

## FARMING SYSTEM BASED BOTTLENECKS IN KANDI AREA OF JAMMU REGION

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### ABSTRACT

The present investigation was carried out in subtropical Kandi area of Jammu region comprising four districts of Jammu, Kathua, Rajouri and Udhampur with a total sample size of 240 respondents. The study aimed to identify the various bottlenecks faced by the farmers in different farming systems prevalent in the area viz FS-1 (Crops +Livestock), FS-2 (Crops +Livestock + Horticulture), FS-3(Crops + Livestock +Sericulture) and FS-4 (Crops + Livestock + Goatry). The major bottlenecks faced by the respondents include high cost of inputs (72.91%), low profit (71.25%), lack of proper knowledge about improved varieties, seed rate and spacing (59.17%), high cost of animal feed (82.50%) in case of FS-1, lack of processing and value addition facilities (92.15%), lack of knowledge about safe methods of preservation (56.86%), lack of post harvest infrastructure (70.58%) in case of horticulture (FS-2); High cost of Mulberry trees (56.25%), Lack of knowledge about silkworm disease management (75%) and lack of suitable market (68.75%) in case of silkworm rearing (FS-3) and non availability of cross breeds (75%) in case of Goatry (FS-4).

### INTRODUCTION

Agriculture in India is demographically the broadest economic sector playing a significant role in the overall socio-economic fabric of India. As against the three fold increase in population since 1951, we have achieved more than fourfold increase in production during 2001 (Rao and Mishra, 2011). Today the country is front ranking producer of many commodities. Despite all this, agriculture in India is characterized by having more or less stagnant yields that are lower than most of other countries. Due to rapid increase in population and decrease of agricultural land no single enterprise is likely to be able to sustain the small and marginal farmers without resorting to integrated farming systems for generation of adequate income and gainful employment year round (Mahapatra, 1994). The study of farming systems and application of farming systems approaches can bring a ray of hope for the betterment of farmers. The productivity of different farming systems is largely affected by a number of bottlenecks faced by the farmers in different enterprises. Keeping all these factors in mind the present study was conducted to find out the bottlenecks faced by the farmers in dif-

ferent farming systems.

### RESEARCH METHODOLOGY

The present investigation was carried in subtropical *Kandi* belt of Jammu region comprising four districts of Jammu, Kathua, Udhampur and Rajouri. From each district two blocks were selected and from each block two Panchayats were selected. From each Panchayat two villages were selected and from these two villages fifteen respondents were selected based on proportional representation of number of households from each village. From each block thirty respondents were selected. Thus from each district sixty respondents were selected ultimately taking the final sample size to 240. The bottlenecks were studied under four categories. These were infrastructural, socio-economic, technological and institutional. Bottlenecks other than these were studied under miscellaneous. The responses were measured in frequencies and the data so obtained is illustrated in tables below.

### RESULTS AND DISCUSSION

Four farming systems were identified in the study area. These were FS-1 (Crops +Livestock), FS-

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2 (Crops +Livestock + Horticulture), FS-3 (Crops + Livestock +Sericulture) and FS-4 (Crops + Livestock + Goatry). A perusal of data in Table 1 reveals that among the infrastructural constraints non-availability of MOP at the time of sowing was reported as the major constraint by 96.25 percent of the respondents, followed by non-availability of DAP by 78.75 percent of respondents and non-availability of Urea by 19.16 percent of respondents. Among the socio-economic constraints high cost of inputs was reported by 72.08 percent of respondents, low selling price of the produce by 82.05 percent of the respondents. Similarly among the technical constraints lack of knowledge was reported as major constraint by 82.05 percent of the respondents and 57.50 percent of the respondents reported lack of knowledge about disease management. The major institutional constraints were absence of linkage with extension personnel (82.50 percent) and lack of credit facilities by 73.75 percent of the respondents.

**Table 1: Bottlenecks faced by the respondents in food crops (n=240)**

Nature of Bottleneck	Freq-	Per- centage
<b>A. Infrastructural</b>		
a. Unavailability of HYV seeds at the time of sowing	156	65.00
b. Non availability of plant protection chemicals	121	50.41
c. Non availability of fertilizers at time of sowing		
a. Urea,	46	19.16
b. DAP,	188	78.75
c. MOP	232	96.25
<b>B. Socio-economic</b>		
a. Labour scarcity	41	17.08
b. High cost of inputs	173	72.08
c. High charges of labour	40	16.66
d. Low selling price of the produce	167	69.58
e. Low profit	171	71.25
<b>C. Technological</b>		
a. Lack of knowledge about improved varieties, seed rate and spacing	142	59.17
b. Lack of knowledge about seed treatment	197	82.08
c. Lack of knowledge about		

e. fertilizer dose	121	50.41
f. method of application	114	47.50
g. Lack of knowledge about		
h. insect pest management	127	52.91
i. disease management	138	57.50

#### **D. Institutional**

a. Lack of regulated market	134	55.83
b. Lack of credit facilities	177	73.75
c. Absence of linkage with extension personnel's	198	82.50

#### **E. Miscellaneous**

a. Youth not interested	51	21.25
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**Table 2: Bottlenecks faced by the respondents in Cattle rearing (n=240)**

Nature of Bottleneck	Freq-	Per- centage
<b>A. Infrastructural</b>		
a. Lack of scientific shelter	198	82.50
b. Lack of Veterinary hospital/ sub center nearby	156	65.00
C. Lack of milk processing facilities	123	51.25
<b>B. Socio-economic</b>		
a. High cost of feed	198	82.50
b. High charges for artificial insemination	134	55.83
c. Low selling price of the produce	193	80.41
d. Low yield of milk	163	67.91
<b>C. Technological</b>		
a. Lack of knowledge about vaccination schedule	178	74.17
b. Lack of knowledge about deworming	167	69.58
c. Lack of knowledge about animal disease and their control	159	66.25
d. Poor conception rate of animals	172	71.66
e. Lack of exotic varieties	156	65.00
<b>D. Institutional</b>		
a. Lack of regulated market	78	32.50
b. Lack of timely visit by veterinary professionals	197	82.08
c. Lack of campaigns regarding the outbreak of diseases	193	80.41
d. Lack of credit facilities	203	84.58

The data in Table 2 reveals the bottlenecks faced by the respondents in Livestock. The major infrastructural constraints were lack of scientific shelter and lack of veterinary hospital/sub center nearby. The major socio-economic bottlenecks were high cost of feed by 82.50 percent and low selling price of the milk by 80.41% of respondents. The major institutional bottlenecks perceived were poor conception rate by 71.66 percent of respondents, lack of knowledge about vaccination schedule by 74.17 percent of the respondents and lack of knowledge about animal disease and their control by 66.25 percent of the respondents. Regarding the institutional bottlenecks lack of credit facilities (84.58%) and lack of timely visit by veterinary professionals was perceived as a major constraint by 82.08 percent of the respondents followed by lack of campaigns regarding outbreak of diseases by 80.41 percent of the respondents.

In FS-3 with horticulture as an allied enterprise in addition to crops and livestock the major bottlenecks related to infrastructure as perceived were lack of processing and value addition facilities by 92.15 percent followed by lack of post harvest structures by 70.58 percent of respondents (Table 3). The different type of socio-economic bottlenecks were low price of the produce by 90.19 percent of the respondents followed by presence of large number of middlemen and high cost of inputs by 66.66 percent of the respondents each. In the technological bottlenecks category the major ones were lack of knowledge about prolonging shelf life of the produce (92.15%), lack of knowledge about safe methods of fruit processing (84.31%) and lack of knowledge about improved varieties of fruit crops (82.35%). The major institutional bottlenecks were lack of information about market by 86.27 percent of the respondents followed by weak linkages with extension functionaries of the department (72.54 percent) and lack of regulated market by 74.50 of the respondents and non availability of credit by 84.31 percent of the respondents

**Table 3: Bottlenecks faced by the respondents in horticulture (n=51)**

Nature of Bottleneck	Freq- uency	Perc- entage
<b>A. Infrastructural</b>		
a. Non availability of planting material	13	25.49
b. Lack of post harvest structure	36	70.58
c. Lack of processing and value addition facilities	47	92.15
<b>B. Socio-economic</b>		
a. High cost of inputs	34	66.66
b. High cost of labour	23	45.09
c. Low price of the produce	46	90.19
d. Large number of middlemen	34	66.66
<b>C. Technological</b>		
a. Lack of knowledge about improved varieties	42	82.35
b. Lack of knowledge about safe methods of fruit preservation	29	56.86
c. Lack of knowledge about prolonging the shelf life	47	92.15
d. Lack of knowledge about disease control	32	62.74
e. Lack of knowledge about insects control	38	74.50
<b>D. Institutional</b>		
a. Lack of regulated market	38	74.50
b. Lack of information about market	44	86.27
c. Weak linkages with extension functionaries of department	37	72.54
d. Non availability of credit	43	84.31
<b>E. Miscellaneous</b>		
a. Poor conditions of roads making areas inaccessible	12	23.52

**Table 4: Bottlenecks faced by the respondents in Sericulture (n=16)**

Nature of Bottleneck	Freq- uency	Perc- entage
<b>A. Infrastructural</b>		
a. Non availability of rearing equipments	–	–
b. Shortage of Mulberry trees	12	75.00

c. High cost of construction of rearing houses	14	87.50
d. No post cocoon services	16	100
<b>B. Socio-economic</b>		
a. High cost of inputs	5	31.25
b. Unfavorable climate	11	68.75
c. Low profit	10	62.50
d. High cost of equipments	3	18.75
e. Low price of the cocoons	13	81.25
f. High cost of Mulberry trees	9	56.25
<b>C. Technological</b>		
a. Lack of knowledge about silkworm disease management	12	75.00
b. Lack of knowledge about silkworm races	11	68.75
d. Lack of knowledge about preventing deterioration of cocoons	6	37.50
e. Lack of knowledge about insects control	4	25.00
<b>D. Institutional</b>		
a. Lack of suitable market	11	68.75
b. Lack of timely visit by sericulture officials	4	25.00
<b>E. Miscellaneous</b>		
a. Lack of insurance for those who fell from Mulberry trees	9	56.25

The major infrastructural bottlenecks faced by sericulturists were high cost of construction of rearing houses, lack of post cocoon services and shortage of Mulberry trees. Low price of the cocoons (81.25%), unfavorable climate (68.75%) and low profit (62.50%) were the major socio-economic constraints. Lack of knowledge about silk worm disease management (75%), and lack of knowledge about improved silkworm race (68.75%) were the major technological bottlenecks and lack of regulated market was reported as major institutional bottleneck by 87.50% of the respondents. Lack of insurance for those who fall from trees while chopping the leaves of Mulberry was also reported as a major bottleneck by 56.25 percent of the respondents (Table 4).

**Table 5: Bottlenecks faced by the respondents in Goatry (n=28)**

Nature of Bottleneck	Freq-	Perc- centage
<b>A. Infrastructural</b>		
a. Non availability of grazing area	-	-
b. Lack of facilities for marketing of milk	4	14.29
c. Lack of veterinary centers	6	21.42
<b>B. Socio-economic</b>		
a. High cost of feed/fodder	5	17.85
b. Low price of the milk	21	75.00
c. Low yield of the milk	10	35.71
<b>C. Technological</b>		
a. Non availability of cross bred	21	75.00
b. Lack of knowledge about disease control	12	42.85
c. Lack of knowledge about insects control	11	39.28
<b>D. Institutional</b>		
a. Lack of regulated market	4	14.29
b. No information about market	3	10.71
c. Non availability of credit	19	67.85
<b>E. Miscellaneous</b>		
a. Theft of goats	5	17.85
b. Killing of goats by wild animals	7	25.00

The data in the Table 5 reveal the important bottlenecks faced by the respondents in Goat rearing. Low price of milk and non availability of cross bred of goat were the major socio-economic and technological bottlenecks faced by 75 percent of respondents each. Among the institutional bottlenecks unavailability of credit was reported by 67.85 percent of the respondents. Theft of goats and killing of goats by wild animals were some other bottlenecks reported by 17.85 and 25 percent of the goat rearers respectively.

## CONCLUSION

The major bottlenecks faced by the respondents in case of FS-1 include high cost of inputs (72.91%), low profit (71.25%), lack of proper knowledge about improved varieties, seed rate and spacing (59.17%), and high cost of animal feed (82.50%). The major institutional constraints were absence of linkage with extension personnel (82.50 percent) and

lack of credit facilities by 73.75 percent of the respondents. Singh (2009) also reported similar type of constraints. Vyas and Patel (2001) also reported similar constraints faced by milk producers in adoption of dairy technology. In case of horticultural crops, lack of processing and value addition facilities (92.15%), lack of knowledge about safe methods of preservation (56.86%), lack of post harvest infrastructure (70.58%) were the major bottlenecks. Osman *et al.* (2010) in their study on the crop diversification opportunities in distressed districts of Telangana region in Andhra Pradesh also reported similar type of bottlenecks. In case of Silk worm rearing high cost of Mulberry trees (56.25%), Lack of knowledge about silkworm disease management (75%) and lack of suitable market (68.75%) in case of FS-3. In case of Goat rearing, the major bottlenecks identified by the respondents were lack of community grazing area (77.91%), Lack of cross breeds (75.00%) and low yield of milk (35.71%). Prabakaran and Thirunavakkarasu (1994) studied the constraints in goat farming in seven agro-climatic zones of Tamil Nadu and they also found that inadequate fodder and grazing lands was the major constraints of goat farming.

## REFERENCES

- Mahapatra, I. C. 1994. Farming system research: A key to sustainable agriculture. *Fertilizer News*, **39**(11): 13-25.
- Osman, M. , Shaik H. , Ravindra, C. 2010. Crop diversification opportunities in distressed district of Telangana region of Andhra Pradesh: A need for support mechanism. *Agricultural Situation in India*, **67**:253-262.
- Prabakaran, R. and Thirunavakkarasu, M. 1994, Constraints in goat farming – a study in Tamil Nadu. *Indian Journal of Dairy Sciences*. **47** (12): 1061-1063.
- Rao, S. and Mishra, U. 2011. Reenergizing extension programmes to enhance fertilizer use. Available at <http://www.kribhco.net/images/pdf>
- Singh, S. K. 2009. Pattern of utilization of institutional credit in agriculture: an analysis, *Economic Affairs*. **54** (3&4):113-117.
- Vyas, H. V. and Patel, K. F. 2000. Constraints faced by milk producers in adoption of dairy technology. *Rural India*. **64** (9): 117-124.

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