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CONSTRAINTS AS PERCEIVED BY THE FIELD FUNCTIONARIES OF NWDPRA IN IMPLEMENTATION OF 000WATERSHED TECHNOLOGY

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Agricultural productivity significantly depends upon soil and water conservation because agriculture is the back bone of Indian economy and major area i.e. 60 per cent of total cultivated area is under rainfed. Watershed management is inevitable, especially for conserving the water and soil in dryland and rainfed areas of Rajasthan. Agricultural production in Rajasthan state mainly depends upon monsoon rain. Rainfall in Rajasthan generally remains abnormal with prolonged drought periods and only contributes one percent of the national gross water resources. In Rajasthan, 75 per cent of the total cultivated area is under rainfed. Government of India initiated National Watershed Development Project for Rainfed Areas (NWDPRA, 1986) and Government of Rajasthan established a separate department of watershed development and soil conservation in 1991.

Constraints are the forcible restrictions and confinement of action. For implementation of any rural development programme, the constraints or impediments play very important role. Therefore, to obtain better esults from NWDPRA, it is very essential to ind out the constraints and to minimize the ame in implementation and adoption of vatershed technology as far as possible. Keeping this point in view the study Constraints as perceived by field unctionaries of NWDPRA in implementation of watershed technology" was undertaken with the following specific objectives:

(i) To find out the constraints being faced by field functionaries of NWDPRA in implementation of watershed technology.

(ii) To seek suggestions for effective implementation and adoption of watershed technology of NWDPRA.

METHODOLOGY :

The research was conducted in four watershed districts namely Sikar, Chur, Jaipur and Jhunjhunu of Jaipur watershed region. A complete list of field functionaries from the study area, who were engaged in the implementation of the project from grass root level to regional head quarter, was obtained from the concerning offices. All the field functionaries i.e. officers to field supervisors from each unit office, Deputy Director office and regional office of the selected watersheds were included in the sample. Thereby making the total size of 48 respondents. The constraints were measured with the help of schedule developed by the investigator. The responses expressed by field functionaries were recorded on a three point continuum viz., most important, important, less important and scores were assigned 3, 2, 1, respectively. The mean scores were calculated for ranking the constraints based on the frequency and

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percentage of each constraint. Similarly to seek suggestions for effective implementation of NWDPRA various structured statements were grouped and these were finalized on the basis of experts' opinion. Some open-ended questions were also formulated and the investigator also discussed with the field functionaries and respondent farmers in this regard. The responses of the respondents were taken into 'yes' or 'no' form. The frequencies were worked out accordingly and ranks were assigned on the basis of percentage.

RESULTS AND DISCUSSION :

I. Constraints faced by field functionaries of NWDPRA in adoption of watershed technology :

Under this section various categories of constraints viz., planning and organization, financial, technical, transfer of technology, coordination and cooperation, monitoring and evaluation were included.

Table 1. Relative importance of planning and organization constraints faced by field functionaries in adoption of watershed technology N = 48

S.No.	Constraints	MI	I	LI	TS	MS	R
1.	Lack of involvement of farmers in watershed planning.	13	32	3	106	2.21	V
2.	Lack of proper identification and survey on land use and its management	-	22	26	70	1.46	VII
2.	No provision of incentives for excellent field functionaries posted in remote areas.	28	12	8	116	2.42	III
3.	Lack of proper survey of socio-economic status of farmers.	8	28	12	64	1.33	VIII
4.	Lack of publicity of the watershed project among farmers to create general awareness.	4	29	15	85	1.77	VI
5.	Lack of rules to avoid over exploitation of ground water resources.	24	24	-	120	2.50	II
6.	Larger operational area and is far away from the head quarter	32	12	4	124	2.58	I
7.	Lack of vehicles for mobility in the operational area.	24	11	13	107	2.23	IV

MI= Most important, I= Important, LI= Less important, TS= Total score, MS= Mean score, R= Rank

Among the planning and organizational constraints, the data in Table 1 indicates that the constraint larger operational area and far away from headquarter was having the highest mean score (2.58), hence it was ranked first. Lack of rules to avoid over exploitation of ground water resources (2.5) and no provision of incentives for excellent field functionaries posted in remote areas (2.42) were ranked second and third constraint respectively. The last rank was assigned to the constraint lack of proper survey of socio-economic status of farmers (1.33).

It could be concluded that the constraint larger operational area and is far away from headquarter was the most important constraint as perceived by the field functionaries. This might be due to the fact that the watersheds were situated in remote areas at distant locations and field functionaries headquarters were situated at block or district level owing to which their valuable time was passed in (to and fro) traveling, from one watershed to other watershed. The second ranked constraint was lack of rules to avoid over exploitation of ground water resources. This might be due to the fact that Govt. had not imposed effective rules/laws to control the unlawful exploitation of ground water. The third ranked constraint was no provision of incentives for field functionaries posted in remote areas. This might be because there was no difference

between excellent worker and an average worker. Best workers were not rewarded in cash or kind. It could also be concluded that the lack of survey of socio-economic status of farmers was ranked as the least important constraint. This might be due to the fact that the programme was implemented without conducting the proper survey of social and economic position of respondent farmers but it did not play an important role because the programme might have covered whole watershed community.

Among financial constraints, the data in Table 2 reveal that low wage rate discourages labourers to do work in watershed area was having the highest mean score (2.15) and hence, it was ranked first. The second and third ranks were assigned to inadequate budget for follow-up programme (2.02) and uncertainty of forth coming funds even after approval of the budget (2.00) respectively. The last rank was assigned to the constraint public contribution to the watershed development (Corpus) fund is negligible (1.40).

Table 2. Relative importance of financial constraints faced by field functionaries in adoption of watershed technology N=48

S.No.	Constraints	MI	I	LI	TS	MS	R
1.	Lack of sufficient funds for different activities.	8	12	28	76	1.58	VII
2.	Uncertainty of forth coming funds even after approval of the budget.	8	32	8	96	2.00	III
3.	Funds allocated for watershed work are diverted for other activities.	-	31	17	79	1.65	VI
4.	Budget is not properly distributed under different heads	4	15	29	71	1.48	VIII
5.	Public contribution to the watershed development (corpus) fund is negligible.	4	11	33	67	1.40	IX
6.	Recovery of loan from watershed beneficiary is great problem.	16	8	24	88	1.83	V
7.	Low wage rate discourage labourers to do work in watershed area.	17	21	10	103	2.15	I
8.	Mis-utilization of development (corpus) funds	4	37	7	93	1.94	IV
9.	Inadequate budget for follow up programme.	12	25	11	97	2.02	II

MI= Most important, I= Important, LI= Less important, TS= Total score, MS= Mean score, R= Rank,

It could be concluded that the constraint low wage rate discourages labourers to do work in watershed area was perceived by field functionaries as the most important constraint among financial constraints. It might be due to the fact that there was great difference between watershed areas and urban areas' wage rate and in other facilities so that rural labourers were mobilized towards urban areas. Inadequate budget for follow up programme was ranked second. This might be due to the fact that budget provision for maintenance of community assets (created under the project) after completion of the project was negligible. Uncertainty of forth coming funds even after approval of the budget was ranked third. This might be due to the fact that the budget was curtailed even after approval of the budget.

It could also be concluded that the last ranked constraint budget is not properly distributed under different heads was the least important constraint as perceived by the field functionaries. This might be due to the fact that though budget under different heads was unevenly distributed but field functionaries were involved mostly in construction work which was having sufficient budget.

Among technical constraints, the data in Table 3 depicts that the constraint books and publications are generally written in foreign language was having the highest mean score (2.31), hence, it was ranked first. The second and third ranks were assigned to lack of area specific and viable technology (2.13) and lack of farmers motivation and conviction about watershed technology (2.04) constraints, respectively. The last ranked constraint was small and fragmented land holding are not suitable for treatment (1.69).

Table 3. Relative importance of technical constraints faced by field functionaries in adoption of watershed technology N=48

S.No.	Constraints	MI	I	LI	TS	MS	R
1.	Lack of area specific proven and viable technology	11	32	5	102	2.13	II
2.	Small and fragmented land holdings are not suitable for treatment	5	23	20	81	1.69	VI
3.	Contour furrow/loose stone check dams are not properly designed and constructed	8	33	7	97	2.02	IV
4.	Encroachment on Government /on pasture land	4	27	17	83	1.73	V
5.	Lack of farmers motivation and conviction about watershed technology	9	32	7	98	2.04	III
6.	Books and publications are generally written in foreign language	16	31	1	111	2.31	I

MI= Most important, I= Important, LI= Less important, TS= Total score, MS= Mean score, R= Rank

It could be concluded that the books and publications are generally written in foreign language was perceived by the field functionaries as the most important constraint. This might be due to the fact that mostly field functionaries felt it as the difficult task to understand and translate the watershed literature from foreign language to Hindi or local language. Lack of area specific proven and viable technology was ranked as the second constraint. It might be due to the fact that the location specific watershed technology of Watershed Development Project (WDP) approved by regional research station of the area was not available, lack of farmers' motivation and conviction about watershed technology was ranked as the third constraint. This might be due to the fact that field functionaries might have not fully convinced the watershed farmers about importance and use of watershed technology.

Table 4. Relative importance of transfer of technology constraints faced by field functionaries in adoption of watershed technologY N=48

S.No.	Constraints	MI	I	LI	TS	MS	R
1.	Beneficiary farmers are not invited in group discussions/ meetings	-	20	28	68	1.42	VIII
2.	Inadequate field visits by the watershed staff	-	26	22	74	1.54	VII
3.	Lack of adequate trained field staff	-	27	21	75	1.56	VI
4.	Inadequate training to the farmers by field functionaries	4	24	20	80	1.67	V
5.	Use of difficult and complex language in training	8	20	20	84	1.75	IV
6.	Lack of infrastructural facilities for training	16	25	7	105	2.19	III
7.	Farmers are more interested to get free inputs than in the technical know how	17	31	-	113	2.35	II
8.	Lack of zonal/regional package of watershed technology	29	19	-	125	2.60	I

MI= Most important, I= Important, LI= Less important, TS= Total score, MS= Mean score, R= Rank,

could also be concluded that the last warded to small and fragmented land ng are not suitable for treatment was ived by the field functionary as the least rtant constraint. This might be due to the hat the watershed technology under DPRA might be suitable for all categories mers.

As far as constraints related to transfer chnology, the data in Table 4 depicts that of zonal/regional package of watershed nology was having the highest mean score 0). The second and third ranks were rded to the constraints, farmers are more rested to get free inputs than in the nical know how (2.35) and lack of astructural facilities for training (2.19), pectively. The last rank was awarded to constraint beneficiary farmers are not ited in group discussions/meetings (1.42).

It could be concluded that the most portant constraint as perceived by field ictionaries among the constraints related to nsfer of technology was lack of zonal/ gional package of watershed technology. his might be due to the fact that full package practices of watershed technology based area specific was not available. The cond ranked constraint was farmers are ore interest to get free inputs than in the chnical known how. This might have occurred due to the fact that farmers were not confident about the benefit of the watershed technology and were hesitant to adopt the technology. Third rank was achieved by the constraint lack of infrastructural facilities for training. This might be due to the fact that training experts, training aids, training materials etc. and other facilities which were essential for conducting training were not available at watershed office.

It could also be concluded that the last ranked constraint as beneficiary farmers are not invited in group discussions/meeting as perceived by field functionary was the least important constraint. This might be due to the fact that field functionaries did not want the involvement of whole watershed community in each and every meeting but they might have invited the farmers on some occasions.

As far as constraints related to cooperation and coordination, the data in Table 5 reveal that apathy of Govt. was having the highest mean score (2.92), hence, it was ranked first. The second and third ranks were assigned to people are more interested in getting quick returns from their land than conserving soil for future (2.31) and lack of team work feeling among staff members (2.25), respectively. The last ranked constraint was dis-satisfied behaviour of superiors.

Table 5. Relative importance of cooperation and coordination constraints faced by field functionaries in adoption of watershed technology N=48

No.	Constraints	MI	I	LI	TS	MS	R
1.	Lack of co-ordination with line departments	4	24	20	80	1.67	VI
2.	Lack of team work feeling among staff members	16	28	4	108	2.25	III
3.	Lack of co-operation from farmers	4	21	23	77	1.60	VII
4.	Apathy of government	44	4	-	140	2.92	I
5.	Lack of involvement of Panchayat Raj Institutions	9	28	11	94	1.96	V
6.	Illiteracy, poverty and conservative attitude of farmers	-	25	23	73	1.52	VIII
7.	People are more interested in getting quick returns from their land than in conserving soil for future.	15	33	-	111	2.31	II
8.	Project staff ignores vegetation programmes but more interest in engineering/ construction work	16	20	12	100	2.08	IV
9.	Dis-satisfied behaviour of the superiors.	-	17	31	65	1.35	IX

MI= Most important, I= Important, LI= Less important, TS= Total score, MS= Mean score, R= Rank

It could be concluded that Apathy of Govt. was perceived as the most important constraint by field functionaries among coordination and cooperation category of constraint, this might be due to the fact that the Govt. itself projected in the programme and farmers involvement in implementation of the programme was ignored. People are more interested in getting quick returns from their land than in conserving soil for future was perceived as the second ranked constraint. This might be due to the fact that farming as a livelihood for the farmers due to their poverty so they were interested in getting quick return from their land. Lack of team work feeling among staff members was ranked as third constraint. This might be due to the fact that staff members suffered from factionalism and they were having their own welfare interest rather than community welfare.

Project staff ignores vegetation programme but more interest in engineering/ construction work was ranked as fourth constraint. This might be due to the fact that project staff does not having expertise in vegetation programme. It could also be concluded that the last ranked constraint dis satisfied behaviour of the superiors was perceived as the least important constraint. This might be due to the fact that some times superiors were not satisfied with the work done by sub-ordinates but it was rarely observed.

Table 6. Relative importance of monitoring and evaluation constraints faced by field functionaries in adoption of watershed technology N=48

S.No.	Constraints	MI	I	LI	TS	MS	R
1.	Untimely and irregular evaluation	9	37	2	103	2.15	IV
2.	Farmers are not included in the evaluation committee	12	32	4	104	2.17	III
3.	Farmers are not kept acquainted with the evaluation reports	16	32	-	112	2.33	II
4.	Evaluation is done on the basis of work planned but not on the physical verification	3	16	29	70	1.46	VIII
5.	The work done by field functionary is not properly reported/ recognized	12	28	8	100	2.08	V
6.	Monitoring of physical and financial progress are the formalities	24	17	7	113	2.35	I
7.	Mal-practices in auditing of accounts at watershed level	3	24	21	78	1.63	VII
8	State Government does not pay attention to control the mal practices in the use of budget	3	25	20	79	1.65	VI

MI= Most important, I= Important, LT= Less important, TS= Total score, MS= Mean score, R= Rank,

About constraints related to monitoring and evaluation, the data in Table 6 reveals that monitoring of physical and financial progress are the formalities having the highest mean score (2.35), hence, it was ranked as first. The second and third ranks were awarded to the constraints, farmers are not kept acquainted with the evaluation reports (2.33) and farmers are not included in the evaluation committee (2.17), respectively. The last rank awarded constraint was evaluation is done on the basis of work done but not on the basis of physical verification (1.46).

It could be concluded that the first ranked constraint monitoring of physical and financial progress are the formalities was perceived as the most important constraint among monitoring and evaluation constraints. This might be due to the fact that proper rules and regulations were not strictly followed in monitoring of physical and financial progress of the WDP. The second ranked constraint,

farmers are not kept acquainted with the evaluation report might be perceived due to the fact that the watershed staff thought that target, achievement, work progress were not concerned with farmers. The third ranked constraint, farmers are not included in the evaluation committee might have perceived by the field functionaries due to the fact that according to watershed personnel view, farmers were not having knowledge about evaluation procedure of WDP.

It could also be concluded that the last ranked constraint, evaluation is done on the basis of work planned but not on the physical verification was least perceived by the field functionaries. This might be due to the fact that the WDP was target-oriented so that progress reports were prepared on the basis of work planned but concerned with physical verification.

Table 7. Relative position of different categories of constraints faced by field functionaies in adoption of watershed technology N=48

S.No.	Category of constraints	No. of statements	TS	MS	R
1.	Planning and organization	8	792	2.06	I
2.	Financial constraints	9	770	1.78	VI
3.	Technical constraints	9	572	1.99	II
4.	Transfer of technology	8	724	1.88	V
5.	Coordination of cooperation	9	848	1.96	IV
6.	Monitoring and evaluation	8	759	1.98	III

TS= Total score, MS= Mean score, R= Rank

The data in Table 7 indicates that planning and organization category of constraints was having the highest mean score (2.06), hence it was ranked first. The last rank was assigned to the category of financia constraints (1.78).

It could be concluded that among al planning and organization category o constraint was perceived by the fiel functionaries as the most important, where a financial constraints were observed the leas important category of constraint.

II. Suggestions made by fiel functionaries for effectiv implementation of watershe technology :

The suggestions made by fiel functionaries presented in Table 8 reveal that more than three-fourth of field functionaries suggested that regional/zonal package of practices of watershed technology should be evolved (83.33%), training component of WDP should be strengthened (81.25%) provision of single door delivery system of al agricultural and technical inputs to farmers (79.17%), mal-practices in use of budget and auditing should be stopped (77.08%) and were ranked as first, second, third and fourth respectively. Seventy five per cent fiel functionaries suggested about provision o posts related to agriculture extension experts to encourage agricultural production whereas mal-practices in use of budget and auditing should be stopped (ranked fifth).

The last seventeenth, eighteenth nineteenth and twentieth ranks were received by provision of sufficient budget for follow up programme, members of watershed association should be selected based on family cards, proper distribution and use of budget under various sanctioned heads, proper survey, selection and planning of watershed area and were suggested by 50.00 per cent 43.75 per cent, 41.67 per cent and 30.58 per cent field functionaries, respectively.

Table 8. Suggestions made by field functionaries for effective implementation and adoption of watershed technology N= 48

S.No.	Suggestions	Number	Per cent	Rank
1.	Proper survey, selection and planning of watershed areas	19	39.58	XX
2.	Delineation and reducing of operational area under each watershed	27	56.25	XIV
3.	Members of watershed association should be selected based on family cards	21	43.75	XVIII
4.	Provision of farmers contribution in watershed development (corpus) fund per ha of land instead of per activity	29	60.42	XII
5.	Provision of single door delivery system of all agricultural inputs and technology to farmers	38	79.17	III
6.	Provision of posts related to agriculture extension experts to encourage agricultural production	36	75.00	V
7.	Provision of more budget for vegetation work instead of engineering work	34	70.83	VII
8.	Training component of WDP should be strengthened	39	81.25	II
9.	Regional/zonal package of practices of watershed technology should be developed	40	83.33	I
10.	More emphasis on saving and conservation of water	25	52.08	XVI
11.	Excellent field functionary should be rewarded	33	68.75	VIII
12.	Provision of farmers' representation during formulation of watershed project	35	72.92	VI
13.	Immediate release of funds after its sanction	30	62.50	XI
14.	Provision of sufficient budget for follow up programme	24	50.00	XVI
15.	Provision of vehicle facilities to visit watershed areas	29	60.42	XII
16.	Proper distribution and use of budget under various sanctioned heads	20	41.67	XIX
17.	Provision of well trained staff in watershed technology specially in vegetation and crop production	31	64.58	X
18.	Publication and distribution of literature based on specific proven vegetation and crop production	35	72.92	VI
19.	Development of infrastructural facilities for training	32	66.67	IX
20.	Proper linkage with line departments	28	58.33	XIII
21.	Inclusion of farmers in evaluation committee	26	54.17	XV
22.	Mal-practices in use of budget and auditing should be stopped	37	77.08	IV
23.	Provision of proper balanced monthly planning and distribution of watershed work to be performed by field functionaries	28	58.30	XIII
24.	Promote diversified farming	30	62.50	XI

Therefore, it may be concluded that most important suggestion made by field functionaries were regional/zonal package of practices of watershed technology should be evolved (ranked-I), training component of WDP should be strengthened (ranked-II) and single door delivery system of all agricultural and technical inputs (ranked-III) whereas the least important suggestion made by the field functionaries were members of watershed association should be selected based on family cards (ranked-XVIII), proper distribution and use of budget under various sanctioned heads (ranked-XIX) and proper survey, selection and planning of watershed area (ranked-XX).

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