

Impact of Community Managed Water Harvesting Structures viz. Check dam & Lift Irrigation Schemes executed under RKVY in District: Jhalawar

Category :- Natural Resource Management

Introduction

The project on construction of Community Managed Water Resources Structures viz **Check Dams** and **Lift Irrigation Schemes** in Jhalawar District has been undertaken under RKVY with an objective to improve the quality of life of about 2000 rural poor farmers through Land and Water Resources and Agriculture activities. The execution of the project has been done by the NGO – N M Sadguru Water and Development Foundation, known for its excellence in the field of Water Resources Development. The project as approved by SLSC, consists of construction of 09 Check Dams and 10 Lift Irrigation Schemes in a period of 3 years with an outlay of Rs. 1636 lakhs. So far 10 projects (05 Check Dams and 05 Lift Irrigation Schemes) have been executed and remaining 09 projects are under execution at present.

Water Harvesting Structure – *Check Dam*

Check Dams are small height masonry structures built across rivers or rivulets to harvest the monsoon water to be utilized in rabi season for irrigation and other purposes. Check Dam has been provided with required number of MS gates to allow monsoon flood to go downstream. These gates are put in, once the flow in the stream recedes. The water from these Check Dams is either lifted through individual pumping devices by the farmers or through Community Lift Irrigation Schemes for irrigation purposes.

Challenges

As the implementing agency has tremendous experience of executing such projects, there is no such challenge came across in physical execution of the projects, but ensuring sustainability of the project often remains an issue. So,

community need to be properly mobilized to take the ownership. Initially villagers were not aware about functionality of such structures which are post construction managed by community. The staff of Implementing agency “N M Sadguru” took them to other village, where such structures were already in function for many years. After having interaction within community, people got thrilled imagining such structure in their village.

Initiatives

05 Check Dams have been constructed so far in different villages. The details of these structures are as under:

Sr No.	Name of Project	Storage Capacity (mcft)	Irrigation Potential (Acre)	No. of Beneficiaries
1	Chhan-I Check Dam	2.00	50	30
2	Chhan-II Check Dam	3.77	60	100
3	Birmakhedi Check Dam	10.00	200	100
4	Tisai Check Dam	2.00	60	98
5	Udaipura Check Dam	2.00	60	100

All the above Check Dams are functional and serving the purpose, for which they have been planned. The management of these Check Dams, particularly removal of Shutters before monsoon and fitting of those shutter after receding of flood is being taken care by community themselves. The detail of one Check Dam Chhan-II is explained as under:

The Chhan-II Check Dams in village Chhan has been constructed across Kanthali river in Dag Panchayat Samiti of District Jhalawar. Kanthali river is one of the tributaries of river Chambal which further merges to Yamuna River. Total length of check dam was 61 m with height of 3.40 m. This check dam has storage capacity of 3.77 mcft of water in length of 2.00 km and creating potential for irrigation in 100 acre of land.

Impact

The intervention has significant impact on the quality of life of farmers residing around the Check Dam. Farmers are extremely satisfied with the asset “Check

Dam - Chhan-II”, they have got in their village. Farmers expressed that they had been asking for this Check Dam for a long time. Ultimately it became true only because of Sadguru Foundation and Department of Agriculture, Government of Rajasthan.

Before construction of Check Dam, Farmers in the village were largely taking rainfed crops like Soyabean, Maize etc during Kharif and some rabi crops like Gram, Lentil and Mustard. Now they are taking Crops like Wheat, Gram, Corriander etc. Some of the farmers, who had their own source of irrigation like open wells could be able to take some crops in Rabi season. But now, because of Check Dam, water in those wells has increased and they are able to take crops in more areas.



Check Dam – Chhan-II constructed across River Kanthali, in Jhalawar District, Rajasthan.

There has been an increase in overall productivity of food grains and fodder because of increase in overall moisture regime. The Check Dam has storage capacity of 10 mcft and directly benefiting 100 farmers in irrigating 200 Acres of their farm land. The villagers opposite to Chhan Village are also getting

benefit of this structure. The increased water availability has also benefitted to animals resulting into increased milk production.

This year, farmers have taken irrigation in 90 acres through their individual pumps. Most of the farmers have grown wheat in their fields. There has been significant impact of above Check Dam. Besides economic benefit in the form of increased income due to increase in production, villagers got organised to take collective decisions. The general body of the village has constituted a “Check Dam Committee” to take care of the Check Dam mainly removal and putting in of the shutters provided in the structure at appropriate times. The committee facilitates the equitable and appropriate use of Check Dam water.





One of the beneficiaries “Mr. Narayan Singh s/o Pur Singh Rajput of Village Chhan, had 10 Bighas of cultivable land. But before construction of the Check Dam, he could be able to cultivate only 3-4 Bighas of land that too by sowing low water requiring crops like Gram, Mustard etc. Now after the construction of Check Dam, he is able to cultivate crops of his choice on entire 10 Bigha of land because of availability of sufficient water. During 2015-16, Mr. Narayan Singh has taken Wheat, Coriander, Lentil etc and got more than two times (Rs. 80,000/-) the net income from the crop.

Lessons Learnt

The execution of above project has a lesson that community ownership is essentially needed to be ensured to achieve the maximum benefit of community assets, particularly when it is created around critical element like ‘water’. Since this is an infrastructure based project, there would be need for upkeeping of these structures after certain period of time. So there must be provision for some financial support for the purpose of maintenance.

Lift Irrigation Schemes (LIS)

Lift Irrigation is a device to lift the stored water to be utilized for irrigation purposes. This device is more useful in undulating terrenes, where canal irrigation is not possible. The topography of the proposed villages is most suitable for installation of lift irrigation scheme for irrigating farmers' field. 05 Lift Irrigation Schemes have been installed so far and 05 more are under execution.

Challenges

Community Lift Irrigation is quite sensitive in terms of sustainability, as the post execution management including operation and maintenance is done by community. Since the scheme runs on electric power, the issues like ensuring regular power supply, deposition of timely electric bills etc. need to be handled by the community. Unless proper training and capacity building of community is done at the time of execution, the risk of its failure becomes very high. But the implementing agency has strong faith in community strength and so the implementing agency follows a well defined path for execution of these project and succeeds.

Initiatives

In order to ensure sustainability to the scheme, beneficiaries have been organised into a user group, which is registered under Rajasthan Cooperative Society Act 2001. The Lift Irrigation scheme, after execution and proper training is handed over to community. The training includes capacity building on Cooperative management, technical training to run the scheme. The details of 05 Lift Irrigation Schemes installed so far are given as under:

Sr No.	Name of Project	Installed Pumping Capacity (HP)	Irrigation Potential (Acre)	No. of Beneficiaries
1	Bankhedi LI Scheme	60	158	47
2	Kolwagujar LI Scheme	90	210	40
3	Hadmaitya Ratna LI Scheme	120	270	66
4	Makodiya-II LI Scheme	120	210	83
5	Somchidi LI Scheme	120	192	90



Kolwa Gurjar Lift Irrigation Scheme Under RKVY in District Jhalawar – 2015-16
Command Area = 210 Acre, Cost =82.14 Lakhs, No. of Beneficiaries= 78



Hadmatiya Ratna Lift Irrigation Scheme Under RKVY in District Jhalawar – 2015-16
Command Area =270 Acre, Cost =91.86Lakhs, No. of Beneficiaries= 90



**Makodiya –II Lift Irrigation Scheme Under RKVY in District Jhalawar : 2015-16
Command Area =210 Acre, Cost =95.96Lakhs, No. of Beneficiaries=65**

Key Results

The results of a successful Lift Irrigation Scheme is quite enthusiastic, as it gives assured irrigation to farmers at very compelling prices. Also, the ownership of the scheme rests with community, so they feel empowered having such scheme in their village. All 05 schemes are running well and farmers are taking irrigation. All the schemes have user group in place in their village. They have been registered under Rajasthan Cooperative Act 2001. All necessary trainings have been provided to community by implementing agency. Necessary Books of records are being managed by the community.

Impact

Since the above scheme has given direct benefit to farmers in terms of irrigating their fields, it has directly impacted their income level. The field which were rainfed and farmers were only taking kharif crops before the scheme, now they are taking rabi crops with assured irrigation. This has resulted into a transformation in the village. Economic benefit to the community has visible

impact on other aspects of life like nutritional security, better health and education, better housing etc.

With increased awareness and increased repayment capacity due to assured income of the farmers, the overall credit scenario through main stream financial institution has improved. Farmers are getting agriculture input at time and at reasonable cost, because of credit availability in time and at reasonable rate of interest. This has virtually helped farmers improve their financial health.75% Farmers are having Kisan Credit Card in the area.

Perceived increase in land prices- Lands without access to water were of little significance to farmers. Water is what makes any land precious to the cultivator. Price of agricultural land is perceived to have moved up after the operationalization of the water resources development schemes in the area. In village Makodiya price of 1 Bigha Land was Rs. 80,000 to 90,000 before the intervention (2015-16) but now it raised to Rs. 1,00,000 to Rs. 2,00,000 per bigha (2016-17) , however farmers are not interested in selling their land.

Lessons Learnt

The intervention requires constant hand holding of the community. The apex level institutions like Lift Irrigation Federation need to be put in place for continuous support to individual cooperatives. Some financial provision in this regard must be kept in project proposal itself. Also the concerned department like Electricity Board and Cooperative department need to be sensitized, so that these farmers institution get positive support to run their schemes successfully.

Additional Information

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