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A case study on crops cafeteria and benefits of NAIP to the farmers

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Abstract

The ambitious agricultural research Programme in the country was launched in India on 26th July, 2006. It is known as National Agricultural Innovation Project (NAIP), the project focuses on innovations in agricultural technology. It can support poverty alleviation and income generation along with livelihood and nutritional security of tribal families. This is possible through collaborative development and application of agricultural innovations by the public organizations in partnership with farmers' groups, the private sector and other stakeholders. Four districts of Rajasthan, namely, Udaipur, Banswara, Dungarpur and Sirohi figure prominently as the disadvantaged districts, which are identified by the planning commission, based on income, tribal population, their resources, state of agriculture, etc. Keeping in view the challenges of food and nutritional security, National Agricultural Innovation consortia project was initiated by the ICAR in MPUAT, Udaipur (Rajasthan).

Keywords: National Agriculture Innovation Project (NAIP), livelihood, Nutritional Security, and Horticulture based IFS.

Introduction

The NAIP is focus at generation and integration of innovative approaches and their applications to improve the food grain, food productivity and employment generation in the country. Implementation of the project was expected to provide valuable opportunity of scaling up of the technologies addressing the issues involved in livelihood and nutritional security. Since the available farm land in India is limited, feeding of ever increasing population can only be possible by increasing yield.

In the consortia project of NAIP under MPUAT, Udaipur, two models.

(1) Horticulture based IFS and

(2) Livestock based IFS model with judicious mix of proven need assessed technologies, appropriate for small and marginal farmers encompassing end to end approach were planned for development of appropriate replicable models. The public private partnership in a consortia mode was expected to accelerate the pace of sustainable development and increasing productivity. Cluster approach in a specific sites differing in natural resource base in four identified district was chosen. Appropriate, sound and effective baskets of technologies aimed at propelling agricultural transformation leading to increase in farm employment, increased productivity and profitability. Better management of natural resources, processing and value addition and federating farmers for marketing of their produce were the another strategies for research. The strategies developed drawn heavily on the past proven technologies, testing them in integrated and holistic manner and having multiple technology options for increased income leading to better quality of life to families in the clusters identified for creating sustainability fund through farmers' contribution, which will take care of post project sustainability.

A number of innovations were built in the design to ensure success of sustainable livelihood and nutritional security. Creation of rural technology centres in each cluster aimed at reducing knowledge gap, technological empowerment and entrepreneurship development. Another innovation was the establishment of farmers' business groups and Producers' Companies to empower producers by making them active entrepreneurs- cum-primary stakeholders in the process of development. Integrated farming system approach provides food security, balanced food, quality food basket, enhanced farm income, higher employment generation, social upliftment, effective recycling of resources, sustainable soil health, reduced risk and minimum environmental pollution.

Under the NATP, integrated farming system modules were tested on limited scale and essentially taken up for testing only, a few technology options without taking into account the resources base as well as multiple options from basket of technologies suited to small and marginal farmers. Many of the ICAR institutes and SAU's have developed technologies,

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which individually lead to improvement in crops or animal productivity. The concept "development" during NATP was very sound but technologies were disseminated to individual farm families.

Looking to the importance of models implemented under NAIP, the present study was undertaken to find out the impact of technologies adopted by the farmers in the study area.

Resources and Methods

The present study was under taken the project implemented by MPUAT, in Udaipur, Durgapur, Banswara and Sirohi district of Rajasthan. District and clusters were selected purposely due to working area in the state. From the selected clusters, 10 clusters, where NAIP was implemented. From the selected villages, there were 78 villages, in which the NAIP was executed, out of these, 28 were the sampled villages for conducting the Mid-term evaluation. Therefore, purposively, these 28 villages were considered as selected for the present study. A sample 130200 Beneficiaries were covered under NAIP in 78 villages of 10 clusters. But sampled respondents for mid-term evolution of consortia NAIP were as many as 66 each from 10 clusters (total 660). The sampled respondents did vary from village to village so selected for evolution of the consortia project. Out of these 660 total sampled respondents of consortia project, total 288 beneficiaries were

sampled for the present investigation. Thereafter, collected data were analyzed, tabulated and interpreted in the light of above objective. The SPSS 13.0 version software was used for statistical analysis of data.

1. Season wise crop grown by the NAIP beneficiaries during 2011

Under the personal profile, one of the components was season wise crops grown by the NAIP farmers during the period of 2011 in which the project was in operation. The respondents were interrogated to mention the vegetables and fruits crops they grown during NAIP period. The data are qualitative and given in Table 1.

The qualitative information reveals that during kharif season, the farmers of district Udaipur and Sirohi cultivated four vegetables crops, these were chilly, pea, okra and guar, Chilly was common in Udaipur, Dungarpur and Sirohi district. District Dungarpur and Banswara were observed growing chilly, pea and bottle gourd respectively during rabi.

Three vegetables, commonly cultivated in all of the four districts were cabbage, cauliflower and tomato. Turmeric was observed to be popularly cultivated in Udaipur and Dungarpur district during zaid season commonly. Five vegetable crops, viz; brinjal, bottle gourd, okra, onion and pumpkin were observed to be cultivated by all the four districts.

Table 1: Season wise crops grown by the NAIP beneficiaries

District	Vegetables			Fruits		
	Kharif	Rabi	Zaid	Kharif	Rabi	Zaid
Udaipur	Chilly, pea, brinjal, okra, guar	Cabbage, cauliflower, tomato, Termiric	Brinjal, bottle gourd, okra, onion, pumpkin	Mango, Papaya, spota,	Guava, ber, amla	Pomegranate, guava, custard apple
Sirohi	Chilly, gwar, okra, brinjal	Cabbage, cauliflower, tomato	Brinjal, bottle gourd, okra, onion, pumpkin	Papaya, ber Pomegranate,	Ber	Pomegranate, amla
Dungarpur	Chilly, pea	Cabbage, cauliflower, tomato turmeric	Brinjal, bottle guard, okra, onion, pumpkin	Papaya, pomegranate, ber,	Guava, ber, amla	Pomegranate, guava
Banswara	Chilly, bottle guard,	Cabbage, cauliflower, tomato	Brinjal, bottle gourd, okra, onion, pumpkin	Papaya, Mango	Amla, lehsua	Pomegranate, amla

Coming to the cultivation of fruits, it has been observed that papaya was the common fruit of which plantation had been performed by the beneficiaries all the four districts. It was also observed that pomegranate was popular in Sirohi and Dungarpur district along with the mango being the common for cultivation by the beneficiaries of districts Udaipur and Banswara.

Similarly, ber was also popularly observed for cultivation by the farmers of Sirohi and Dungarpur districts during rabi season. One common fruit (amla) was found to be commonly cultivated by the tribal area farmers of districts Udaipur, Dungarpur and banswara, ber was also common in three districts namely Udaipur, Dungarpur and Sirohi district during zaid pomegranate as a nutritive fruit commonly grown in all over the four districts, guava is common in Udaipur and Dungarpur.

On the basis of qualitative data, it is concluded that chilly, pea, brinjal, okra, cabbage, cauliflower, tomato, bottle gourd and pumpkin were the common vegetable crops being grown by all the beneficiaries of study area. During kharif, districts Dungarpur and banswara were found lagging behind in terms of vegetables cultivation.

Looking to the qualitative data, it is concluded that the beneficiaries of the NAIP have grown fruits and vegetable crops suited to their locale. It means, there had been positive impact of the project towards cultivation of fruits and vegetables.

The underground turmeric crop had been seen the popular among the farmers of Udaipur and Dungarpur districts. Pomegranate as a rich source of hemoglobin was most common in Udaipur, Sirohi, Dungarpur and Banswara along with the amla as rich source of vitamin c.

The findings are similar with the findings of those of Patil and Rampise (2003) [3], Patil *et al.* (2004) [4], and Chikala and Deshmukha (1998) [1].

It is recommended that tribal area farmers of district Udaipur and Dungarpur must be persuaded to go for cultivation of seasonal crops as far as possible. Turmeric being the medicinal underground crop should be emphasized among the farmers of Banswara district, also ber, amla, pomegranate, guava, papaya and mango must be given momentum because these are commonly grown by the farmers of all the four districts. Custard apple is not commonly grown except Udaipur farmers; hence, it is needed to be popularized.

As per synopsis, there were 9 personal profile variables for which discussion has been given above. In addition to these, five more variables have also been included under personal profile variables as these were deemed imperative. The interpretation follows.

2. Benefits derived by the beneficiaries of NAIP

There were major five aspects defined about which the farmers might have been benefited. The findings are given in Table-2. Table 2 reveals that the beneficiaries of Udaipur

district, 109(37.85 per cent) followed by 60(20.83 per cent) of Dungarpur and quite in similar number, 49(17.01) of Banswara and Sirohi who were benefited in terms of economic development It is good sign of transformation of tribal area farmers through Horticulture based of IFS in terms of economic gains out of interventions.

Similarly, 37.15 per cent, 21.53 per cent, 16.32 per cent and 15.63 per cent beneficiaries of Udaipur, Dungarpur, Sirohi and Banswara respectively were of the view that they had been benefited under NAIP with regards to their Knowledge

empowerment of Horticulture based IFS under NAIP. Employment generation, reduction of Migration and Information related to nutritional security were other areas in sequence of benefits derived by majority of Udaipur farmers followed by Dungarpur, Sirohi and Banswara.

It is striking to record that NAIP beneficiaries of Banswara district reflected relatively lesser benefits as compared to other three districts in relation to five aspects listed out for investigation.

Table 2: Classification of NAIP beneficiaries based on the benefits derived by them through NAIP

n=288

Aspect	Udaipur f	Sirohi F	Dungarpur f	Banswara f	Total f
Economic development	109(37.85) 20.88*	49(17.01) 20.08*	60(20.83) 19.93*	49(17.01) 22.27*	288(100.00) 20.00*
Knowledge empowerment	107(37.15) 20.50*	47(16.32) 19.26*	62(21.53) 20.60*	45(15.63) 20.45*	288(100.00) 20.00*
More employment	103(35.76) 19.73*	48(16.67) 19.67*	59(20.49) 19.60*	40(13.89) 18.18*	288(100.00) 20.00*
Better Nutritional Information	99(34.38) 18.97*	50(17.36) 20.49*	59(20.49) 19.60*	42(14.58) 19.09*	288(100.00) 20.00*
Checked migration	104(36.11) 19.92*	50(17.36) 20.49*	61(21.18) 20.27*	44(15.28) 20.00*	288(100.00) 20.00*
Total	522(36.25) 100.00*	244(16.94) 100.00*	301(20.90) 100.00*	220(15.28) 100.00*	1440(100.00) 100.00*

f= frequency, %= Percentage, n= Total number of respondents, *= Percentage to columns, Figures in the parentheses show percentage of rows

As per findings, it is concluded and summarized that most of the farmers of district Udaipur had been benefited followed by Dungarpur, Sirohi and Banswara with regard to economic development, knowledge empowerment, employment generation, nutritional security and checking in migration from their native on account of implementation of NAIP with specific reference to Horticulture based IFS. Banswara farmers were comparatively benefited with lower extent in relation to above given five major aspects. The overall impact for transformation of tribal area farmers has been found quite satisfactory as expected in this regard.

Based on the findings, it is recommended that the NAIP project must be extended further with above given five parameters of empowerment in addition to other relevant aspects. The present model of NAIP must be carried out anywhere and elsewhere in India.

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