DIVERSION BASED IRRIGATION: A Viable option for Hilly Areas of Southern Gujarat

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DHARAMPUR UTTHAN VAHINI

- Formally established in 1995
- Under Societies registration act 1860 and Bombay trust act 1950
- Operational Area
  - Navsari, Dangs, Valsad Districts and Dadra & Nagar Haveli (U.T.)
- 450 villages
- 75,000 households
Thrust Areas

- Rehabilitation of Tribal through wadi approach
- Watershed Development
- Improved Agriculture
- Quality Of Life
- Value addition and Agri business
- Capacity Building
Campuses

• Residential training facilities at Lachhakadi.
  – Targeted group – policy makers, donors, Govt. officers, BAIF societies, own officers and farmers

• Non residential training
  – Target group NGO professionals and farmers

Training Areas

• Wadi
• Agriculture Improvement
• Watershed/ Water resources development
• Women Empowerment
• Social Mobilization

Resource Agency

• Support to BAIF for NABARD RSO TDF projects in 14 states
• Appointed by Govt. of Gujarat for 4 districts as a capacity building organisation under Integrated Watershed Management

Trained about 7500 participants during 2013-14
South Gujarat DHRUVA working area........

- Tribal dominated more than 90%
- Topographically – undulated
- High rainfall – on an average annual 2300mm
- Steep slope- prominent soil erosion
- Forest area – more than 50% but degraded
- Livelihood option- very limited
- Main occupation- agriculture but able to take only one crop i.e. Rainfed
- Main crops – paddy, finger millet and minor millet
A spring is a water resource formed when the side of a hill, a valley bottom or other excavation intersects a flowing body of groundwater at or below the local water table, below which the subsurface material is saturated with water. A spring is the result of an aquifer being filled to the point that the water overflows onto the land surface.
Diversion based irrigation

- Traditional way to use springs for drinking and irrigation purpose
- 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.
Present case study from....

• Hedpada hamlet of Amboshi village from Valsad district
• Community : Konkana tribal community
• Population : 170
• Total HHs : 35
• Total area : 60 acres
• Area under agriculture :
• Major problem:
  – Drinking water scarcity for four months
  – Rainfed agriculture
  – Migration to near by cities
Features of DBI

- Identified through: WRD PRA
- Water source: Natural Spring
- Water supply: Gravity based
- Altitude difference: 24 m
- Work identified: August, 2011
- Work completed: May, 2012
- Total length of distribution line: 1950 m
- Total outlets: 18
- Expenditure: Rs. 272000/-
- Community contribution: Rs. 65700/-(24%)
Components
Benefits.....

• Direct usage of surface water
• No energy dependency for fetching and water distribution
• No. of HHs benefitted : 20 HHs (62.5%)
• Area under irrigation : Kharif - 25 acres and Rabi – 23.5 acres belongs to 18 HHs
• Cropping pattern changed from Paddy-Nagali- Gram to Paddy- Nagali- Creeper - sunhemp
It differs
Water regulatory system......

• Demand driven

• Phases for irrigation in Kharif and Rabi :
  – First Phase: 1\textsuperscript{st} to 7\textsuperscript{th} outlets
  – Second Phase: 8\textsuperscript{th} to 11\textsuperscript{th} outlets
  – Third Phase: 12\textsuperscript{th} to 15\textsuperscript{th} outlets
  – Fourth Phase: 16\textsuperscript{th} to 18\textsuperscript{th} Outlets

• Use of water in summer for drinking purpose exclusively benefitted to 20 HHs and saved 2-3 hrs per day spends for fetching the water

• Saving Rs. 20 per month for maintenance of the system.
Replicability

• System has simplicity in design and implementation
• Ease in operation, maintenance and economical viable
• High relevance for hilly and high rainfall area
• Potentiality to address drinking and irrigation purpose as well in sustainable manner
• DHRUVA has installed 9 such systems benefitting 133 tribal families and provided irrigation to 215 acres
• Has priority in BAIF programme
THANK YOU