

## Technological Constraints in Effective Implementation of Integrated Watershed Technology

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### INTRODUCTION

Today, conservation of rapidly degrading soil and water on the basis of watershed management is of pivotal importance. India has utilized full potential of her irrigated land whereas very little or no emphasis was given on evolving the agricultural production technology for dryland hilly areas which constituted nearey 70 per cent of the total agricultural land in the country. Hence, it is essential to enhance the production efficiency of dryland rainfed areas. Integrated Watershed Development on broad based system of agricultural extension which includes agroforestry, soil & water conservation, horticulture, animal & pasture development etc. seems to be the best suited approach to utilize all the biotic resources in dryland and hilly areas. Considering the problems and erosion hazzards of Rajasthan state. IWDP was started by the state govt. in 1990 in collaboration with world Bank.

The present study was undertaken to identify the constraints being perceived the field functionaries in effective implementation of the IWDP. Since implementation part of any programme is much improtant from its success point of view.

### METHODOLOGY

Out of the four deistricts of IWDP only Udaipur district was selected for the study since it possessed largest area under the project. In all 4 field supervisors, 6 AAo (Asstt. Agril. Officer), 4 JEn. (Junior Engineer) and 2 AEn (Assistant Engineers) were working in the IWDP Udaipur, they all were included in the study. The probable constraints were identified through personal observations, available literature, reviews and consultation with specialists. In this way, a questionnaire incorporating all the aspects related to effective implementation of IWDP was

Section Title	No of items
A Constraints related to planning and organization of IWDP	8
B Related to Coordination and cooperation	8
C Related to input & budget	7
D Related to Farmer's participation	10
E Related to Extension & education	5
F Related to monitoring and evaluation	4

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developed. The questionnaire was divided into six sections as under

All the statements were then put on a four point continuum i.e. very much, so-so, very little and not at all with weights 3, 2, 1 and 0 respectively to measure the severity of problem. Mean per cent scores, were then calculated for each individuals score, accordingly ranks were given and results interpreted.

## RESULTS AND DISCUSSION

The constraints being perceived by the field functionaries of IWDP in its effective implementation were presented in this paper. The field functionaries were asked to highlight various constraints and their response is presented in the Table 2. Observation of the table revealed that in the aspect of "planning & organization" the major constraints perceived by the FFs were lack of planning at village level, short duration of project and involvement of farmers in planning with 76.66, 73.33 and 53.33 MPS respectively.

In case of "coordination & cooperation" with other line departments the MPS of extent of constraints vary from 10.00 to 16.66 highest being in apathy of government and lowest towards behaviour of supervisors. The overall MPS (32.91) in this aspect shows that the coordination and cooperation with other line department was not a serious problem though it requires little attention on the part of superior authority of the project to have coordination with other related departments and non government organization. As far as "Input & budget" is concerned major

hinderance in effective implementation of work was unavailability of adequate skilled labourers (60.00MPS) to perform various soil & water conservation activities as it required technical knowledge on the part of person performing the job, followed by availability of suitable plants for farm forestry (56.66MPS) while remaining five constraints were perceived least as their MPS were below 26.66.

FFS had expressed maximum constraints in "Farmers participation" aspects as the overall MPS were (65.66). Farmers interest in only free input was the major problem where the MPS were as high as 90.00 showing severity of the problem. Similarly illiteracy and lack of education among farmers was another important reason, followed by low participation of farmers in training camps, meetings etc.

On the other hand, lack of specialists for crop and soil & water conservation demonstrations and field trips, unavailability of improved technology of agriculture and animal husbandry for the rainfed & hilly areas, and inadequate knowledge of FFs towards various land management system were the problems given higher priority in the field of "Extension and Education of IWDP. According to the overall MPS (57.33) the constraints related to this aspects were stood second.

Further, in the field of "Monitoring and evaluation" the overall PMS was (44.99) indicating the requirement of careful consideration on the part of "monitoring & evaluation" team of IWDP.

The important problems in this aspect were lack of transport facilities for field work (56.66MPS), lack of professional & social recognition to the work (50.00MPS) and irregular & timely evaluation.

### CONCLUSION AND RECOMMENDATIONS

1. Constraints related to "Farmer's Participation" were found as major hindrance in the effective implementation of IWDP. Hence, it is suggested that farmers might be involved in all the stages from planning of the project by convincing them personally about the benefits of watershed technology.
2. It is also evident from the findings that the project lacks specialist for disseminating the watershed technology, crop demonstration, field visits etc. Therefore, extension specialists must be appointed/or cooperation from directorate of extension must be sought for organising

farmers training camps, watershed demonstrations, field visits etc.

3. Adequate coverage of IWDP should be given through mass media like All India Radio, Television etc.
4. IWDP should be implemented in phased manner. In the first phase, all the land based activities namely Agroforestry, Horticulture, Pasture Development and soil & water conservation may be included depending upon the specific need and potentiality of the area. The second phase may be extended to livestock based components like animal husbandry, fisheries, sericulture etc.
5. Duration of the project which is fixed at seven years should be increased upto 10-12 years since the gestation period of watershed is normally 7 years.
6. Efforts should be made by the authority of IWDO to maintain proper coordination & cooperatives within and between other line departments.

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Technological Constraints in...

**Table 2 : Extent of constraints being realised by the FFs in effective implementation if IWDP.**

S.No.	Constraints related to	MPS	Rank
1	2	3	4
<b>A. Planning &amp; Organisation</b>			
1.	Lack of planning at grass root level	76.66	1
2.	Over crowding of activities being taken	43.33	5.5
3.	Project tenure is of less duration	73.33	2
4.	Large distance of operational area	23.33	7.5
5.	Inadequate staff	46.66	4
6.	Adequate emphasis is not given to agriculture and allied activities	43.33	5.5
7.	Lack of farmer's involvement at planning stage	53.33	3
8.	Larger operational area	23.33	7.5
	<i>Overall</i>	<i>47.91</i>	
<b>B Cordination &amp; Cooperation</b>			
1.	Lack of coordination with other line departments (Soil & Water Conservation, animal husbandry, horticulticulture forest and other cooperative institute)	33.33	6
2.	Lack of team work feeling among staff members	43.33	2.5
3.	Cooperation from NGOs	36.66	4.5
4.	Lesser cooperation from various development deptt. of government.	36.66	4.5
5.	Lack of farmers cooperation	43.33	2.5
6.	Apathy of government	46.66	1
7.	Dissatisfied with the behaviour supervisor	10.00	8
8.	Non-cooperation from subordinate staff	13.33	7
	<i>Overall</i>	<i>32.91</i>	
<b>C. Input &amp; Budget</b>			
1.	Proper backing by input supply	26.66	3
2.	Quality of input supplied	16.66	6
3.	Availability of suitable plants for farm forestry	56.66	2
4.	Inadequate skilled labourer	60.00	1
5.	Availability of modern equipments for land survey	10.00	7
6.	Adquate budget for different activities	20.00	5
7.	Untimely input distribution	23.33	4
	<i>Overall</i>	<i>30.47</i>	

Technological Constraints in...

1	2	3	4
<b>D. Farmer's Participation</b>			
1. Illiteracy		86.66	2
2. Lower participation in training campus, meetings etc.		76.66	3.5
3. Farmer's interest in free input only		90.00	1
4. Lack of faith in new technology and advise of FFs		56.66	6.5
5. Poverty		76.66	3.5
6. Least interested in artificial insemination		56.66	6.5
7. Lack of faith in scientific treatment of sick animal		53.33	8
8. Poor participation in exhibitions and farmers fair		46.66	10
9. Prejudiceness regarding sheep & goat rearing		50.00	9
10. Contact farmers do not disseminate new technology to fellow farmers		63.33	5
<i>Overall</i>		65.66	
<b>E. Extension and Education</b>			
1. Inadequate knowledge of FFs regarding various and management sytems (Agroforestry, silvipasture, alley cropping etc)		60.00	3
2. Lack of specialists for demonstration and field trips		73.33	1
3. Improved technology of agriculture & animal husbandry in hilly and rainfed areas		63.33	2
4. Untimely and inadequate training material		46.66	4
5. Technical problems could not be solved timely		43.33	5
<i>Overall</i>		57.33	
<b>F. Monitoring and Evaluation</b>			
1. Project lack regular and timely evaluation		46.66	3
2. Lacks of professional and social recognition to the work performed by the FFs		50.00	2
3. Distribution of work load		26.66	4
4. Lack of transport facilities for field work		56.66	1
<i>Overall</i>		44.99	