Community Based Integrated Watershed Management

C.R. Shanmugham & N. Venkatesan
Programme Officer and Team Leader, DHAN Foundation, 18 Pillaiyar Koil Street, S.S. Colony, Madurai 625 010. Tamil Nadu, INDIA

Abstract

The early watershed development programme in India launched in the year 1974 and the subsequent projects like development of dryland agriculture on watershed basis and National Watershed Development Programme have all concentrated on the conservation and development of physical resources of soil and water, almost ignoring the development of human resources who would have to use and manage them. Evaluation of those programmes by the Planning Commission revealed certain other deficiencies and lacunae in their planning and implementation, like poor pre-project preparation, lack of co-ordination among various agencies implementing the programme, weak internal monitoring and absence of cost sharing by the beneficiaries. Based on the recommendations of the evaluation organization, the National Watershed Development Project for Rainfed Agriculture (NWDPRA) was launched in the year 2002, with many modifications, mainly with the emphasis that it should in future be truly a people’s programme and the role of the government and other project implementing agencies (PIAs) should be limited to providing only infrastructural and technological support wherever necessary. Many other suggestions that would enthuse the local people to get involved, such as adaptation of cost effective, user friendly, local and traditional technologies, and introduction of participatory and cost sharing practices that would ensure sustainability of the assets created have also been made.

Considering the imperative need to enlist the people to own the programme, emphasis is given to motivate the local people who will use and get benefited by the assets, build their capacity to undertake systematic planning, implementing, monitoring and accounts keeping. For this purpose Non Government Organisations with commitment, concern for the poor and adequate experience to mobilise the people are being inducted to be PIAs in many watersheds, to work in coordination with the government organisations. The modified NWDPRA programme has several innovative suggestions built into its guidelines, which, if followed implicitly will eliminate many of the shortcomings encountered and pave the way to make it a people’s programme.

This paper presents the efforts made by the NGO, DHAN Foundation, which is a PIA for 40 watersheds in Tamil Nadu and 30 watersheds in Andhra Pradesh, to inspire the people to participate and own the watershed programme and what additional innovative approaches it is making to build the capacity of the people to ensure systematic planning, implementation and more importantly the sustainability of the assets.

1. Various Community Based Watershed Development Programmes in India

The early watershed development programme in India launched in the year 1974 and the subsequent projects like development of dry land agriculture on watershed basis and National watershed Development projects have all concentrated on the conservation and development of physical resources of soil and water, almost ignoring the development of human resources who would have to use and manage them. Evaluation of those programmes by the planning commission revealed certain deficiencies and lacunae in their planning and implementation, like poor pre project preparation, lack of co-ordination among various agencies implementing the programme, weak internal monitoring and absence of cost sharing by the beneficiaries.
Based on the above observations, the Government of India during late 1990’s have given much importance for community participation in all the activities of watershed development projects. Based on the experiences derived from the field implementation of the projects, different agencies like the Ministry of Rural Development, Ministry of Agriculture & Co-operative Development, NABARD and CAPART have introduced their revised guidelines for implementing the watershed development projects. All the 4 guidelines are placing great emphasis on community participation and people’s institution structure at different levels in a watershed.

Brief particulars / details of each watershed programmes are given below:

1.1 HARIYALI Guidelines

The Hon’ble Prime Minister has launched a new initiative of the Department of Land Resources called HARIYALI on 27.01.2003 which seeks to empower the Panchayat Raj Institutions, both administratively and financially, in the implementation of the Watershed Development Programme of the Ministry of Rural Development. The Ministry has now brought “Guidelines for HARIYALI” which are applicable to new projects under integrated Waste Lands Development Programme (IWDP), Drought Prone Area Development Programme (DPDP) and Desert Development Programme (DDP). Projects sanctioned prior to 1.4.2003 shall continue to be implemented as per the guidelines of 2001.

1.2 NABARD: Watershed Development Fund (WDF) Guidelines

The Union Finance Minister, in his budget speech for 1999-2000 had announced the creation of a Watershed Development Fund (WDF) with the National Bank for Agriculture and Rural Development (NABARD), with the broad objective of unification of multiplicity of watershed development programmes into a single national initiative through involvement of village level institutional and NGOs.

In pursuance thereof, WDF has been created in NABARD with a contribution of Rs.100 crores each by NABARD and Government of India (GOI).

The objective of the fund is to spread the message of participatory watershed development. The fund will be utilized to create the necessary conditions to replicate and consolidate the isolated successful initiatives under different programmes in the government, semi-government and NGO sectors. Thereby all the actors involved – watershed community, Central and State Government departments, Banks, Agriculture Research Institutions, NGOs and NABARD can act in concert to make a break through in participatory watershed development. WDF is proposed to be operationalised in close co-ordination with the Central and State Ministries as a continuum of their efforts but with a distinct identity.

1.3 NWDPRA: Restructured Warasa Guideline

National Watershed Development Project for Rainfed Areas (NWDPRA) was first launched by Government of India during the eighth plan period, 1992-97 by Ministry of Agriculture and Co-operation. It has since been restructured in order to remove the difficulties faced by the implementing agencies and help them to undertake the works with the involvement of the local people. The restructured WARASA Guidelines have been published on 11.11.2000 to govern the procedure for revised NWDPRA programme.
1.4 CAPART: Watershed Conservation and Development Programme

This programme is conceived to achieve conservation and development of watershed to improve its ecological well being and thereby enhance its productivity and life supporting systems for the betterment of the people and their environment.

Watershed Conservation Programmes will be implemented by CAPART through assistance to voluntary organisations (VOs). VOs will try and implement watershed conservation over a total area of 1000 to 1500 hectares (ha), preferably in contiguous watersheds. The village however, is identified as the basic management unit for watershed conservation and will have priority over the geographical entities in this regard. Watershed treatments are undertaken with a top to bottom approach.

The salient features of each programme are;

While reviewing the four guidelines as presented above, it is seen that although there are variations in certain components, the following areas are common for all the four programmes

I. Appointing Watershed Development Team (WDT)
II. Contributions from people for treatment on private and public lands
III. Institutional arrangement for the people at different levels in a watershed
IV. Corpus fund to be created
V. Development activities

DHAN Foundation from the field experience of implementing community based integrated watershed management deals about what can be done beyond the conventional approach to make the watershed development activities sustainable.

2. DHAN Foundation’s Experience In Community Based Watershed Management

DHAN Foundation, a voluntary development organisation based at Madurai, the historical temple city of Tamil Nadu state, has been implementing peoples participatory Tankfed Agriculture Development Programme (TADP) in the three major tankfed irrigation dominated states like Tamil Nadu, Karnataka & Andhra Pradesh. The organisation mainly focusses on the revival of age old tank irrigation systems through peoples participatory rehabilitation programme. For this, the tank farmers’ institutions have been promoted at different levels to sustain the systems once the rehabilitation is over. This kind of activities is in progress since 1990s.

In this situation, the organisation found that these tanks in rainfed areas are situated in a chain (or) cascade and form part a watershed in each location of almost all the 3 states of South India. Each watershed in a particular location will have a 5-10 tanks and other water harvesting structures. The catchment area of each water harvesting structure is delineated as further sub / micro watershed of a particular watershed. Based on DHAN’s experience, a proposal was submitted to DPAP, Chittoor of Andhra Pradesh. The DPAP Director, Chittoor accorded a sanction for 9 watersheds at Punganur Mandal for implementing Tank Based Watershed Management Project.

For implementing the project, without violating the norms of DPAP, user groups have been promoted for the water harvesting structures like tanks, ponds etc as tank farmers associations. These associations as user’s groups are also integrated with the watershed association. Along with the
developmental activities of watershed, these water harvesting structures are rehabilitated. Because of this, a significant impact has been created in terms of ground water recharge and stabilization of agriculture in the area.

Following the Punganur experience, DHAN Foundation had linkages with NABARD and NWDPRA schemes in Tamil Nadu and got 42 watershed development programmes (2 from NABARD and 40 from NWDPRA) for implementation.

For implementing the above watershed development projects also, the focus has been as Tank based watersheds. The selection of watersheds has been done in such a way that the water harvesting structures are also considered and developed as a component of the micro watershed.

3. DHAN Foundation’s Approach On Integrated Watershed Management

3.1 Beyond the Conventional Watershed Approach And Guidelines

3.1.1 Community mobilization: In all the four project guidelines, even though the community participation is emphasized, the traditional approach of organizing the community is that the minimum number of user groups (UGs) from landowners and a minimum number of self help groups (SHGs) are prescribed. So many of the project implementing agencies are promoting that many UGs and SHGs and then straightaway promoting watershed associations. By this approach, the people’s stake on private lands and individual benefits are given importance. But at the time of taking up common property resources development like gully treatment, tank/pond development, the people will not show much interest on the programme.

But DHAN Foundation focuses on a comprehensive development approach while mobilizing the community based on the needs and resources on which the community depends for their livelihood. Here equal importance is given for promoting people’s institutions, developing strong systems to sustain the institutions promoted and for the implementation of physical development activities through the institutions promoted. By this approach, the various user groups, namely, i) Dryland Farmers’ Associations for rainfed lands, ii) Tank/Pond Farmers Associations for tank users and well owners are organized. Similarly other working groups based on the need & management of natural resources like forest, village grazing lands, etc can also be formed. These user groups, though part of the watershed association, are given individual institutional identity through separate bank account, byelaws and regular meetings.

Similarly, the landless people are categorized based on their economic status and are organized as SHGs. Priority is given to those landless who are not covered by any other SHG schemes.

Once the user groups (UGs) and self help group (SHGs) are promoted with the required number, the watershed association is promoted by calling representatives from UGs, SHGs and other interested groups by conducting general body of the watershed association. During this general body meeting, the watershed committee members are unanimously selected and announced. Then the office bearers like president, secretary, treasurer and two other office bearers to support president & secretary will be selected.

By this approach of integration of interests of different user groups, both private and public lands in the watershed will be ensured.
The structure of community organisation is given as

Each institution like UGs, SHGs & WSA, will have its own general body and executive committees to manage the institutions’ day to day activities.

For all these institutions, continuous monitoring, of their performance and regular meetings etc, at the initial stages, will make them sustainable in the long run.

3.1.2 People’s contribution as strategy of ownership creation: In the conventional watershed approach, people’s contribution is given emphasis for both the private and common property resources management activities. But the level of community contribution is very minimal at 5-10% for both the private and common properties. In some cases, it may be 50% which is for some specified works of extraordinary category. eg. experimentation with new technologies in private lands which includes tree plantation.

But DHAN Foundation, with its 10-12 years of experience in the field for tank irrigation programme with people’s involvement have demonstrated successful models for 25-50% contribution from the people for development activities. Once the people are mobilized properly with certain value & culture for managing the common property resource, they are able to make 25-50% of their contribution with much less hesitation.

To achieve the above, the DHAN Foundations way of working with the people is described below;

Five steps in mobilizing Farmers’ Contribution

- Farmers planning will ensure farmers’ knowledge and skills in developing watershed activities. It has to be systematically practiced and valued by different partners.
• Identification of farmers’ need based entry programs like supply channel desilting, farm ponds construction, field bunding & renovation of existing water harvesting structures like tank/ponds/check dams etc.

• Working out labor commitment from member families based on their land area in two ways:
  o Free labor per member family for implementing the development works and maintenance based on requirement eg. 10-15 person days per member family.
  o Subsidized labor per member family by way of giving either half wage or any other fraction in place of the market. Their commitment should be for the entire project work not just for a few components.

• Efforts are required to mobilize the committed labor through events and forums. Scheduling the free and subsidized labor from member families has to be worked out in detail, keeping the seasonality in mind.

• An exclusive working group from farmers’ organisation has to work on the mechanism for mobilizing labor, for tapping the committed kind and cash contribution during the harvest season.

3.1.3 Varieties of development activities based on people’s need: In the traditional watershed approach, the watershed activities mean constructing check dam, contour bunding and such other activities. But, this integrated watershed development project tries to implement a wide variety of activities that would emerge during farmers’ planning exercises through PRA techniques based on the people’s needs. Here we can see some of the works which are new & beyond the traditional watershed activities but which also contribute to the basic objectives of the watershed management.

Rehabilitation of tanks

The watershed will be divided into smaller sub and micro watersheds by taking the tank as the centre piece. Over a period of five years, all the tanks, channels and other water bodies will be rehabilitated as part of the watershed programme. The cost of such treatments has been a point of long discussions. The bottom line for fixing the cost of rehabilitation of tanks has been fixed as the total area covered by the tank system (waterspread area + supply channel + tank bund + ayacut area). An appropriate unit cost per hectare will be fixed as the cost for tank rehabilitation. The benefits that would be realised through this activity are,

• Creation of sustainable employment opportunities for rural community including the landless.
• Enhancement of agricultural productivity and production on a sustainable manner.
• Prevention of siltation of tanks and reservoirs
• Availability of water in dead storage of tank for livestock use and for pisciculture activity.
• Rise in ground water table.

Silt Application

As the tanks are also part of the watershed, silt application to dry lands from these tanks has become a beneficial activity in all watersheds. From Punganur experience of silt application, the significant improvement to soil texture as well as fertility is clearly visible.

Farm ponds

Farm ponds will provide water for one or two life irrigation, improve the moisture regime in the soil profile and enhance ground water recharge which inturn alleviate poverty. These ponds have been
successful in providing storages which are useful for recharge and for livestock. Each farmer can provide a farm pond of the required size in his dry land to meet his agriculture and other water needs. Many such ponds will be equivalent to creation of new water bodies which would stabilize moisture regimes for dryland agriculture.

**Foreshore plantation**

In normal watershed programmes, the production of fuel, fodder and timber are given much importance in the wastelands. If such waste lands are not available in the watersheds, the foreshores of tanks may be considered as suitable places for plantation and species like Tamarind, Casuarina & other fodder & fuel trees will be planted based on the people’s needs and priorities.

Apart from the usual watershed activities based on the principles of watershed approach, the above innovative components may be included in the watershed management programme to enhance the biomass production and fulfill the over all objectives of the project.

**3.1.4 Convergence approach (or) multiple funding:** From the guidelines of the four different watershed programmes mentioned above, the funds available for watershed activities are not adequate to complete all the works. In that situation, the activity like tank rehabilitation will be planned with some other source of fund like DRDA, CAPART etc. In DHAN Foundation, the following strategy will be followed for multiple or diverse sources of funding:

- After the watershed is identified the tank chains (or) cascades with their deficiencies will be traced and separate proposals will be prepared through farmers’ planning exercises for the development of those chains of tanks.
- Then efforts will be made to utilize some portion of watershed fund for developing these tanks or some component of the tanks. For the remaining fund, wherever funds are available proposal will be sent to the agencies like DPAP, DRDA, CAPART & other funders for the complete rehabilitation.
- At one point in time, the whole watershed will be treated for both land and water resources development.

**3.1.5 Micro finance activity as a tool for sustainability:** The SHG activity is insisted in traditional watershed approach, many project implementing agencies are focussing SHG concept only for landless people and that too operating only up to project period and not beyond. But in DHAN Foundation’s approach, the micro finance activities are emphasised for both landless SHGs and land owners’ user groups. We found this activity as the means of sustainability for the institutions promoted even beyond the project period.

By this micro finance activity, our field experience for the last five years in watershed indicates that, the following benefits will be realized.

- The UGs/SHGs will conduct their monthly meetings on a regular basis
- By these regular meetings, they will continue savings & thrift activities on their own.
- These micro finance activities will make these institutions financially sound over a period of time and they can go for any activity beyond watershed like improved seed and, fertilizer purchase activities through bulk purchase and distribution among their members.
- They can go for bank linkages for other economic activities to improve their standard of living beyond watershed development
The future sustainability of these groups will be better ensured by this microfinance group activity.

3.1.6 Corpus fund creation at different levels: In the existing community based watershed development programme, there is a provision to create corpus fund at watershed association level. For that purpose a separate bank account can be opened and the contributions for work amounting to 5 to 10% from the farmers throughout the project period will be collected and transferred to this account. Only interest from this fund will be utilized for future maintenance activities after the project period is over. In this system, there is scope for conflicts as to how this fund can be allocated for maintenance activities.

But DHAN Foundation has a rich experience in creating corpus endowment for people’s associations at different levels for this type of natural resources development. By this approach, the UGs as well as the watershed associations will get matching grant both from the funding agencies like Sir Ratan Tata Trust (or) like minded philanthropic organization as well as from users groups and watershed associations. By this approach, both the institutions at watershed level as well as at user group level can apply for endowment / corpus fund. These amounts at different institutions’ levels may be used by those particular institutions sustainability, so that conflicts may not arise among the groups at different levels.

By this approach, only the interest portion of the corpus can be utilised for future maintenance activities of institutions concerned and not any part of the corpus whether contributed by the people or by the philanthropic.

3.1.7 Capacity Building: The real community participation and future sustainability of this integrated watershed management mainly depend on capacity building events at different levels for different people in the watershed management. DHAN Foundation believes that intensive trainings to the people can create as well as sustain their enthusiasm.

DHAN Foundation is implementing the following capacity building events in a sequence

Pre Project Implementation Period

- Orientation Training At Different Levels

  The orientation training programmes are organized for the members of UGs, and SHGs as inception training to enable them to conduct their day to day activities. During this training, the members are given the orientation about the purpose of such group promotion & the activities those groups are expected to undertake.

  After the watershed association is promoted, the orientation training will be given to watershed committee members & office bearers about the watershed concept, the activities to be done through watershed project for the entry programme as well as the next 5 year period etc.

- Skill enhancement training

  This training is basically for SHG and UG members at village levels it provides different skills required for the activities to be done through these groups. (eg) for SHG members, skill is required for economical activities for their livelihood. During this training, the existing skills for the members will be mapped out and necessary enhancement for future growth will be focused.
Under the skill enhancement training, the accounts and book keeping training will be arranged for treasurers of SHGs and UGs.

- Technological training & Field demonstrations

Crop production water management and other technical skills will be imparted to users’ group members based on their need & interest. Under this, seed treatment and improved, field practices will be demonstrated to selected key farmers.

- Leadership training

The growth and sustainability of any institution will depend on the leadership qualities of office bearers of the institutions promoted. For that, the selected leaders will be given development and management training over a period or time. Before starting the actual implementation, the UGs, SHGs and watershed association leaders will be given the required training to manage the associations in different situations.

**Trainings During Implementation**

- Training For Managerial Skills

For implementing the various watershed development activities, the managerial skills of the office bearers at SHG, UG & WC level will be upgraded by giving structured training with the content of how to supervise the activities, how to prioritise the activities, and taking decisions at critical situations. These trainings will be given when found necessary to ensure consistency in improvement.

- Exposure Visits

During implementation, the association members who are yet to start the work will be taken for exposure visit to the locations where similar the works have been executed. By these exposure visits organized in the past the attitude of the farmers towards the implementation of works and contribution mobilization had become quite positive.

**Post Project Trainings**

Towards the end of the project period, necessary steps will be taken to ensure sustainability even after the withdrawal of the project facilitators. To ensure that similar kind of self sustaining institutions will be identified within (or) out of the particular locations and the exposure will be arranged for the selected leaders of SHGs, UGs and watershed associations to observe and learn from them.

**CONCLUSION**

From our experience, though the watershed is a hydrological unit, the successful & sustainable watershed management will mainly depend on wall how the people are mobilized and involved in each & every activity during the project period rather than on only the soil & conservation activities implemented. We also realise that the new innovations beyond the conventional watershed approach for different activities will only keep the farmers’ interest during as well as the post project period to sustain the integrated watershed management.
References

CAPART Guidelines

DHAN Foundation, Madurai; 2002. “Collaboration towards impacting livelihoods - people and food for work programme; Drought Prone Area Programme, Government of Andhra Pradesh


HARIYALI Guidelines

NABARD Guidelines

NWDPRA Guidelines