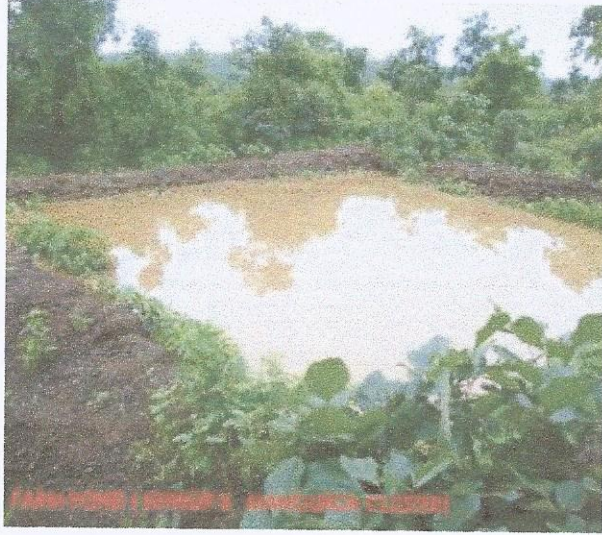


PROJECT

ENHANCE LIVELIHOOD OF DISTRESSED FARMING COMMUNITY THROUGH
EFFECTIVE NATURAL RESOURCE MANAGEMENT WITH COMMUNITY
PARTICIPATION



Submitted to:
Emkay Taps and Cutting Tools Ltd, Nagpur

Project Implementing Agency
DILASA SANSTHA, Istarinagar Ghatanji, Dist. Yavatmal – 445301, Maharashtra


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DILASA

OBJECTIVE

The objective of the proposed project is to construct DOHA type water harvesting structures in 3 Km length of 2 streams till convergence point as marked (PHASE III) in the enclosed Survey Plan and 10 water harvesting structures of 7m diameter and 3m depth at distance of 500 meters from the stream and to provide water lifting pumps and water efficient devices to ensure water availability throughout the year for drinking and irrigation purposes for the distressed farming community.

The beneficiaries of the above water management project are 1058 villagers of Village Shrirampur and 2254 villagers of Village in Ralegaon Tehsil of Yavatmal District in Vidarbha Region of Maharashtra.

The total area, which will benefit from the irrigation facilities will be 360 Hectares.

Drinking water will become available to more than 3300 villagers and more than 4000 cattle and recharge of all wells will happen in villages of Jalka, Krishnapur

This project will lead to enhancement in Kharip crop production of poor and marginal farmers of the project area by providing protective and maintenance irrigation during dry spells caused by changing rainfall patterns. It will help protect Kharip crop from dry spells in the initial or last phase of the crop period. The project will also help in fodder development for the cattle.

DETAILS OF PROJECT VILLAGES:

Name of Village		Jalka	Shrirampur
Population	Household	479	256
	Population	2254	1058
Total Area under cultivation in Hectares		360	
Main Crops	Kharip	Cotton, Tur, Soya, Jawar	
	Rabbi	Wheat, Gram, Vegetables	
	Summer	Ground Nut, Vegetables	

PROJECT TIMELINES:

Project Start : 05 May 2016

Project Fund Requirement : 20 May 2016

Project End : 31 May 2016


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PROJECT MAP



PRESENT STATUS OF IRRIGATION IN YAVATMAL

(Extract from Vidarbha Intensive Irrigation Development Plan – VIIDP)

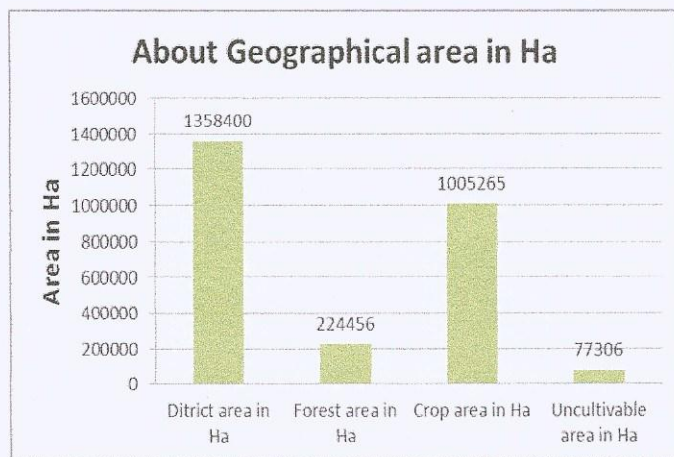
Vidarbha region in Maharashtra comprises 11 districts viz. Yavatmal, Akola, Amravati, Wardha, Buldhana, Washim, Nagpur, Chandrapur, Bhandara, Gadchiroli and Gondia. This region has, for various reasons, remained backward industrially as well as agriculturally. Livelihood of around 65% rural population of this region is dependent on agriculture and allied activities. However, agriculture in this region is comparatively less productive than the State and National averages. Cotton is the most important cash crop of western Vidarbha region. Eight of eleven districts of Vidarbha are primarily cotton growing. Cotton farming is the backbone of the farmers of Yavatmal, Akola, Amravati, Wardha, Buldhana and Washim districts of western Vidarbha. An estimated 12 lakh ha is under cotton production in Vidarbha. However, with about 400-900 mm of annual rainfall and very limited irrigation facilities at disposal, cotton farmers are often exposed to higher risks that many a times result in loss of income.

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At present only about 8-10% of cotton growing area in Vidarbha region is under protective irrigation. Thus, there is a need for extending irrigation coverage by efficiently managing natural water resources including rain water harvesting. About 15 to 20 % of the total rainfall received in cotton growing areas of Vidarbha results in runoff. Vidarbha being devoid of any major river source, rain water management is traditionally the best possible alternative to conserve and store maximum run off. Rain Water Harvesting is necessary to ensure that the entire year's monsoon water does not run away. This can be done through schematic interventions for watershed development, creating rainwater harvesting structures through small need-based farm ponds or collective initiatives like low-cost natural check-dams on the streams and rivulets etc.

It is often seen that farmers many a times cannot take advantage of micro irrigation or protective irrigation as Farm ponds do not have adequate level of water when they need. This issue can be addressed by providing Lift Irrigation Systems for providing end-to-end solutions.

Following is the status of Geographical Area of Yavatmal District.



PROBLEM DEFINITION

The topography of project area is undulating having slope of 5-10%. Fertility of land is very low due to sloped land causing topsoil degradation since decades. The farmers are engaged in the agriculture as a main source of livelihood. The land holding pattern is between 2 to 4 hectares per family. The farmers cultivate their land under dry-land conditions, as there is no irrigational facility. Due to topographic situation, there is no major irrigation project that covers agriculture land of these tribal farmers.

The farmers' are practicing rain-fed agriculture since ancient times growing cotton, pigeon pea, sorghum and soybean. The crop production is decreasing day by day due to lack of irrigational facility and depletion of water table to below 1000 ft.

In recent years, the rainfall pattern has changed in the Vidharbha region. The cotton and soyabean crop is getting low yield in spite of using costly agricultural inputs. Due to erratic rainfall pattern, in the last few years, the dry-spell occurs at the time of flowering stage of Kharip crop. A Kharip crop needs water at the time of flowering stage. Since,

there are no irrigational facilities for protective irrigation, the kharip crop of poor and marginal farmers give very poor or zero yield.

Yavatmal District is currently rated as one of the most backward districts of India. The average annual rainfall is approx. 910mm. Due to lack of watershed management programs, the region is prone to acute water crisis for almost 6 months every year.

As many as 95 of the 277 suicide cases registered up to March since January this year in the six cotton and soyabean producing districts of western Vidarbha - considered most suicide prone - were from Yavatmal. The biggest reason behind farmer suicide has been attributed to bankruptcy or farming related problems. This clearly illustrates the problems with making farming profitable through reliable irrigational facilities.

Today major causes of agrarian distresses in the projects villages are as under:

- Erratic Rainfall Patterns
- Top soil erosion
- Long dry spell during monsoon season lasting between 15 days to 30 Days.
- Change in water requirement duration due to introduction of BT and Hybrid varieties of Seeds.
- Considerable reduction in storage capacity of existing reservoir and water streams due to yearlong deposition of fertile soil.

Hence it is very necessary to create irrigation infrastructure development that will enhance crop productivity of large section of rain fed farmer community

PROJECT DEFINITION

After analysis of the existing situation and interpretation of various reports, following project measures are necessary to implement as action programme.

1. **CONSTRUCTION OF WATER HARVESTING STRUCTURES** – It is critical to provide reliable irrigation facilities and a combination of two different models have been proposed in the two villages, namely, Doha Model and Recharge Pits.

a) **Doha Model** - It is an eco-friendly and low cost water harvesting structure built in the bed level of stream so as to harvest rain water below ground level aimed at recharging ground water tables of nearby area and providing reliable source of water during dry spells

Salient features of Doha Model:

- Select stream of minimum length of 1000 M from emerge to junction.
- Top to bottom approach.
- Select Doha sites where river bed slope is 2% to 3% to length of 500M.
- Keep depth 1m to 4m
- Excavate in saucer shape to minimize siltation process.
- Excavate width of stream to 20 % of existing section..


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Benefits of Doha Model-

- Low cost and eco-friendly water harvesting structure.
- Recharging ground water tables even in area with 300mm rainfall.
- No land acquisition.
- Water storage below ground level, so risk of side scoring is minimised
- Reducing water logging problem of nearby land.
- Effectively solves drinking water problem.
- Most suitable in regions with 300 to 1000mm annual rainfall.
- Replicable at any stream in any region of country.

b) **Recharge Pit** : This farm pond or Recharge Pit has been suggested in the Farm area of Farmer(s) so that critical irrigation of crop will be provided by using this stored water in the farm area during dry spells. This activity will result in minimizing soil erosion as well as provide water-in-situ conservation

2. SUPPLY OF END – TO – END WATER SUPPLY SOLUTIONS

a) **Efficient water use device:** Linking Drip or sprinklers irrigation devices shall create effective irrigation facilities. All target beneficiaries of WHS created in the project shall utilize one of these micro irrigation systems. This will save water losses or soil degradation due to flood irrigation.

b) **Diesel pump-set:** Diesel pump sets will be provided to farmers for lifting water from Streams & Water Harvesting Structures. One pump set will be provided among three WHS.

PROJECT HIGHLIGHTS

- Construction of Doha Model Water Harvesting Structure along 3 Km length of streams
- Construction of 10 Recharge Pits through community participation
- Supply of 4 Water Lift Pumps through community participation
- Supply of 4 Efficient Water Use Devices through community participation


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IMPACT OF THE PROJECT

1. Impact of Doha Model

Water Storage Capacity : 37,500 Cu. Mt. per Km (37,500,000 Litres per Km)

Total Water Storage Capacity created will be 187,500 Cu. Mtr. (187,500,000 Litres)

Based on topography, this will lead to approximately 937,500 Cu. Mtr (937,500,000 litres) of recharge of ground water in the watershed management area

2. Impact of Recharge Ponds

Water Storage Capacity : 462 Cu. Mtr. Per pond (462,000 liters per pond)

Total Water Storage Capacity created will be 4,620 Cu. Mtr. (4,620,000 Litres)

3. Other Impact Areas

- Drinking water to 735 households, 3312 Villagers
- Drinking water to more than 4000 Cattle
- Recharge more than 100 wells in the region
- Irrigation facilities to 360 hectares
- Reduction in farmer suicides
- Increase in revenue of each farming household, reduction in migration to urban areas
- Sustainable, multi-crop farming leading to improvement in living standard of the farming community


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ABOUT DILASA SANSTHA – The Project Implementing Agency

Dilasa Sanstha, Istarinagar Ghatanji, Yavatmal, is a Non-Governmental Voluntary Organisation established in 1994. Dilasa works toward holistic development of the downtrodden and deprived sections of the society through projects that cover watershed and irrigation development, women empowerment, agricultural research and support network for farmers and children

Dilasa is funded through grants. Some of the notable funding agencies which have funded or are currently funding Dilasa are:

- Sir Ratan Tata Trust, Mumbai
- Axis Bank Foundation, Mumbai
- NABARD, Pune
- Caring Friends, Mumbai and Nagpur
- Stitching Mitra, The Netherlands

In year 2013-14, Dilasa has executed projects worth Rs. 775 Lacs. Dilasa runs a training facility at Prqyogdham Training Center Ghatanji in Yavatmal District with residential facilities for 50 participants.

So far, Dilasa has executed projects affecting 59000 beneficiaries from 1200 villages of Maharashtra State.

Dilasa employs a staff of 168 including Technical Staff of 5 persons and 3 Agronomists and 1 Doctor. It has a well established organizational structure capable of planning and executing such projects and conducting impact assessments.

Currently Dilasa is executing several projects worth Rs. 4000 Lacs with completion dates till 2019.


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