Case study on Promotion of French bean cultivation in hilly region

Introduction

Krishi Vigyan Kendra, Erode is operating a Frontline demonstration Programme on ICM in French been in the hilly villages of Sathiyamangalam block over a decade of years. The intervention was started in the year of 1996 and the impact study was carried out in Pasuvanapuram village which comprise three fourth of its area rainfed and the rest of them are organic rich fertile soil ideally suited for French been cultivation.

The village Pasuvanapuram was purposefully selected for study with 10 French been growers and 10 non growers in order to analyze and to compare the possible impact which are highlighted below.

The possible impacts at macro level are;

1. Shift in cropping pattern towards high value commercial crops
2. Conversion of land to better cultivation
3. Employment generation especially among landless and marginal farmers
4. Prevention/ reduction in the level of partial out migration
5. Spread of Technology horizontally across the hills

The Possible impacts at micro level are;

1. Increase in the level of farm income
2. Improvement in the level of socioeconomic status of the growers.

Out of these micro and macro level impacts shift in cropping pattern at macro level and increase in farm income at disaggregated (micro level) was considered for the study.

Methodology

The village Psasuvanapuram in Sathyamangalm Block of Erode district was study was purposefully selected for the study. For the study ten number of French bean growers and equal number of non growers were contacted to assess the impact of the FLD intervention and to check the validity of the findings of the study.

Impacts taken for the study

Macro level

A) Shift in cropping pattern

In the present study shift in cropping pattern is operationalized as "inclusion / replacement with high value commercial crops in place of traditional low value minor millets crops"

Indicator: Cropping Intensity was the indictor taken into consideration for the present study

Cropping Intensity is the ratio between Gross Cropped Area to Net Sown Area and is expressed in terms of percentage.

Micro level

B) Individual farm income

In order to assess the impact of the intervention at disaggregated micro level (individual beneficiary level), farm income of an individual French bean grower was taken as one of the impact for the study.

In the present study, individual farm income is operationalized as the "income raised from the cultivation of French bean by individual grower" for which a farm business income analysis was done where in this tool included assessment of net income and benefit-cost ratio.

Indicator:

a) Net income
b) BCR

Net income is the difference between the gross income and total cost.
Benefit cost ratio (BCR) is the ratio between the gross income and the total cost.

Methods and Tool

For the study the following methods were used for getting the required information.

1. Personal Interview
2. Focus group discussion

Personal interview

To conduct personal interview 10 French bean growers and equal number of non growers were randomly selected from the identified Pasuvanapuram village for getting primary data pertaining to the impacts realized and have taken for the study.

Focus group discussion

Focus group meeting was done with the same 10 identified bean growers along with 5 non growers in order to have holistic view of the study.

Tools

Well structured interview schedule was used for the study in a manner that the data relevant to the possible impacts and indicators considered. The interview schedules used for the study is given in the annexure.

Results and Observation

1) Shift in Cropping pattern

It was evident from the results of the study that there existed a huge shift in the cropping pattern after the intervention of French bean cultivation.

Table1: Cropping intensity (n=10)

Beneficiary Name	Cropping Intensity (%)	
	Before intervention	After intervention
Sivaumar	100	200
Nagarajan	100	200
Govindaraj	100	200
Mahendran	100	300
Palanisamy	100	300
Marimuthu	100	200
Selvan	100	300
Krishnan	100	300
Saravanan	100	300
Kuppusamy	100	300
Average	**100**	**260**

From the Table-1, we can infer that before the intervention the average cropping intensity was 100% and after intervention the average crop intensity raised to 260%.The raise in cropping intensity was due to increased number of crops per year in the same piece of land. The reason for such a increase in cropping intensity is highlighted below

a. Increased income which made the farmer to install even drip irrigation system which helped them to save water for taking up another batch of crop within a year.
b. The regular marketability of harvested bean has motivated them to switch over to bean cultivation from millets like ragi, maize which impact had poor marketing opportunities and avenues.

2.Net Income:

Table: 2 Net income of farmers before and after intervention (n=10)

Beneficiaries	Total Expenditure (Rs.)		Gross Income (Rs.)		Net income (Rs.)		B:C Ratio	
	Before	After	Before	After	Before	After	Before	After
Sivaumar	3000	15000	8000	60000	5000	55,000	2.67	4.00
Nagarajan	1333	10933	3733	41600	7200	92,200	2.80	3.81
Govindaraj	4000	10000	9000	60000	2500	25,000	2.25	6.00
Mahendran	2000	20000	5000	65000	3500	45,000	2.50	3.25
Palanisamy	3000	20000	5500	80000	2500	60,000	1.83	4.00
Marimuthu	2500	20000	4000	95000	1500	75,000	1.60	4.75
Selvan	2000	30000	5000	90000	3000	60,000	2.50	3.00
Krishnan	1000	50000	2000	130000	1000	80,000	2.00	2.60
Saravanan	18000	14000	27200	56000	3000	78,000	3.33	4.00
Kuppusamy	4000	11600	8300	43400	1500	85,000	2.50	3.71
Average	**1583**	**18993**	**7763**	**72100**	**4120**	**69,220**	**2.14**	**3.90**

From the table 1.2 it can be noticed that prior to the introduction of French been the identified beneficiaries were cultivating local cultivars of ragi as a major staple crop for their livelihood which yielded low returns. The table reveals that he average net income of 10 beneficiaries was Rs.4,120 and after cultivating French bean in the same piece of land the average net income was Rs.69,000 . The avarege net income from ragi from one acre of land was Rs.2,500 whereas from one acre of land with French bean it was Rs.50,000. The reason for such huge leap was due to raise in cropping intensity due to its higher economic returns & marketability, moreover the farmers is to sow ragi during the onset of rainfall and the field was left as such till its harvest, this made them to go for other works in nearby towns for their livelihood.

Conclusion:

- Average cropping intensity has been increased from 100 to 260 %.
- Average Net income per acre has been increased from Rs. 4,120 to 69,220.
- B: C ratio has been increased from 2.14 to 3.90.
- Employment generation
- Labour migration has reduced.
- Attitude- Retention in agriculture.

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