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## Impact of integrated watershed management programme in Mungeli district of Chhattisgarh

**B Saxena, Ashok Kumar Jatwer and Rohit Singh**

### Abstract

The study was carried out during 2016-17 in the Mungeli district of Chhattisgarh state. This study aims to assess information on extent of people's participation in integrated watershed management's programme. This study was conducted in selected 12 villages identified from 2 blocks of Mungeli district and the sample comprised of 120 farmers. The data collection was done by structured interview schedule and through personal interview. Impact of IWMP on productivity of important crops shows that respondents obtained 18.04 q/ha before integrated watershed management programme while after project they obtained 19.96 q/ha average productivity from rice crop. Impact of IWMP on livestock status shows that respondents had 97 cows, 68 buffaloes and 167 goats while in case of post-project there were significantly (130 cows and 89 goat) number of animals increased. From the result it is representing that there are positively yield and area of important crops livestock status are increases due to integrated watershed management programme of the study area.

**Keywords:** Watershed management, IWMP, peoples participation

### Introduction

The Integrated Watershed Management Programme (IWMP) one of the flagship programme of Ministry of Rural Development is under implemented by the Department of Land Resources since 2009-10. Watershed in general is an area that supplies water by surface or subsurface flow to a given drainage system or body of water – a stream, river, wetland, lake or ocean. The interaction between land and water and its use and management decides the characteristics of the water flow and its relationship to the watershed. In recent decades, in many parts of the world, watershed degradation has emerged as a most serious problem causing natural resource degradation, which has been acting as a “pull factor” for the efforts of achieving food security and led to negative environmental and socio-economic consequences. People's participation in watershed management programmes is an important strategy of government of India for making watershed programmes successful. The major benefits flowing from the participation of the people in development are; in the planning and programming stages and throughout the implementation of development programmes, rural people can provide valuable social-cultural, ecological, economic and technical indigenous knowledge ensuring consistency between objectives of development and community values and preferences; people can mobilize local resources in the form of cash, labour, materials, managerial talent and political support which are critical to programme success.

The programme should meet the daily requirements of the majority of the stakeholders like supply of drinking water, fodder for cattle and fuel for kitchen. The watershed development programmes are made for local people. During 2010-11 Government targeted 0.236 million ha area, but as an achievement finally 0.284 million ha area was Sanctioned under Integrated Watershed Management Programme (IWMP) in Chhattisgarh. Central Funds Released and Utilized under Integrated Watershed Management Programme (IWMP) in Chhattisgarh from 2009 to 2015 were 152.44 crore and 157.93 crore respectively. Keeping this in view in mind the present investigation was done.

## Methodology

The study was carried out during 2016-17 in the Mungeli district of Chhattisgarh state. This study was conducted in selected 12 villages (10 respondents from each village) identified from 2 blocks of Mungeli district and the sample comprised of 120 [10 x 12 =120] farmers. The data collection was done by structured interview schedule and through personal interview. Collected data were processed, tabulated and analyzed by using appropriate statistical scales and methods like frequency, mean, per-cent, correlation coefficient and multiple regression analysis. The area and production (pre and post project) of each popular crop, as reported by respondents of the study area was recorded and presented in range and average.

## Peoples participation index (PPI)

A structured schedule for data collection was developed by the investigator to assess the extent of people's participation in watershed development programme. The extent of people's participation in watershed development programme was

measured with help of People's Participation Index (PPI) as given below:

$$PPI = \frac{\text{Obtainable Score}}{\text{Obtained Score}} \times 100$$

## Result and Discussion

### Impact of IWMP on important crop yield and number of animal

#### Impact of IWMP on productivity of important crops

In case of the productivity of different crops grown by the respondents, table indicates that respondents obtained 18.04 q/ha before integrated watershed management programme while after project they obtained 19.96 q/ha average productivity from rice crop. Similarly, in case of pre project, the average productivity from important crops like Soybean, urd, wheat, gram, pea and lathyrus were 22.77, 20.87, 12.69, 7.75, 6.32 and 4.59 q/ha respectively whereas it was significantly increases by 8.15, 3.07, 14.02, 9.95, 4.61 and 7.99 q/ha respectively after project.

**Table 1:** Distribution of respondents according to productivity of important crops, and their area amongst the respondents (n=120)

Season	Crops	Pre-project yield			Post-project yield (q/ha)			% Change
		Area (ha)	Production	Production (q/ha)	Area (ha)	Production	Production (q/ha)	
Kharif	Rice	82.7	1491.9	18.04	94.2	1880.23	19.96	10.64 (+)
	Soybean	6.2	48.05	7.75	7.1	57.86	8.15	5.16 (+)
	Urd	8.8	25.17	2.86	9.0	27.63	3.07	7.34 (+)
Rabi	Wheat	31.5	400.37	12.71	36.9	517.39	14.02	10.31 (+)
	Gram	13.9	121.76	8.76	15.7	156.22	9.95	13.58 (+)
	Pea	4.6	17.71	3.85	4.9	22.59	4.61	19.74 (+)
	Lathyrus	43.9	295.45	6.73	47.3	377.93	7.99	18.72 (+)

From the table it is representing that there are positively yield and area of important crops are increases due to integrated watershed management programme of the study area.

## Impact of IWMP on livestock status

In case of pre-project, table shows that respondents had 97 cows, 68 buffaloes and 167 goats while in case of post-project there were significantly (130 cows and 89 goat) number of animals increased.

**Table 2:** Distribution of respondents according to their number of animal possessed (n=120)

Sl. No.	Animal	Number of animal		
		Pre-project	Post-project	Percentage change in + or -
1	Cow	97	130	34.02 (+)
2	Buffalo	68	89	30.88 (+)
3	Goat	167	219	31.14 (+)

## Conclusion

From the above findings it can be concluded that the overall participation of the respondents in integrated watershed management programme was recorded 67.53 per cent and gap was recorded 32.47 per cent. Hence, extension and other government and non-government organization efforts should be made to increase the level of people's participation in integrated watershed management programme.

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