

Impact of National Watershed Development Project on Level of Adoption of Recommended Crop Practices in Block Pathapatnam of Srikakulam District of Andhrapradesh

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Abstract:- The study was conducted purposively selected in Pathapatnam block of Srikakulam district of Andhra Pradesh. Six villages were selected purposively and from each selected village 20 respondents were selected randomly thus 120 respondents constituted the sample size for present study. Ex-post Facto research design was followed and data was collected by using personal interview method. The collected data were tabulated, analyzed and interpreted with the appropriate statistical tools. Majority of respondents had medium level of knowledge and adoption towards paddy crop production by watershed project. Education, Family Type, Annual Income were found positive and significant correlation with their knowledge and adoption of paddy under Watershed project. Two types of Respondents were selected from these villages, beneficiaries and non-beneficiaries of Watershed Project. The major constraints faced by the respondents are Time consuming operation, Fragmentation of land into unconventional shape, Water stagnation near bunded area etc. The prominent suggestions given by the respondents were the provision of subsidy for the practices. Govt. should encourage co-operative farming, training should be provided for water conservation and input should be made available at proper time to overcome these constraints.

Keywords:- Level of Adoption, Watershed.

I. INTRODUCTION

Watershed development Project aimed at conservation of natural resources and maintaining the ecology of the area by using the simple soil and water conservation techniques. Watershed management is over all development of particular region including water conservation, maintaining soil fertility, pasture land, agriculture, horticulture, forestry and allied aspects. Watershed development projects have been taken up under different programmes launched by the government of India. The basic objective is land and water resource management for sustainable production. Watershed management planning is a process that results in a plan or a

blueprint to improve the water quality and other natural resources in a watershed. The watershed project is proposed in Srikakulam district which is one of the drought prone districts in Andhrapradesh state and project is located in Nagavali and Vamsadhara river main basin which is a tributary of the former. It also supplies water to the urban settlements and also industry requirements. In India geographical area of 329 million ha, 143 million ha is under cultivation, 108 million ha area under rainfed and contributes about 44% of the total food grain production and supports 40% of the population. The major crops grown under watershed are rice, sugarcane, tomato, banana, brinjal, soyabean, oil seeds, Groundnut; pulses are accounted by the rainfed agriculture. In Srikakulam district pathapatnam block integrated water management programme is going on. It is a centrally sponsored programme implemented by the department of rural development in the state. Its main objectives are restoring the ecological balance by harnessing, conserving and developing degraded natural resources. Increased agricultural production & productivity through scientific approach & sustainable agriculture practices. Integrated livestock management for increasing incomes. Livelihood security for the poorest of the rural poor. The government of Andhrapradesh finances some portion of the budget and the watershed communities contribute some portion. The key development objectives is to improve the productive potential of selected watersheds and their associated natural resource base and strengthen community and institutional arrangements for natural resource management. This project primary objective is to increase household income, improve agricultural productivity, Improve vegetative cover, and Increase milk and horticulture production. Increase fodder and fuel availability, enhance quality of life of village communities, reducing soil erosion and runoff to improve water availability and to conserve the moisture status. The Watershed Development Programme is the basic need for integrated development and management of the land and water resources which provide life support for rural communities. The attention has been focused on this programme in order to provide Impetus to development in the country. Through the watershed development programme, we

can achieve the following: The problem of drinking water can be solved, and to some extent the problem of water for Irrigation will also be solved. Increase agricultural production and create employment within the village and make food available to them. Migration to urban areas can be checked and reduce the problem of growing cities. By conserving soil and water ecological balance can be restored. Heavy situations in dams have given rise to many problems related to electricity supply, urban water supply. Industries depend upon this water are also facing problems. Soil and water conservation can arrest the flow of silt into the dams. Since, the inception of the project, there are very few study conducted in the area to know knowledge level, adoption level and constraints faced by beneficiaries and non-beneficiaries respondents of watershed development project. **(Kansana Vishwanath Singh. 2008)**. Therefore, the objective for present study” impact of national watershed development project on level of adoption recommended practices in block Pathapatnam of Srikakulam district of Andhra Pradesh were”

- Compare the adoption of recommended practices under watershed development area between beneficiaries and non-beneficiaries.

II. RESEARCH METHODOLOGY

The survey was conducted in purposively selected Watershed project of Srikakulam district in Andhra Pradesh. The watershed project was started during the year 2007 in most of the cultivated land in the project area is under rainfed farming and this area is most backward. Hence, it requires more efforts to bring changes in the socioeconomic conditions of the farmers of this area. Further, easy accessibility and convenience of the student researcher were also taken into account for selection of watershed. Two types of respondents were selected from these villages.

(i) Beneficiaries of watershed (ii) Non-beneficiaries of watershed. The particular respondents who are participating in watershed activities and the particular respondents who are not participating in watershed activities. From each group, 60 farmers were randomly selected. The total sample, therefore, consisted 120 respondents’ farmers in both the group for collection of data. Pre tested interview schedule was used for the collection of data. Appropriate tools were used to interpret the data. The present study was confined to Ex-post factorial research design. The Ex-post – facto research design is an inquiry in which the researcher does not have direct control of independent variable because their manifestations occurred and they cannot be manipulated.

III. RESULTS AND DISCUSSION

- Compare the adoption of recommended practices under watershed development area between beneficiaries and non-beneficiaries.

Sl. no	ADOPTION	BENEFICIARIES			NON-BENEFICIARIES		
		FA	PA	NA	FA	PA	NA
1	PLOUGHING ACROSS THE SLOPE	40(66.66)	7(11.66)	13(21.66)	13(21.66)	22(36.66)	25(41.66)
2	LAND SMOOTHENING	37(61.66)	10(16.66)	13(21.66)	13(21.66)	22(36.66)	25(41.66)
3	STRENGTHENING OF BUNDS	33(55)	16(26.66)	11(18.33)	13(21.66)	22(36.66)	25(41.66)
4	WATER WAYS	8(13.33)	9(15)	13(21.66)	13(21.66)	22(36.66)	25(41.66)
5	CONSTRUCTION OF SMALL SECTION BUNDS	32(53.33)	21(35)	7(11.66)	13(21.66)	22(36.66)	25(41.66)
6	USE OF IMPROVED AGRICULTURAL IMPLEMENTS	30(50)	17(28.33)	13(21.66)	13(21.66)	22(36.66)	25(41.66)

Table 1

Sl. no	ADOPTION	Beneficiaries			Non beneficiaries		
		FA	PA	NA	FA	PA	NA
1	VARIETY(MTU-1010, SWARNA)	30(50)	18(30)	12(20)	13(21.66)	22(36.66)	25(41.66)
2	SEED RATE 30-35KG/HA	36(60)	11(18.33)	13(21.66)	13(21.66)	22(36.66)	25(41.66)
3	SEED TREATMENT	36(60)	11(18.33)	13(21.66)	13(21.66)	22(36.66)	25(41.66)
4	TIME OF SOWING	31(51.66)	17(28.33)	12(20)	13(21.66)	22(36.66)	25(41.66)
5	SPACING:20X10CM	31(51.66)	17(28.33)	12(20)	13(21.66)	22(36.66)	25(41.66)
6	TRANSPLANTING	34(56.66)	13(21.66)	13(21.66)	13(21.66)	22(36.66)	25(41.66)
7	APPLICATION OF FYM	30(50)	17(28.33)	13(21.66)	13(21.66)	22(36.66)	25(41.66)
8	FERTILIZERS APPLICATION	30(50)	20(33.33)	10(16.66)	13(21.66)	22(36.66)	25(41.66)
9	PLANT PROTECTION	34(56.66)	14(23.33)	12(20)	13(21.66)	22(36.66)	25(41.66)

Table 2

Part 1

SL. NO	ADOPTION	BENEFICIARIES		NON BENEFICIARIES	
		FREQUENCY	PERCENTAGE	FREQUENCY	PERCENTAGE
1	Low (19-24)	3	5	27	45
2	Medium(25-29)	28	46.66	27	45
3	High (30-34)	29	48.34	6	10
		60	100	60	100

Table 3

The results 4.1.12 indicated that beneficiaries of Adoption category part 1 5% of the respondents belong to low category (19-24), whereas 46.66% of the respondents belong to medium category(25-29), while 48.34% of the respondents belong to high category(30-34) and in case of beneficiaries of Adoption category part 2 13.33% of the respondents belong to low category (16-22), whereas 46.66% of the respondents belong to medium category (23-28), while 40% of the respondents belong to high category(29-34)

Part 2

SL. NO	ADOPTION	BENEFICIARIES		NON BENEFICIARIES	
		FREQUENCY	PERCENTAGE	FREQUENCY	PERCENTAGE
1	Low (16-22)	8	13.33	38	63.34
2	Medium (23-28)	28	46.66	19	31.66
3	High (29-34)	24	40	3	5
		60	100	60	100

Table 4

The results 4.1.13 indicated that non-beneficiaries of Adoption category part 1 45% of the respondents belong to low category (19-24), whereas 45% of the respondents belong to medium category (25-29), while 10% of the respondents belong to high category (30-34) and in case of non beneficiaries of adoption part 2 63.34% of the respondents belong to low category(16-22), whereas 31.66% of the respondents belong to medium category(23-28), while 5% of the respondents belong to high category(29-34).

➤ *Relationship between socio-economic Characteristics and adoption behaviour of practices about beneficiaries and non-beneficiaries of watershed.*

Sl. No.	Characteristics	“r” value(beneficiaries)	“r” value(non-beneficiaries)
1.	Age	0.139*	0.123*
2.	Education	0.215*	0.195*
3.	Family type	0.149*	0.113*
4.	Family size	0.225*	0.185*
5.	Land holding	0.012NS	0.015NS
6	Annul income	0.005NS	0.009NS
7.	Livestock	0.364*	0.264*
8	Mass media	0.169*	0.153*

Table 5

* = Significant at p = 0.005

The correlation coefficient 'r' between the variable age and adoption level of respondents towards the watershed is revealed to be 0.139* for the beneficiaries. For the non-beneficiaries, the correlation coefficient 'r' between age and the adoption level of respondents is revealed to be $r = 0.123^*$. It can be concluded that the variable age is significant in affecting adoption of the respondents towards Watershed for both beneficiaries and non-beneficiaries.

The correlation coefficient 'r' between the variable education type and the adoption level of beneficiaries respondents towards Watershed is revealed to be $r = 0.215^*$. The correlation coefficient 'r' for the variable Education type and Knowledge level of non beneficiaries is $r = 0.195^*$. The values of the variables for both the beneficiaries and non-beneficiaries are positive, and it is significant. It can be concluded that education type does have affect on the adoption of the respondents towards Watershed for both beneficiaries and non-beneficiaries.

The correlation coefficient 'r' between the variable family type and the adoption level of beneficiaries respondents towards watershed is revealed to be $r = 0.149^*$. The correlation coefficient 'r' for the variable family type and Knowledge level of non beneficiaries is $r = 0.113^*$. The values of the variables for both the beneficiaries and non-beneficiaries are positive and it is significant. It can be concluded that family type does not affect the adoption of the respondents towards watershed for both beneficiaries and non-beneficiaries.

The correlation coefficient 'r' between the variable family size and the adoption level of beneficiaries respondents towards watershed is revealed to be $r = 0.225^*$. The correlation coefficient 'r' for the variable family size and adoption level of non beneficiaries is $r = 0.185^*$. The values of the variables for both the beneficiaries and non-beneficiaries are positive and it is significant. It can be concluded that family size does not affect the adoption of the respondents towards watershed for both beneficiaries and non-beneficiaries.

The correlation coefficient 'r' between the variable land holding and the adoption level of beneficiaries respondents towards watershed is revealed to be $r = 0.012NS$. For non-beneficiaries, the correlation coefficient 'r' between the variable land holding and adoption level of non-beneficiaries is revealed as $r = 0.015NS$. The values of the variable for both the beneficiaries and non-beneficiaries are positive, but are non-significant. Hence, it can be concluded that land holding does not affect the knowledge level of the respondents towards watershed for both beneficiaries and non-beneficiaries.

The correlation coefficient 'r' between the variable annual income and the adoption level of beneficiaries

towards watershed is revealed to be $r = 0.005NS$. For non-beneficiaries, the correlation coefficient 'r' between annual income and adoption level is $r = 0.009NS$. The values of the variable for both the beneficiaries and non-beneficiaries are positive, but are non-significant. Hence, it can be concluded that annual income does not affect the adoption level of the respondents towards watershed for both beneficiaries and non-beneficiaries.

The correlation coefficient 'r' between the variable Livestock type and the adoption level of beneficiaries respondents towards watershed is revealed to be $r = 0.364^*$. The correlation coefficient 'r' for the variable Livestock type and adoption level of non beneficiaries is $r = 0.264^*$. The values of the variables for both the beneficiaries and non-beneficiaries are positive and it is significant. It can be concluded that Livestock type does not affect the adoption level of the respondents towards watershed for both beneficiaries and non-beneficiaries.

The correlation coefficient 'r' between the variable mass media exposure and the adoption level of the beneficiaries toward watershed is revealed to be $r = 0.169^*$. For the non-beneficiaries, the correlation coefficient 'r' between the variable mass media exposure and adoption level towards watershed management and rice crop is revealed to be $r = 0.153^*$. The values are positive and significant. It can be concluded that media exposure does have affect on the adoption level of the respondents towards watershed for both beneficiaries and non-beneficiaries.

IV. CONCLUSION

Based on the results of the present study it is suggested that the watershed development which is benefited for the farmers and should encourage farmers regarding these practices and so that create awareness and conviction among the farmers and ultimately there is increase in the level of learning among the farmers of both beneficiaries and nonbeneficiaries farmers groups regarding watershed development. Since the present study indicates that the watershed development had remarkable influence on the farmers regarding use of improved practices of Rice cultivation. Hence, it is suggested that watershed development project are to be used as a transfer of technology tool for adoption of improved Rice cultivation technology. There was highly significant difference in the level of knowledge between Beneficiaries farmers and non-Beneficiaries farmers in relation to improved practices of Rice cultivation. It May be concluded that in case of beneficiaries farmers, majority of the farmers possessed Fully knowledge about Rice production technology followed by medium and low knowledge and in case of non-beneficiaries farmers, majority of the farmers possessed partial knowledge about Rice production technology followed by low and fully knowledge.

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