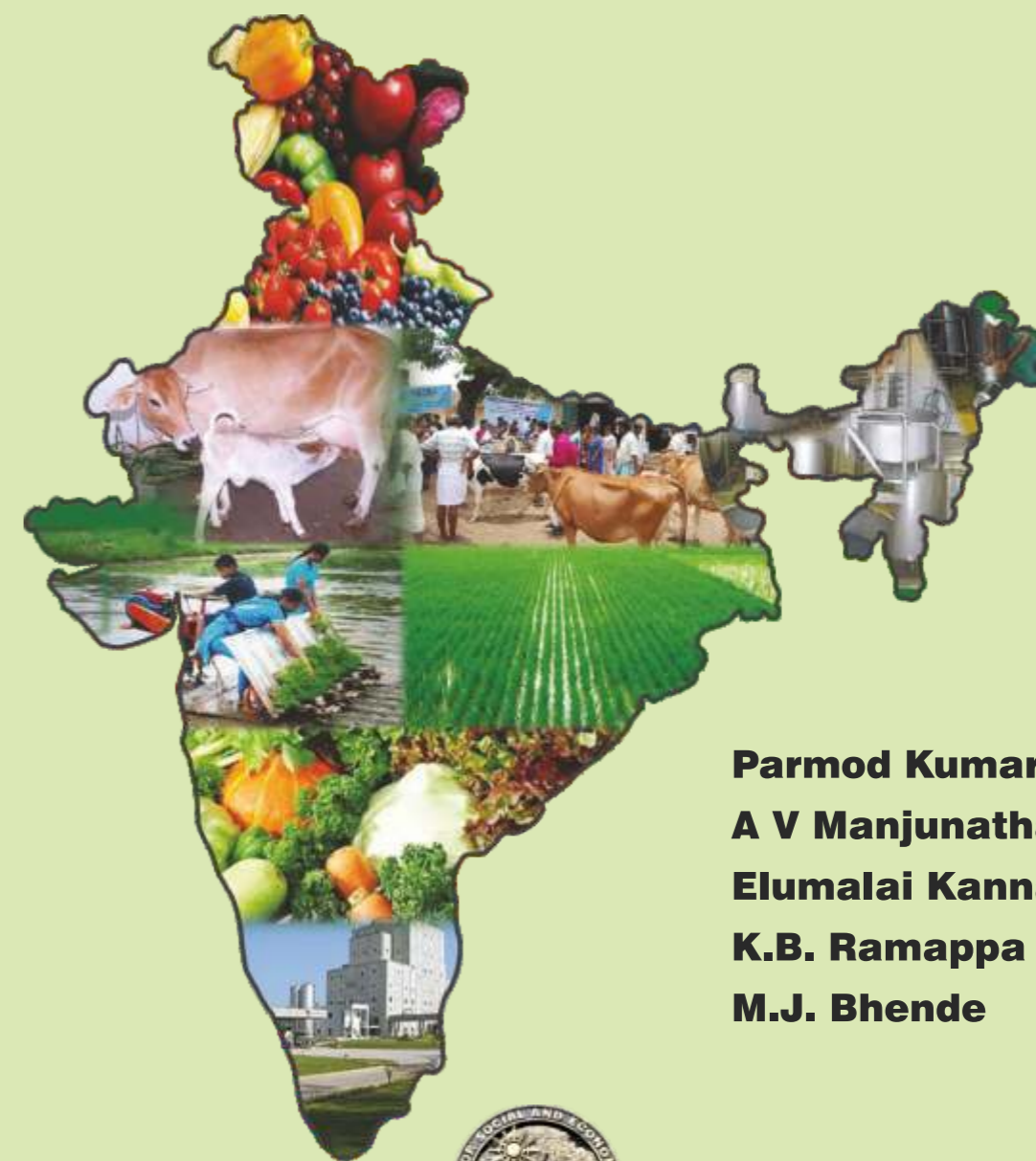


IMPACT EVALUATION OF RASHTRIYA KRISHI VIKAS YOJANA REPORT - II : SECTORAL REPORT

Sponsored by : Department of Agriculture and Co-operation
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Chapter 1

Introduction

1.1 Background

The food grain production in India which was falling short of meeting the food requirement of around 35 to 40 crore people during the 1950s has at present reached to a stage where not only it is sufficient to meet the demand of more than 120 crore people but also left with surplus that India is now exporting, especially rice and wheat. Implementation of series of agriculture development programmes by the government coupled with coordinated efforts of several research organizations, universities, councils and departments in the field of agriculture made this achievement possible. However, most of the agricultural development programmes during the earlier years were targeted with individual goals. This strategy lacked convergence of various agricultural programmes and departments. Coupled with falling public investment to agriculture, adverse terms of trade and lack of clear strategy on agriculture led to steady deceleration of agricultural growth during the late 1990s and early 2000s.

At that juncture, National Development Council (NDC) in its meeting on 29th May 2007, strongly felt the need to have a scheme that could congregate all the farming and its allied activities and revive agricultural growth in the country. The result was launching Rashtriya Krishi Vikas Yojana (RKVY) / National Agricultural Development Programme (NADP) implemented during the 11th Five Year Plan (FYP) by all the states and Union Territories (UTs) of India. It was launched as a special Central Assistance Scheme to incentivize the states to draw up plans for their agriculture sector more comprehensively considering their respective agro-climatic conditions, natural resource base and technology issues and also integrating livestock, poultry and fisheries into the overall agrarian scenario. It was designed as a state plan scheme with full extent of flexibility given to the states to select projects suitable to their local conditions for generating growth in agriculture and allied sectors.

RKVY has two important objectives: First, to incentivize the states and UTs for enhancing agricultural expenditure, and second, to incentivize the states and UTs to generate additional growth in agriculture and allied sectors by better planning and undertaking the suitable growth oriented projects. The RKVY is unique for its ability to not only convergence of several sectors of farming activities but also all agricultural and allied departments and research institutions. Attaining an annual agricultural growth rate of more than 4 per cent was core objective of the RKVY programme. The other major objectives associated with RKVY during 11th Plan as indicated in the RKVY guidelines were:

- Incentivizing the states to attract public investment in agriculture and allied activities
- Provide flexibility and autonomy to states in planning and executing agriculture allied sector schemes
- Ensuring preparation of agriculture plans for districts and states based on agro-climatic conditions, availability of technology and natural resources
- Ensuring that the local needs / crops / priorities are better reflected in agricultural plans of the states

- Narrowing yield gaps and to enhance farming profitability;

In order to realize all these objectives, RKVY was implemented with some broad guidelines from the Planning Commission, with high flexibility including approvals at the level of state governments. The other key feature of RKVY was: the states could avail funding from centre to the extent of 100 per cent to implement programmes in their respective states. However, eligibility of state for seeking fund from the centre for the RKVY programme was contingent upon the states' maintaining or increasing its plan expenditure for agriculture and allied sectors. The base line expenditure was determined based on the average expenditure incurred by the state government during the three years prior to the previous year. If a state lowers its investment in the subsequent years, then the balance resources for completing the projects already commenced had to be met by state itself. Preparation of District and State Agricultural Plan was also mandatory for drawing funds.

With these goals and features, RKVY programme was implemented in 28 states and 3 UTs covering 20 sectors during the 11th Five Year Plan. Each sector was further sub-divided into sub-sectors totalling to 152 numbers covering all the agriculture and allied activities including the research, information technology, extension, training and also some non-farming activities. As indicated in the RKVY operational guidelines for the 12th Five Year Plan (MOA, 2014). RKVY incurred an expenditure of Rs 21586.6 crore out of released amount of Rs 22408.8 crore to implement 5768 projects across various sectors during the 11th Five Year Plan. Activity wise share in value of projects and numbers of projects are shown in Table 1.1. Micro and minor irrigation accounted for 15 per cent of the total RKVY expenditure during the 11th FYP, followed by aggregate of animal husbandry, dairy development and fisheries (18.6 per cent), Horticulture (9.4 per cent), crop development (9 per cent), seed (8.2 per cent) and agricultural mechanization (8 per cent). The remaining 12 sectors accounted for 32 per cent of the total expenditure. A detailed project report about the regional and sectoral analysis of projects/activities under RKVY has already been submitted to the Director, RKVY, Department of Agriculture, Ministry of Agriculture, Government of India under the ambit of this project.

1.2 Impact of RKVY on Major Growth Indicators

The macro-level impact of RKVY has been measured using selected growth indicators. As a result of the RKVY program, the total agriculture budget of all 28 states' outlay increased by 62 per cent in the 11th Plan over the 10th Plan (RBI, 2013). The expenditure on agriculture as a percentage of agriculture GSDP also increased from 8.80 per cent in 10th Plan to 12.42 per cent in 11th Plan (DES, 2013). The overall growth rate of GSDP of 28 states (excluding the UTs) also went-up from 7.61 per cent in 10th FYP to 8.63 per cent in the 11th FYP. Similarly, the overall agriculture GSDP of 28 states grew from 2.38 per cent in 10th FYP to 3.66 per cent in 11th FYP. The highest agricultural GSDP growth was found in Gujarat with 9.73 per cent per annum during 10th FYP. During the 11th FYP, Chhattisgarh had the highest rate of growth of 7.48 per cent (CSO, 2013). There was also an increase in the overall growth in agriculture and allied sectors, 3.7 per cent during the 11th Plan as compared to 2.4 per cent of 10th Plan period (DAC, MoA, 2014). The increase in agricultural growth rate is especially encouraging as the increase has come after consecutive declines in the previous two FYPs. These changes clearly indicate the testimony of the scheme's contribution to stimulating growth by capitalizing agriculture sector although it is difficult to attribute the rise in growth rate entirely to the RKVY programme.

Table 1.1: Activity wise share in value and numbers of projects during the 11th Plan under RKVY - All India

Sl. No.	Sectors	No. of projects	% to the total projects	Expenditure (crores)	% to the total expenditure
1	Irrigation	239	4.2	4111.26	15.0
2	Animal Husbandry	1064	18.5	3066.34	11.2
3	Horticulture	717	12.5	2572.94	9.4
4	Crop Development	372	6.5	2474.57	9.0
5	Seed	312	5.4	2237.46	8.2
6	Agricultural Mechanisation	231	4.0	2189.72	8.0
7	Others	148	2.6	1587.95	5.8
8	NRM	212	3.7	1397.98	5.1
9	Markg. & PHM	311	5.4	1341.01	4.9
10	Extension	309	5.4	1165.92	4.3
11	Dairy Development	252	4.4	1053.85	3.8
12	Fisheries	552	9.6	983	3.6
13	Research	392	6.8	776.54	2.8
14	INM	127	2.2	709.88	2.6
15	Organic Farming	156	2.7	676.4	2.5
16	Cooperatives	81	1.4	430.4	1.6
17	IPM	104	1.8	262.28	1.0
18	Non-farm activities	81	1.4	174.96	0.6
19	Sericulture	61	1.1	106.56	0.4
20	Innovative programs	28	0.5	95.08	0.3
	Total	5749	100.0	27414.1	100.0

Source: MoA, 2014

Despite the lack of significant increase in the gross cropped area or increase in cropping intensity between the 10th and 11th Plan, the production of food grain attained a new peak of 258 million tonnes during 11th Plan (DES, 2013). This may be due to an increase in land productivity per hectare supported by agricultural mechanization and irrigation projects under RKVY as well as incremental increase in agricultural budgets over the years after the inception of RKVY programme. The land productivity in value terms increased from Rs 41,000 in the 10th Plan to approximately Rs 49,000 in the 11th Plan. Even after accounting for inflation, the productivity gains were significant. The percentage of net irrigated to net sown area, cropping intensity and irrigation intensity all indicated a positive trend from the 10th FYP to 11th FYP. This increase was observed at the all India and at regional level as well (DES, 2013). There was also marginal increase in irrigation intensity from 137.2 during the 10th Plan to 138.8 at the end of 11th Plan. There was increased productivity in rice, wheat, pulses and coarse cereals while slight decrease in oilseeds and fibres (DES, 2013).

Thus, RKVY scheme has definitely played a role in the growth of agriculture sector while it is difficult to isolate the extent of RKVY's contribution for this growth. Encouraged by these results and to fully tap annual growth potential of agriculture and allied sectors, RKVY programme has been carried on to the 12th Five Year Plan with enhanced allocation of Rs 63246 crore, which is nearly 150 per cent increase over the 11th Plan and 50 per cent of the total allocation of Department of Agriculture during the 12th FYP. This clearly reflect the importance that Government of India (GoI) attaches to RKVY (MoA, 2014; MoA, 2012).

As a part of the 12th Five Year Plan, RKVY programme began from 2012-13 and has already completed two years of implementation. Until now, RKVY programme has utilized Rs. 11442.32 crores towards 2962 numbers of projects initiated across the country. During 11th Plan, states took up projects out of 20 major sectors listed under RKVY programme (MoA, 2014). The states are at liberty to choose appropriate components / activities and these components / activities must be adequately reflected in State Agricultural Plans (SAPs) and District Agricultural Plans (DAPs) and the implementing agents are ought to follow the elaborate guidelines of respective departments to which the projects belong to.

1.3 Objectives and Scope of the Study

The main objective of the Impact Evaluation Study (IES) of RKVY is to examine the extent to which the components and activities under the RKVY have actually met or / are meeting their stated targets (objectives) for improving agricultural productivity, production and in enhancing economic conditions of the farmers. The findings of the study will be presented in three reports; First report pertains to analysis of secondary data on major components of the scheme, allocation and utilisation of funds, outcomes and outputs of the programme at all India as well as at state level. The first report was already submitted by the ISEC, Bangalore to the Director RKVY, DOA, MOA. The current (second) report focuses on the regional and sectoral analysis based on the primary data collected from beneficiary farm households, and infrastructure/asset beneficiaries. The third and final report will present the report of the state level analysis. All these reports provide a feedback to DAC for correcting the loopholes in the programme, to achieve the desired results and to improve the efficiency of the RKVY programme.

1.4 Data and Methodology

The present report which is the secotral report in the series of three reports is based on the primary survey data collected from beneficiary farm household and infrastructure/asset beneficiaries collected from all the 28 states and 2 UTs as shown in Table 1.2. For the selection of beneficiary farmers, a multi-stage sampling method was followed. At the first stage, 20 per cent of the districts in the States and UTs were selected purposely based on the district-wise RKVY expenditures and interaction with the RKVY nodal/implementing authorities. In smaller states a minimum of 5 districts or whole state was selected if the state consists of fewer than 5 districts. In the next stage, two taluks from each selected districts were selected, drawing one taluk from the nearby district headquarters and the second at a distance of 15-20 kilometre from the district headquarter. Subsequently, at the third stage, 3-6 cluster/contiguous villages were selected from each taluk to collect primary data from 25 selected households. By following multi-stage sampling framework as well as through discussions with the nodal agency/implementing authorities, we selected 171 districts, 353 taluks, 3164 villages and 8174 beneficiary farmers (Figure 1.1). As significant expenditure (30 per cent of the total) was accounted for infrastructure/assets development during the 11th Plan, a suitable number of infrastructure and asset beneficiaries were covered in each state representing various sectors (Table 1.2). Detailed information was collected about the socio-economic profile of the farm households, interventions and its costs and subsidies, usage of the intervention/benefit and its impacts on farming communities. Information about the impact of the infrastructure/asset interventions on the project objectives, output and outcome, reasons for delayed implementation, etc., was collected from infrastructure/asset beneficiaries. Information was also collected about the trainings, employment generation,

marketing details, constraints faced under RKVY, sources of funds, opinion of beneficiaries about RKVY, changes suggested by beneficiaries and benefits availed under other government schemes by RKVY beneficiaries.

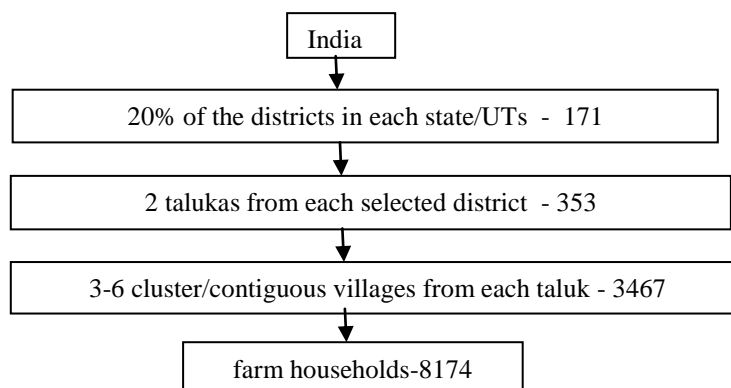


Figure 1.1: Schematic representation of sampling framework

1.5 Limitations

The secondary data available in the RDMIS website of RKVY is not adequate and meaningful to make an effective analysis of the programme. Firstly, year-wise data for several parameters was neither available on the website nor was received from any State. Secondly, the allocation and expenditure data provided by the Ministry of Agriculture and Cooperation, Government of India for the States and the data provided by the RDMIS website do not concur with each other. A possible explanation for this could be that the expenditure shown in the website might have been repeated as the same projects and are repeated in several years. Thirdly, the data provided by the ministry on releases for the States in most cases is shown as utilization and expenditure. This is not the case in website data. The website data only shows the expenditure, not the release. A few states have provided the release data now; this data is the same as expenditure data. Fourthly, as the number of projects reported is repeated and hence the number of individual projects is higher as compared to the actual projects. Finally, the physical targets and achievement data are not properly entered. In many cases, the targets, achievements, expenditure data is not available.

The current report is based on the primary data collected from the farm household and infrastructure/asset beneficiaries pertaining to the 11th Five Year Plan across states and UTs. The report mostly relies on data collected through interviews using pre-tested questionnaires. Some quantity of recall bias is bound to be associated with the collection of data since the farmers have not maintained any record of cultivation expenses, application of inputs or returns. However, efforts were made to minimize the error through cross checks at the time of data collection. Due to limited time, the research study is restricted to only a limited number of infrastructure/asset beneficiaries.

1.6 Structure of the Report

This report is outlined into 7 chapters: First chapter focuses on the background information about the RKVY program, followed by the details of data, methodology and limitation of the study. Second chapter presents the agricultural economy of the sample farm household

beneficiaries encompassing age, sex, caste, education status, family size, occupation, income, land holding, cropping pattern, irrigation sources and livestock and assets details. Additionally, awareness of beneficiaries about RKVY was included in this chapter. Third and fourth chapters discuss the analysis of major and minor sectors. Major sectors covered includes Agricultural Mechanization, Animal Husbandry, Crop Development, Horticulture, Micro/Minor irrigation, whereas minor sector covered includes NRM, Organic Farming, Fisheries, Sericulture, IPM, Cooperatives/cooperation. In these two chapters, details about the interventions and its costs and subsidies, usage of the intervention/benefit and its impacts on farming communities specifically productivity and income is elaborately discussed. Fifth chapter presents the other miscellaneous information about the sample farm households, which includes Trainings, Employment generation, Marketing details, Constraints faced under RKVY scheme, Sources of funds, Opinion of beneficiaries about RKVY, Changes suggested by beneficiaries and Benefits availed under other government schemes by RKVY beneficiaries. A complete chapter six is devoted to present the results of the infrastructure/asset beneficiaries. In this chapter, impact of the interventions on the project objectives, output and outcome, reasons for the delay in implementation and abandoned projects, etc. are discussed in-details. Final chapter offers conclusions and policy implications drawn from the primary data analysis (both farm household and infrastructure/asset beneficiaries).

Table 1.2: Details of the selected numbers of farm and infrastructure beneficiaries

Region	State	No. of Farm HH beneficiaries	No. of infrastructure/asset beneficiaries
Southern Region	Andhra Pradesh	250	28
	Goa	100	12
	Karnataka	311	73
	Kerala	250	39
	Tamil Nadu	300	60
	Puducherry	100	16
	A & N Islands	150	6
	SOUTH TOTAL	1461	234
West and Central India	Chattishgarh	250	21
	Gujarat	422	53
	Madhya Pradesh	500	8
	Maharashtra	350	44
	Rajasthan	358	35
	CENTRAL TOTAL	1880	161
East and North East India	Arunachal Pradesh	225	4
	Assam	209	4
	Bihar	400	0
	Jharkhand	250	0
	Manipur	233	0
	Meghalaya	124	4
	Mizoram	243	0
	Nagaland	169	82
	Orissa	300	63
	Sikkim	200	0
	Tripura	180	3
	West Bengal	250	21
		EAST TOTAL	2783
North and North Western India	Haryana	250	19
	Himachal Pradesh	250	80
	Jammu and Kashmir	250	124
	Punjab	250	21
	Uttar Pradesh	800	20
	Uttarakhand	250	16
	NORTH TOTAL	2050	280
	ALL INDIA	8174	856

Source: Our Primary survey