

Why DBI ?

Studies on the impact of irrigation on poverty indicate a clear and significantly positive relationship between access to irrigation and reduction in poverty. Also study reveals that poor water control strategy has been one of the major hindrances in the livelihood enhancement of the tribal in Central Indian States. DBIM presents an unique opportunity to tap potential of enhancing livelihood of poor families and is important for the precise reason that it enables poor farmers living in difficult terrains to double their incomes by taking the second crop using diverted water flows in addition to ensuring assured irrigation for kharif crops.

A typical DBIM scheme will require remarkably lesser investment for irrigation with minimal maintenance cost. Thus the proposed initiative has the potential of addressing food security issues of small and marginal land holders in the Central Indian states by integrating the above initiative with the other core themes of CInI.

Reviving DBIM - Our Experience

CInI is currently working on revival of Phad systems in Yavatmal district of Maharashtra and Ahar Pyne in Palamu district of Jharkhand in partnership with grass root level Organisations. In this process, CInI is providing technical and institutional inputs to develop and standardize a viable and sustainable community managed irrigation system. The idea has already shown promising results with phad system, through increase in irrigation coverage and agriculture yield. This has gained wide acceptance in the administration whereby government funds are currently being mobilized for revival of numerous such systems in the district.

Plan to move forward

CInI plans to integrate its roles and responsibilities with the thematic focus and the plans to initiate this would be as follows:

1. Knowledge Management :

- Documentation, validation, standardization and dissemination of available technologies related to DBIM in central Indian states.

2. Idea Incubation :

- Piloting location specific ideas with potential partners for standardization and up scaling.

3. Networking and coordination :

- Establishing linkages with line department's and potential partners to promote DBIM based ideas in each state.
- Establishing linkages with donor agencies for mobilizing funds for piloting and dissemination.

4. Monitoring and Technical Back stopping :

- Monitoring support to donor agencies in implementing its DBIM theme in central Indian States.
- Capacity building of organizations to take up DBIM schemes.

Collectives for Integrated Livelihood Initiatives (CInI)

Head Office :

L4/8-9, Road no. 13, Kadma Farm Area
Kadma, Jamshedpur - 831 005, Jharkhand
Phone: + 91 - 657 - 2311059,

E-mail: info@cinicell.org : URL: www.cinicell.org

W.I. Office :

23, Yogashram Society,
Opp. Kenyug Apartments, Shyamal Road,
Ambawadi, Ahmedabad - 380015
Phone : + 91 - 79 - 26604965

Diversion Based Irrigation Management

DBIM



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With the belief that sustained and effective improvement in tribal livelihood can only be achieved through addressing the root problems affecting the tribal economy, the IWMI-Tata Programme (ITP) and Sir Ratan Tata Trust started the Central India Initiative (CInI). The research studies undertaken in the initiative have generated a wide range of options for upliftment and enhancement of the livelihoods of tribal in this region. To realize the full potential of these research outcomes, a completely devoted organization, called the 'Collectives for Integrated Livelihood Initiatives (CInI) was established, with the support of Sir Ratan Tata Trust. The basic aim of the organization was to work comprehensively towards the livelihood enhancement of the tribal communities by sustainable natural resource management - predominantly the land, water and forest triad.

The Trustees, recommend for focused sectoral contributions, by deeper engagement with the sector by more 'in-house' understanding about various development initiatives and engage more proactively with different players within the sector. CInI, which plays the nodal agency role for Central India Initiative has developed theme based livelihood plans to focus on till 2011-12. The themes defined for enhancing tribal livelihoods are:

- (i) Kharif Paddy Stabilization
- (ii) Kharif Maize Stabilization
- (iii) Non Timber Forest Produce Promotion
- (iv) Diversion Based Irrigation Management
- (v) Community Based Organizations and
- (vi) Microfinance and Livelihoods.

Diversion Based Irrigation Management

Goal : To establish DBIM as a supporting tool for ensuring food security in tribal dominated Central Indian States.

Key Indicators/Objectives :

- Enhancing irrigation potential in the tribal areas
- CInI as a resource organization for DBIM in central Indian States.
- Organizations capacitated to implement DBIM schemes in Central Indian states.
- Established linkages with Govt. agencies and donors working on DBIM
- Increased income of the community by ensuring Irrigation and promoting second crop.

What is DBI?

A diversion based irrigation system diverts a portion of water from a natural source like spring/ mountainous stream or any Water Harvesting Structure and uses it with or without intermediate storage for the purpose of irrigating crops. The system consists of 3 main components namely inlet/storage structure, conduit for conveying water to the farm from the inlet and an outlet for discharging water into field.

All surface flow irrigation schemes which are exclusively based on irrigation by gravity flow could be covered under this theme. It can be broadly classified in three categories :

1. Diversion schemes providing gravity flow irrigation by mere diversion of stream water supply without arranging any storage. Essentially this scheme consists of two parts:

(a) An obstruction (weir) or bund constructed across the stream for raising and diverting water. (b) A channel/pipe to convey the water into the field.



A weir and Channel Arrangement

2. Storage schemes including tanks and reservoirs which impound water of streams and rivers. The essential features of these schemes are (1) a bund/dam or a water harvesting structure to store water (b) conveyance and distribution system. e.g: Ahar Pyne, Phad system of irrigation.



Storage Structure of Ahar pyne Channel of Phad Irrigation System

3. Surface flow schemes having lifting device installed on it and the irrigation is partly done through lifting the water and conveying the water through gravitational flow to the field.

