CHARACTERIZATION OF FARMING SYSTEM IN NORTH WEST AGRO CLIMATIC ZONE OF GUJARAT STATE

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ABSTRACT

Several Integrated Farming Systems were observed under rained as well as irrigated situation in Kutch and Patan districts of North West through survey conducted in 144 households through multistage random sampling technique. The study was pertaining the data of the year 2009-10. Besides this, number of constraints were seen which were faced by the farmers to carry out the systems. The highest per cent of peoples are engaged in pulse-oilseed farming system with recording 38.19 per cent whereas, lowest in fruit based with having only 2.78 per cent.

Keywords : *integrated farming systems, production constraints, returns*

INTRODUCTION

Farm economic efficiency is an important factor of productivity and growth, where resources are scarce and opportunities for developing and adopting better technologies have lately started declining. Several researchers have suggested farming system as an approach for meeting the multi objective of poverty reduction, food security, competitiveness and sustainability (Norman 1978; Byerlee *et al.* 1982). The system approach emphasizes the need to view the farm situation as a whole and not in compartmentalized manner. A farming system is the result of complex interactions among a number of interdependent components. To achieve it, a farmer allocates certain quantities and qualities of land, labour, capital and management i.e. the four factors of production to which he has an access. An alternative farming system, which yields not only higher income but also utilizes family labour efficiently, needs to be evolved. Further, the system should help in restoration of ecological balance. The basic aim of integrated/ sustainable farming system is to derive a set of resource development, management and utilization practices that lead to a substantial and sustained increase in agricultural production. Since farming systems differ in different situations such studies should be location specific. (Singh, 1998)

The present study attempts to evaluate the economics and sustainability of different farming systems and to suggest optimum farming system for realizing higher income and ensuring environmental security.

OBEJCTIVE

To know the chracterization of farming system in north west agro climatic zone of Gujarat state

METHODOLOGY

Survey on characterization of farming system was carried out in Kutch and Patan districts of north Gujarat, which falls under 5.2 Agro-ecological Sub Zone. Using the stratified random sampling technique and following the proportional allocation method, 144 farmers belonging to the size groups, based on the size of operational holding viz., marginal (up to 1.00 ha), small (1-2 ha), medium (2-4 ha) and large (above 4 ha) were selected from two districts. The data on socio economic parameters, existing farming system, economics of different enterprises, farm constraints etc. were obtained in pre-tested schedules by personally interviewing the selected farmers.

RESULTS AND DISCUSSION

The survey revealed that out of 144 farmers considered from both the districts the selected farmers according to their land holding were categorized as Marginal farmers (48 nos.), Small farmers (48 nos.), Medium farmers (24 nos.) and Large farmers (24 nos.). The detail information of the selected farmers under study is predicted in Table 1.

Table 1: Information regarding selected farmers of north west agro climatic zone

n=144

District	Taluka	Name of village	Categories of farmers				Total farmers
			Marginal	Small	Medium	Large	
Mehsana	Nakhatrana	Manjal	4	4	2	2	12
		N. Manjal	4	4	2	2	12
		Tara	4	4	2	2	12
	Bhuj	Anandsar	4	4	2	2	12
		Samatra	4	4	2	2	12
		Desalpur	4	4	2	2	12
		Sub total	**24**	**24**	**12**	**12**	**72**
Patan	Harij	Juna Moka	4	4	2	2	12
		Datarwada	4	4	2	2	12
		Boratwada	4	4	2	2	12
	Sami	Tarora	4	4	2	2	12
		Matrota	4	4	2	2	12
		Kathi (Loti)	4	4	2	2	12
		Sub total	**24**	**24**	**12**	**12**	**72**
		Grand Total	**48**	**48**	**24**	**24**	**144**

The distribution of selected farmers under study engaged in various farming system according to their per cent age is depicted in Table 2.

Table 2: Distribution of Farming system in per cent among North Gujarat Agro climatic zone

n=144

Sr. No.	Farming system	Marginal	Small	Medium	Large	Total
1	Cereal based	33.33	08.33	0.0	0.0	13.89
2	Pulse-Oilseed based	35.41	47.92	25.0	37.50	38.20
3	Cotton based	22.92	27.08	29.17	16.67	24.31
4	Fruit based	0.0	0.0	08.33	08.33	02.78
5	Spice based	08.33	16.67	37.50	37.50	20.83

From the above Table 2, it can be seen that 38.20 per cent of the selected farmers were engaged with Pulse-oilseed farming system followed by 24.31 per cent engaged in cotton based farming system. The highest per cent of peoples are having Pulse-oilseed farming system with 38.20 per cent and lowest 2.78 per cent peoples are engaged in fruit based farming system.

The distribution of selected farmers under study engaged in various farming system according to their gross income is depicted in Table 3.

Table 3: Distribution of Farming system according gross income in north west agro climatic zone

n=144

Sr. No.	Farming systems	Source of income						
		PO	LS	CT	SC	CL	SP	VF
1	Cereal based	27.25	20.03	0.0	0.0	52.72	0.0	0.0
2	Pulse-Oilseed based	54.84	04.11	27.49	0.22	05.88	2.14	05.32
3	Cotton based	29.93	08.03	46.29	0.0	08.60	3.52	03.63
4	Fruit based	11.04	02.25	05.07	0.0	00.74	0.0	80.90
5	Spice based	21.56	08.47	08.43	14.45	47.09	0.0	0.0

From the above Table 3, it can be observed that the farmers of cereal farming system are getting highest i.e. 52.72 per cent of gross return from pulse-oilseed and livestock. Similarly, farmers of pulse-oilseed farming system are getting highest return 54.84 per cent from pulse and oilseed cultivation. The farmers engaged in cotton are getting gross return 46.29 per cent followed by pulse-oilseed farming system.

The predominant farming system of north west Agro climatic zone is depicted in Table 4. It can be observed from the table 4 that the predominant farming systems found during study are cereal based, pulse-oilseed based, cotton based, Fruit based and spice based. The highest per cent of peoples are engaged in pulse-oilseed farming system with recording 38.19 per cent whereas, lowest in fruit based with having only 2.78 per cent.

Table 4: Predominant Farming systems in north west agro climatic zone

n=144

Farming systems	Marginal	Small	Medium	Large	All
CL+LS	06.25	02.08	0.0	0.0	02.78
CL+P+LS	27.08	06.25	0.0	0.0	11.11
Cereal based	**33.33**	**08.33**	**0.0**	**0.0**	**13.89**
P+LS	06.25	0.0	0.0	0.0	02.08
P+SP	02.08	02.08	0.0	0.0	01.39
P+CL+LS	0.0	02.08	0.0	0.0	0.69
OS+CT	12.50	02.08	08.33	04.17	06.94
OS+CT+LS	02.08	06.25	04.17	04.17	04.17
OS+CT+CL	08.33	06.25	04.17	04.17	06.25
OS+CT+CL+LS	04.17	20.83	04.17	16.67	11.81
OS+CL+CT+F+LS	0.0	02.08	0.0	08.33	02.08
OS+SP	0.0	06.25	04.17	0.0	02.78
Pule-Oilseed based	**35.42**	**47.92**	**25.00**	**37.50**	**38.19**
CT+OS	16.67	04.17	08.33	0.0	08.33
CT+CL+OS+LS	06.25	10.42	12.50	04.17	08.33
CT+CL+P+LS	0.0	12.50	08.33	04.17	06.25
CT+CL+P+OS+SP+F	0.0	0.0	0.0	08.33	01.39
Cotton based	**22.92**	**27.08**	**29.17**	**16.67**	**24.31**
FT+LS	0.0	0.0	04.17	04.17	01.39
FT+OS	0.0	0.0	04.17	04.17	01.39
Fruit based	**0.0**	**0.0**	**08.33**	**08.33**	**02.78**
SP+CL+LS	08.33	0.0	04.17	04.17	04.17
SP+P	0.0	06.25	04.17	0.0	02.78
SP+CL+P+LS	0.0	06.25	12.50	08.33	05.56
SP+CL+P+CT+LS	0.0	04.17	16.67	25.00	08.33
Spice based	**0.0**	**16.67**	**37.50**	**37.50**	**20.83**

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