

Changing Approaches in Watershed Management in India

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Abstract: Watershed management is an age old practice in the history of India. There are evidences of watershed intervention in arid semi-arid parts of the country in different civilization in different parts of India. During British India the government took several measures based on watershed activities. However in the independent India in true sense watershed management started with the incorporation of Damodar Valley Corporation in 1950 which was inspired by the Tennessee Valley Corporation of USA. As a matter of fact the government was in great concern at growing environmental degradation trends that the country was reeling with particularly in arid and semi-arid regions. Subsequently government took many such measures related to watershed interventions and of course there was time to time modification of approaches and methods keeping the ever changing requirements.

Keywords: DVC- Damodar Valley Corporation, DPAP- Drought Prone Area Program, DDP- Desert Development Program, NWDPR- National Watershed Development for Rainfed Areas, IWDP- Integrated Wasteland Development

1. Introduction

Watershed can be defined as drainage basin or catchment area. It is a geo-hydrological unit where water from all the areas drain to a common point. In fact it represent a zone or region that separate two river system. On the other hand watershed management can be defined as area development program meant for rain fed regions to protect the human beings from adverse effect of extremes of climate through different measures of soil and water conservation. Of late the project also focuses on livelihood programs to generate employment during lean periods. Due to recommendation and suggestion from several quarters the program has become participatory by nature by involving locals and local organizations of the region.

Data Collection and Analysis

The preparation of article heavily relied on secondary information. The DPR prepared by the PIA was of immense help. In addition several published and unpublished information prepared by both government and non-government organizations was profusely utilized. Online information was also very useful.

2. Review of the Literature

“It is in this context that in coordination with the Planning Commission, an initiative has been taken to formulate “Common Guidelines for Watershed Development Projects” in order to have a unified perspective by all ministries”. Common Guidelines of Development Projects, Government of India, 2008

Wani SP and Garg KK, 2009 in their article Watershed Management Concept and Principle viewed the watershed approach during 1980s and before carried out in a rigid lines focusing on soil conservation and water harvesting.

Joshi PK, Jha AK, Wani SP in their global report wrote watershed management has undergone sea changes during

last three decades based on years of experience and learning. The first generation watershed gave priority on soil erosion while the second generation focused on degraded land.

Joshi PK, Jha AK, Wani SP, 2008 used a new approach called meta-analysis to evaluate the success of different watershed programs and peoples participation.

Mishra SK felt watershed management did not fare well because of lack of participation of people.

Hanumanth Rao CH, 2004 writes on the basis of the success stories of different watershed projects like Ralegoan Siddhi, Sukhomajri and some others a Technical Committee constituted in 1994 recommended participation of people and voluntary organization on all phases of watershed development.

Joshi PK, Panghare V, 2004 writes watershed program is running since four decades but attained vigour in 1990 after the large scale drought faced by the country in 1987

Hanumath Rao Committee Report, 1994, Department of Land Resources mentioned the DPAP program that was launched in 1970-71 encompassed 12% of the total population in India and spread over an area of 1/5 of the total area.

3. Changing Approach in Watershed Activities

Watershed development programmes in the India has crossed near about half century. With the passage of time it has undergone several changes in approaches and methods. There have been many revisions, up- gradation and introduction of new ideas in the policy framework and its implementation. The first generation watershed development programmes was more or less inspired by the DVC. Subsequently the approach of watershed development programmes were largely confined to the treatment of

catchment area in selected flood prone rivers. Priorities were given to protection and conservation of resources in medium or large river valleys and prevent rapid surface runoff. Since then the irrigated areas of the country witnessed success of green revolution while the rainfed regions were still reeling with moisture stress and crop failure. Thus the Government accord high degree priority to rainfed areas and drought proofing in ecological frail regions became another major objective of watershed development programmes. Consequent upon there was conceptualization of programmes like DPAP and DDP in 1980s. Until then watershed programmes were not considered instrumental for rural development. Emphasis was given on construction of large number of structures during the project period with the motive to decrease the negative impact of land degradation on the rural poor. However despite all efforts the environment degradation and non-sustainability in agriculture particularly in dry land and semi-arid regions was on rise. Lack of maintenance in the post project period led to malfunctioning of several structures created during the project period. Fixed budgeting, dispersed intervention, lack of well-designed plans, over lapping of schemes were the major reasons which badly failed almost all watershed projects to give desired dividends. Rigidity of planning, inflexible functioning and lack of coordination with ministries and departments thwarted sharing experience and lessons.

Thus there was revision in the policy in the 90s giving birth to second generation watershed projects. It all started against the backdrop, a technical committee which was set up in 1994 chaired by Prof. C.H. HanumanthaRao with a purpose to assess the different ongoing projects operating then. Taking into consideration several pros and cons, merits and flaws the committee made host of suggestions and work out a set of guidelines. All the watershed projects between 1994 and 2001 under the ministry of rural development came under the confines of the guidelines. Consequent upon all the watershed programs operating in the country like the DDP, the DPAP and IWDP were brought under a single umbrella. Subsequently the Ministry of Agriculture also renewed its guidelines for its programme, the NWDPR in 2000. The first sets of projects sanctioned under these guidelines continued almost about more than six years. Meanwhile number of research was carried out, assessments were made, and suggestions were acquired from several forums, all of which indicated towards making the guidelines more contemporary and transparent. There was an urgent demand from all quarters of making the guidelines more flexible in order to make more conducive and functional in different local environment, needs and social structures. The State governments, PIAs, NGOs and other experts all engaged in the implementation of different watershed development projects under different schemes were organized and consulted giving birth to a new guideline in 2001, popularly known as 2001 Guidelines. These guidelines were common guidelines to all the ongoing watershed programs in the country with the objective to make the program more participatory, sustainable and equitable (Common Guidelines of Watershed Management GOI). In 2003 came another guideline under the nomenclature of Hariyali with the objective to make the watershed programs more simplified and meaningful in

matters of activities related to economic development in the rural area. The new guidelines had made provisions to involve the Panchayat Raj institutions (PRI) to increase effectiveness to the program. All the new projects under watershed interventions with effect from 1.4.2003 followed the guidelines of Hariyali particularly projects under DPAP and DDP and IWDP. However projects approved before the date continued to be implemented as per the Guidelines of 2001. The major goals under the guidelines were rainwater harvesting, employment generation, ensure overall development of rural areas through the Gram Panchayat, mitigating negative impacts of extreme climatic conditions such as drought and desertification and maintaining ecological balance. The National Rainfed Area Authority was set up in November 2006 to give special thrust to the rainfed resource poor region. Unlike the first generation watershed programmes the successive programmes accorded optimum importance to people's participation starting from planning, implementation, supervision, maintenance and post project phase.

During the Eleventh Plan the Planning Commission decided to have unitary approach towards watershed program by all ministries dealing with it. Hence several organizations like ICAR (Indian Council of Agricultural Research Institutes), State Agricultural Universities (SAUs), National Remote Sensing Agencies (NRSA) and also different ministries like Ministry of Rural Development, Ministry of Agriculture and Department of Land Resources were organized together to formulated "Common Guidelines for Watershed Development Projects" in 2008. Thus all the watershed programs operating in different Departments of Ministries were abided by the common guidelines. The guidelines laid foundation to new generation watershed programmes. This gave birth to Integrated Watershed Management Programme (IWMP) a flagship programme and which brought all the watershed management related programmes and projects into one ambit (Common Guidelines Watershed Development Program, 2008).

During the Twelfth five year plan Government has conferred high degree concerns over water related conservation and its management. There was vision to provide assured irrigation to every field and increasing crop productivity. The concept was popularly known "HAR KHET KO PANI" (water to every farmland) and "More crops per drop". During the period watershed management was taken as a component among others under the nomenclature of Neeranchal National Watershed Project. The objective of the project was to assist IWMP and Pradhan Mantri Krishi Sinchaya Yojana (PMKSY). The project is run by the Union Ministry of Rural Development over a span of six years from 2016-17 to 2021-22. World Bank has extended its helping hand to the Union Government and a loan pact has been signed with the purpose of reinforcing watershed management in the rural rain fed areas particularly in selected sites of 9 states viz. Andhra Pradesh, Chhattisgarh, Telengana, Jharkhanda, Gujarat, Maharastra, Madhya Pradesh, Odisha and Rajasthan. The project has the following four components: The first component: Strengthen institution and capacity building of human resources.

The second component: Support application of new scientific knowledge, tools and techniques to promote improvement in IWMP in matters of watershed planning and implementation and issues like rural livelihood, agricultural intensification and climatic change.

The third component: Support enactment of IWMP based on innovative science and technology in participating states.

The fourth Component: Support the ongoing Neeranchal project to make it more effective and successful.

4. Conclusion

On the spate of growing concerns over climatic changes and its adverse effect and unabated depletion of natural resources by natural as well as anthropogenic causes watershed management has a long way to go in India. It can play a crucial role in the socio economic and ecology of a region and its people and mitigate several problems arising out of the above causes. Provided watershed management activities has to grow in its approaches and methods with time and requirement of the people. Future watershed program should be more innovative and scientific lashed with modern tools and mechanism. It must be multi-dimensional and multi-disciplinary in its approach to satisfy the all-round development of the region and the people living within. It has to be more flexible and transparent so as to encourage participation of the locals and local organizations.

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