Assessing the Impact of Rythu Bandhu Scheme in Warangal District of Telangana

C. D. Amitha[1*], C. Karthikeyan[1] and M. Nirmala Devi[1]

[1]Department of Agricultural Extension and Rural Sociology, TNAU, Coimbatore, India.

Authors' contributions

This work was carried out in collaboration among all authors. Author CDA designed the study, performed the statistical analysis, wrote the protocol and wrote the first draft of the manuscript. Authors CK and MND reviewed, corrected and added certain required points to the study. All authors read and approved the final manuscript.

Original Research Article

ABSTRACT

Rythu Bandhu Scheme (RBS) also Farmers investment Support Scheme is a welfare program to support farmer investment for two crops a year where the cash is paid directly by the Government of Telangana. A sample of 60 beneficiaries were selected from Warangal district of Telangana state. In order to find out the impact of RBS on beneficiaries - inputs purchasing power, continuity in farming, rural indebtedness, productivity, farm income(in Rs.) and cropping intensity were studied before and after implementation of RBS i.e., in 2016-17 and 2020-21 for beneficiaries. Based on the results in respective year, "Z" test was applied to find out the difference after the implementation of scheme. From the analysis, it was found that significant difference was observed among respondents with respect to inputs purchasing power (6.74*), continuity in farming (2.93*), rural indebtedness (4.02*), productivity (3.72*), farm income (4.53*). RBS is increasing the beneficiaries capacity to purchase inputs with timely performing agricultural activities, their likeliness to continue farming and better coping with debt.

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Corresponding author: E-mail: amithachandra12@gmail.com;

1. INTRODUCTION

India has 60.4% of agriculture land of which 45% of land is irrigated, where as in Telangana 54.75% of agriculture land of which 50% of land is irrigated. The country is second largest producer of fruits, vegetables, rice and wheat in the world and largest producer of milk in the world India which had the more stable and diversified GDP growth. The country which had the significant dent in the poverty level which dropped 46 percent over two decades to an estimated of 13.4 percent over two decades 2015 but it is the home for 176 million poor people while it's seeking to achieve the sustainability, better growth, financial inclusion and social development [1]. In India, small and marginal farmers (less than 2ha) constituted (86.21%) of operational holding and (47.34%) of operated area [2]. Small and marginal farmers constitute the largest group of cultivators in Indian agriculture; 85% of operated holdings are smaller than or about two hectares and amongst these holdings, 66% are less than one hectare [3]. The scenario in Telangana was also similar with 85% of farm holdings were small and marginal [4]. While small and marginal farmers have the advantage of intensive knowledge of local agriculture and low cost access to family labour, they also suffer the disadvantages of high transaction costs in terms of nearly all transactions which are of non-labour nature [5]. Inability to access credit and insurance services and vulnerability to vagaries of the climate, pests and other risks further complicate the picture of small and marginal farmers [6]. The last of these causes must be emphasized more than the others given its ability to contribute in tackling the remaining causes. It is widely recognized that there is a positive relationship between agricultural credit and agricultural growth. For a farmer, access to easy credit becomes crucial to start and sustain a good crop cycle based on quality inputs such as seeds, fertilizers, machinery and equipment. Agricultural credit also plays an important role in providing essentials during adversity and to be able to absorb the shock of crop failure due to reasons such as drought and pest infestation or loss incurred due to price crash, the farmers must be financially equipped. As an effort towards this direction the Telangana state government has launched an investment support scheme named 'RythuBandhu' in the year 2018 beginning of the kharif season with the following objectives: 1) To provide investment support to agriculture and horticulture crops by way of a grant @ . 5000/- per acre per farmer each season through direct benefit transfer (DBT) mode into the bank accounts of beneficiaries for purchase of inputs like seeds, fertilizers, pesticides, towards labor and other investments in the field operations of farmers choice for the crop season. 2) To relieve the farmers from debt burden and not allowing them to fall in the debt trap again [7]

2. METHODOLOGY

Ex-post facto research design was adopted for the study, since the variables chosen for the study have already occurred. Warangal district (Erstwhile) was selected purposively as the district had relatively highest number of beneficiaries. Two mandals from the district and 2 villages from each mandal were selected randomly. 15 beneficiaries of the RBS scheme who were cultivating cotton crop were selected from each village, following random sampling method. Thus a sample of 60 farmers were selected for the study.

In order to assess the impact of RBS on beneficiaries - Inputs purchasing power, continuity in farming, rural indebtedness, productivity, income (in Rs.) and Change in cropping intensity were studied before and after implementation of RBS i.e., in 2016-17 and 2020-21 for beneficiaries.The data from the respondents was collected with the help of interview schedule. The data collected was analysed and interpretations were drawn based on results.The statistical techniques viz., frequency, percentage, exclusive class interval method and Z-test were followed for analyzing the data.

3. RESULTS AND DISCUSSION

The data was collected from the respondents based on the selected parameters, The data were subjected to analysis, interpretation. Accordingly the following results and conclusions were drawn.

3.1 Inputs Purchasing Power

Data presented in Table 1. shows that majority (46.70%) of the respondents input purchasing pattern was average followed by poor (28.30%) and good (25.00%) before implementation and

was good (49.16%) followed by average (30.84%) and poor (20.00%) after implementation respectively.

The probable reason for the above results is because the respondents viewed that the investment support provided under the RBS aided them in taking more risk, cultivating new high yielding varieties and hybrids of various crops. It also aided in carrying out various farm operations such as mechanized cultivation, sowing, fertilizer application and plant protection measures timely for obtaining higher returns. The results were also supported by [8] who concluded that majority (80.00%) of the agricultural loan borrowers had utilized the credit for agriculture and other productive purposes such as purchase of seed, fertilizer, machinery and livestock whereas one-fifth (20.00%) of the loan borrowers had utilized the amount for non-productive purposes such as ceremonies and functions.

3.2 Continuity in Farming

Data presented in Table 2. shows that majority (49.17%) of the respondents perceived that they were not likely to continue in farming followed by likely (36.66%) and very likely (14.17%) before implementation and majority (51.66%) were likely

to continue in farming followed by not likely (27.50%) and very likely (20.84%) after implementation respectively. This might be because the respondents felt that during recent years apart from the credit subsidies and fertilizer subsidies the investment support was also provided both by state and central governments to boost up the farming.

3.3 Rural Indebtedness

Data presented in Table 3. shows that majority (59.16%) of the respondents perceived that rural indebtedness was low followed by moderate (27.50%) and high (13.34%) before implementation and was moderate (51.66%) followed by high (25.84%) and low (22.50%) after implementation respectively. This might be because the respondents were mostly dependent on the money lenders for the initial investment requirements before implementation of RBS which was now met through the capital support provided under the scheme. The study results of [9] also supported that (14.00%) of the respondents expressed that loan repaying capacity has increased to a remarkable extent, while (56.00%) observed the increase to some extent and (30.00%) reported no change in case of loan repaying capacity after becoming RKVY beneficiary.

Table 1. Distribution of respondents into categories based on input utilization pattern (n=60)

S.no	Category	Before		After	
		F	P	F	P
1.	Low(12-15)	17	28.30	12	20.00
2.	Medium(15-19)	28	46.70	18	30.84
3.	High(19-24)	15	25.00	30	49.16
Total		**60**	**100.00**	**60**	**100.00**

Table 2. Distribution of respondents into categories based on continuity in farming (n=60)

S.no	Category	Before		After	
		F	P	F	P
1.	Not likely(7-12)	29	49.17	16	27.50
2.	Likely(12-17)	22	36.66	31	51.66
3.	Very likely(17-21)	9	14.17	13	20.84
Total		**60**	**100.00**	**60**	**100.00**

Table 3. Distribution of respondents into categories based on rural indebtedness (n=60)

S.no	Category	Before		After	
		F	P	F	P
1.	Low(6-10)	35	59.16	13	22.50
2.	Moderate(10-15)	17	27.50	31	51.66
3.	High(15-18)	8	13.34	16	25.84
Total		**60**	**100.00**	**60**	**100.00**

Table 4. "Z test" results regarding impact before and after implementationof RBS on various parameters

S.no	Parameters	Mean		Average	Z test	Z tab
		Before	After			
1.	Input purchasing power	0.57	1.47	1.02	6.74*	3.71
2.	Continuity in farming	1.34	1.89	1.61	2.93*	2.04
3.	Rural indebtedness	1.48	2.21	1.84	4.02*	3.14

*Significant at 0.01 level of probability

Table 5. Distribution of respondents into categories based on productivity   (n=60)

S.no	Category(qt/ha)	Before		After	
		F	P	F	P
1.	Low(Upto 10.74)	19	31.67	9	15.00
2.	Medium(10.74-29.4)	41	68.33	44	73.33
3.	High(above 29.4)	-	-	7	11.67
Total		**60**	**100.00**	**60**	**100.00**

It is evident from the Table 4. that calculated 'Z' values were greater than the table 'Z' value at 0.01 level of probability, which implies that there exists a significance difference before and after implementation of RBS with respect to input purchasing power, continuity in farming, rural indebtedness. It can be concluded that there is an impact of RBS in increasing the beneficiaries capacity to purchase inputs, their likeliness to continue farming and better coping with debt. The results were in conformity with [10] who reported that, there was a definite positive impact of MGNREGA scheme on beneficiary respondents in terms of change in employment generation, annual income, indebtedness, saving and migration to (57.62%) over and above as a whole.

3.4 Productivity

The results in Table 5. indicated that majority (68.33%) of farmers were under medium category of cropping intensity followed by low (31.67%) none in high categories before implementation and was medium (73.66%) followed by low (15.00%) and high (11.67%) after implementation respectively. This might be because the respondents received investment support under the scheme before sowing which leads to use of better quality inputs and timely sowing and application of fertilizers and pesticides. The results were also supported by [11] who concluded that a majority (43.33%) of trained farmers (with input supply) were observed under medium productivity level (10-20 q/ha) followed by (40.00%) under higher

productivity (> 20 q/ha) and (16.67%) under lower productivity level (< 10 q/ha). Whereas, in untrained farmers majority (58.33%) received lower productivity (20 q/ha) level in gram.

3.5 Farm Income

It is evident from the Table 6. that majority (46.67%) of the respondents belonged to low level of farm income followed by medium (40.00%) and high (13.33%) before implementation and was medium (55.00%) followed by high (28.33%) and low (16.67%) after implementation respectively. This might be because the respondents received investment support under the scheme before sowing and depended on their own capital rather than on the money lenders for the initial investment requirements before implementation of RBS. This leads the increase in their net income. The study results of [12] also supported that the schemes such as supply of subsidized certified seeds, sprinkler/drip irrigation sets, and supply of milch animals with subsidy and loan component were found to have helped the distressed farmers improve their family income.

3.6 Cropping Intensity

The results in the Table 7. indicated that majority (45.00%) of farmers were under medium category of cropping intensity followed by low (41.67%) and high (13.33%) categories before implementation and was medium (46.67%) followed by low (36.67%) and high (16.67%) after implementation respectively.

Table 6. Distribution of respondents into categories based on farm income (n=60)

S.no	Category	Before		After	
		F	P	F	P
1.	Low(below 60,000)	28	46.67	10	16.67
2.	Medium(60,000-1,20,000)	24	40.00	33	55.00
3.	High(above 1,20,000)	8	13.33	17	28.33
Total		60	100.00	60	100.00

Table 7. Distribution of farmers according to their cropping intensity (n=60)

S.no	Category	Before		After	
		F	P	F	P
1.	Low(100-134)	25	41.67	22	36.67
2.	Medium(134-168)	27	45.00	28	46.67
3.	High(168-202)	8	13.33	10	16.67
Total		60	100.00	60	100.00

Table 8. "Z test" results regarding impact before and after implementationof RBS on various parameters

Sl.No	Parameters	Mean		Average	Z test	Z tab
		Before	After			
1.	Productivity(qt/ha)	13.69	27.04	20.03	3.72*	2.48
2.	Income(in Rs)	67020.90	82921.50	74,970	4.53*	2.89
3.	Cropping intensity	107.57	119.83	113.7	0.80	2.45

*Significance at 0.01 % of probability level

The reason for majority of farmers having medium cropping intensity before and after implementation of RBS, could be attributed to their small and marginal land holdings and lack of water resources taking more crops from same piece of land.

It could be revealed from the Table 8. that calculated 'Z' values were greater than the table 'Z' values at 0.01 level of probability, which implies that there exists a significance difference before and after implementation of RBS. With respect to productivity and farm income, which had shown an impact of RBS in increasing the repondents net farm income and yield per unit area. The results were in conformity with [13], who reported that Kisan Credit Card (KCC) scheme had a positive impact on the farm economy of beneficiary farmers in the district. The cost, returns, production, productivity and employment have been recorded higher on the farms of beneficiary farmers than non-beneficiary farmers due to use of availed credit through KCC scheme.

Where as non significance of cropping intensity can be attributed to lack of water resources taking more crops from same piece of land. Lack of water resources is due to benficiaries not investing the scheme amount in irrigation and water management inputs than they were for seeds, fertilizers and pesticides.

4. CONCLUSION

A significant impact exists before and after implementation of RBS with respect to input purchasing power, continuity in farming, rural indebtedness, productivity and farm income. It might be because the respondents were highly satisfied with the procedures and credit support provided under the scheme which they effectively invested in agriculture for the purchase of inputs and carried out various farm operations such as mechanized cultivation, sowing, spraying of pesticides, RDF application timely and effectively. It might also be because of the increased access to the quality inputs, mechanization and increase in coping capacity of the respondents. It might be also because of the respondents decrease in dependency on private money lenders for credit support. One of the other reasons might be because of the increased prominence given by the government to agriculture through the scheme. A detailed study exclusively focusing on the impact of RBS on indebtedness of beneficiaries can be taken up future research.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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