, Damoh, Vidisha, Raisen, Sehore and Guna. the present study is mainly related with Integrated Farming System, hence, all consideration in selection of area and respondents was given weightage in respect to adoption of Integrated Farming System in study area. In this context 3 districts in Vindhyan Plateau has been selected randomly which are friendlier to adopt Integrated Farming System. In selection process out of seven districts in Vindhyan Plateau, 3 selected districts Bhopal, Vidisha and Sehore. Bhopal district comprises of 2 development blocks namely Berasia and Phanda. The Vidisha district comprises of 10 development blocks namely

Vidisha, Ganjbasoda, Gulabganj, Gyaraspur, Kurwai, Lateri, Nateran Shamshabad, Sironj and Tyonda. On, the other hand, the Sehore district is comprises of 5 blocks, namely Astha, Budni, Ichhawar, Nasurallaganj and Sehore. One block from each selected district has been selected on the basis of adoption of Integrated Farming System prevailed in the area. For economic analysis cost concept and profitability concepts have been used, on the other hand, Cobb-Douglus production functions was used to find out the resource productivity.

Results and Discussion

It was observed during study survey that all the selected farmers were not adopted integrated farming system at farm level. Only few farmers were found to adopt vegetable cultivation, dairy production and poultry production along with crop production. The non adoption of Integrated Farming System at overall farm level in general could be due to various reasons. Some of the constraints faced by farmers had been presented in Table 1. The constraints analysis was reported based on the opinion survey of the sample farmers.

As per the farmers opinion overall (54.44%) farmers were faced problems in integrated farming system in different extent. The total constraints had been divided into 5 sub parts. The main constraint confronted by farmers were "financial constraints" rank Ist followed by "marketing constraints" (rank IInd), "situational constraints" (rank IIIrd), "production constraints" (rank IVth) and "extension constraints" (rank Vth) respectively.

Among the "financial constraints", the important constrains was "lack of required finance" confronted by higher percentage of farmers (83.33%) followed by "high cost of input" reported by (77.78%), "high cost of production" reported by (75.00%), "non availability of subsidy credit in time" reported by (58.33%), "high rate of interest on borrowings" reported by (55.56%), "loan disbursement procedure is cumbersome" reported by (38.89%) and "lack of timely availability of credit" reported by (27.78%) respectively.

Among the "marketing constraints", the important constrains was "fluctuations in the prices" confronted by higher percentage of farmers (88.89%) followed by "low price for the produce" reported by (83.33%), "lack of marketing facilities at local level" reported by (75.00%), "lack of exclusive markets" reported by (66.67%), "lack of storage facilities" reported by (55.56%), "problem of transportation" reported by (41.67%), "untimely payment for the produce" reported by (33.33%) and "exploitation by the middleman" reported by (27.78%) respectively.

Among the "situational constraints", the important constrains was "uneven distribution of rainfall" confronted by higher percentage of farmers (88.89%) followed by "inadequate irrigation facilities" reported by (77.78%), "limited and irregular power supply" reported by (55.56%), "non-availability of labour in peak seasons" reported by (50.00%), "lack of custom hiring centers" reported by (44.44%), and "lack of suitable farm implements" reported by (33.33%) respectively.

Among the "production constraints", the important constrains was "non availability of quality seed, planting materials/breeds/species" confronted by higher percentage of farmers (66.67%) followed by "lack of resistant varieties / breeds for various pests and diseases" reported by (58.33%), "lack of appropriate technologies for enhancing production" reported by (55.56%), "lack of knowledge regarding identification of pest and diseases" reported by (44.44%), "lack of knowledge on balanced use of fertilizer" reported by (41.67%), and "lack of the technical knowledge regarding crop harvest" reported by (33.33%) respectively.

In the last regarding "extension constraints", the important constrains was "non availability of clinical services for livestock" confronted by higher percentage of farmers (55.56%) followed by "lack of extension services" reported by (52.78%), "non availability of extension personnel" reported by (47.22%), "lack of capacity building programme" reported by (44.44%), "lack of demonstrations to prove the worthiness of the technology" reported by (41.67%), and "lack of trained extension personnel" reported by (33.33%) respectively.

Null hypothesis VI "The farmers faced no constraints in adoption of integrated farming system" was rejected because most of the farmers faced the problems in prevailing farming system.

Conclusion

As per the farmers opinion overall (54.44%) farmers were faced problems in integrated farming system in different extent. The total constraints had been divided into 5 sub parts. The main constraint confronted by farmers were "financial constraints" rank Ist followed by "marketing constraints" (rank IInd), "situational constraints" (rank IIIrd), "production constraints" (rank IVth) and "extension constraints" (rank Vth) respectively.

Table 1 : Constraints faced by farmers in adoption of Integrated Farming Systems

S.No.	Statements	Frequency (n=180)	% to total	Rank
I	**Production constraints**			
1	Non availability of quality seed, planting materials/breeds/species	120	66.67	i
2	Lack of appropriate technologies for enhancing production	100	55.56	iii
3	Lack of knowledge regarding identification of pest and diseases	80	44.44	iv
4	Lack of the technical knowledge regarding crop harvest	60	33.33	vi
5	Lack of resistant varieties / breeds for various pests and diseases	105	58.33	ii
6	Lack of knowledge on balanced use of fertilizer	75	41.67	v
	Average production constraints	**90**	**50.00**	**IVth**
II	**Situational constraints**			
1	Inadequate irrigation facilities	140	77.78	ii

2	Uneven distribution of rainfall	160	88.89	i
3	Limited and irregular power supply	100	55.56	iii
4	Non-availability of labour in peak seasons	90	50.00	iv
5	Lack of custom hiring centers	80	44.44	v
6	Lack of suitable farm implements	60	33.33	vi
	Average situational constraints	**105**	**58.33**	**IIIrd**
III	**Financial constraints**			
1	Lack of required finance	150	83.33	i
2	Lack of timely availability of credit	50	27.78	vii
3	High rate of interest on borrowings	100	55.56	v
4	Non availability of subsidy credit in time	105	58.33	iv
5	High cost of input	140	77.78	ii
6	High cost of production	135	75.00	iii
7	Loan disbursement procedure is cumbersome	70	38.89	vi
	Average financial constraints	**107**	**59.44**	**Ist**
IV	**Marketing constraints**			
1	Lack of marketing facilities at local level	135	75.00	iii
2	Fluctuations in the prices	160	88.89	i
3	Lack of storage facilities	100	55.56	v
4	Untimely payment for the produce	60	33.33	vii
5	Lack of exclusive markets	120	66.67	iv
6	Problem of transportation	75	41.67	vi
7	Exploitation by the middleman	50	27.78	viii
8	Low price for the produce	150	83.33	ii
	Average marketing constraints	**106**	**58.89**	**IInd**
V.	**Extension constraints**			
1	Lack of extension services	95	52.78	ii
2	Lack of capacity building programme	80	44.44	iv
3	Non availability of clinical services for livestock	100	55.56	i
4	Lack of demonstrations to prove the worthiness of the technology	75	41.67	v
5	Lack of trained extension personnel	60	33.33	vi
6	Non availability of extension personnel	85	47.22	iii
	Average extension constraints	**83**	**46.11**	**Vth**
VI.	**Overall average of all constraints**	**98**	**54.44**	

References

Sanjeev, K.; Singh, S.S. and Shivani, D.A. (2011). Integrated farming systems for Eastern India. Indian J. Agron. 56(4): 297-304.

Sharma,V.P. (2004). Livestock economy in India: current status, emerging issues and long term prospects. Indian Journal of Agricultural Economics. 59: 512-554.

Shwetha, B.M. (2012). Comparative analysis of integrated farming systems practiced by farmers in Mandya District. M.*S*c. (Ag.) Thesis submitted to the University of Agricultural Sciences, Bengaluru.

Sivamurugan, A.P. and Saravanane, P. (2008). Integrated farming systems for sustaining productivity in irrigated uplands. International J. Agric. Sci. 4(2):506-509.

Soni, R.P.; Katoch, M. and Ladohia, R. (2014). Integrated farming systems - A review. IOSR Journal of Agriculture and Veterinary Science. 7(10): 36-42.

Swaminathan, M.S. (1996). Integrated intensive farming systems. Indian Farming. 46(7): 59-60.

Tanveer, A. (2006). An economic analysis of Paddy based farming systems in Southern Karnataka - A case study of Mandya district. Department of Agricultural Economics, University of Agriculture Sciences, Dharwad.

Vani, M. (2005). A study on farming system approach: Socio, psychological and economic dimensions of farming system approach in Chitradurga district of Karnataka state. M.Sc. (Agri.) Thesis (Unpub.), Univ. Agri. Sci., Bangalore.

Varughese, K. and Mathew, T. (2009). Integrated farming systems for sustainability in coastal ecosystem. Indian Journal of Agronomy. 54(2):120-127.

Waghmare, M.N.; Yadav, D.B. and Tilekar, S.N. (2006). Sustainability of agriculture through mixed farming in the scarce region of western Maharashtra. *Agricultural Economics Research Review*. 19:169.

Younus, M.D. (2013). Awareness and perception of integrated farming system by Sc/St farmers. M.Sc. (Ag.) Thesis Submitted To University of Agricultural Sciences, Dharwad, Karnataka, India.