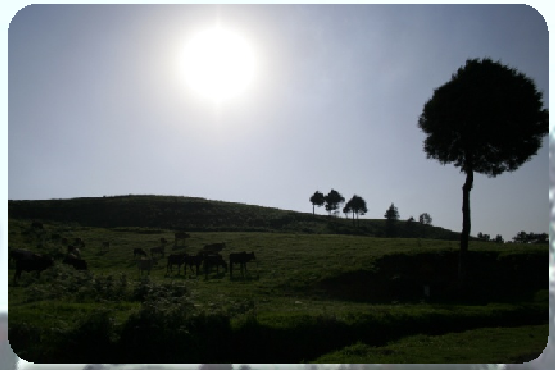
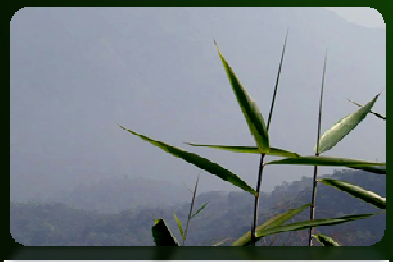
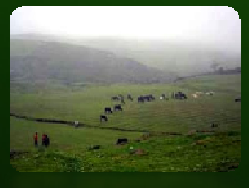
from conservation to sustenance...

A success story at Mawlangbna village under Umthang Syiar Micro-Watershed IWDP Project XVI 2006-07, East Khasi Hills District, Meghalaya.







Department of Soil & Water Conservation
Government of Meghalaya

introduction

> A central strategy of rural livelihood approached by the Soil and Water Conservation Department, Govt. of Meghalaya has been to put people at the centre of development.

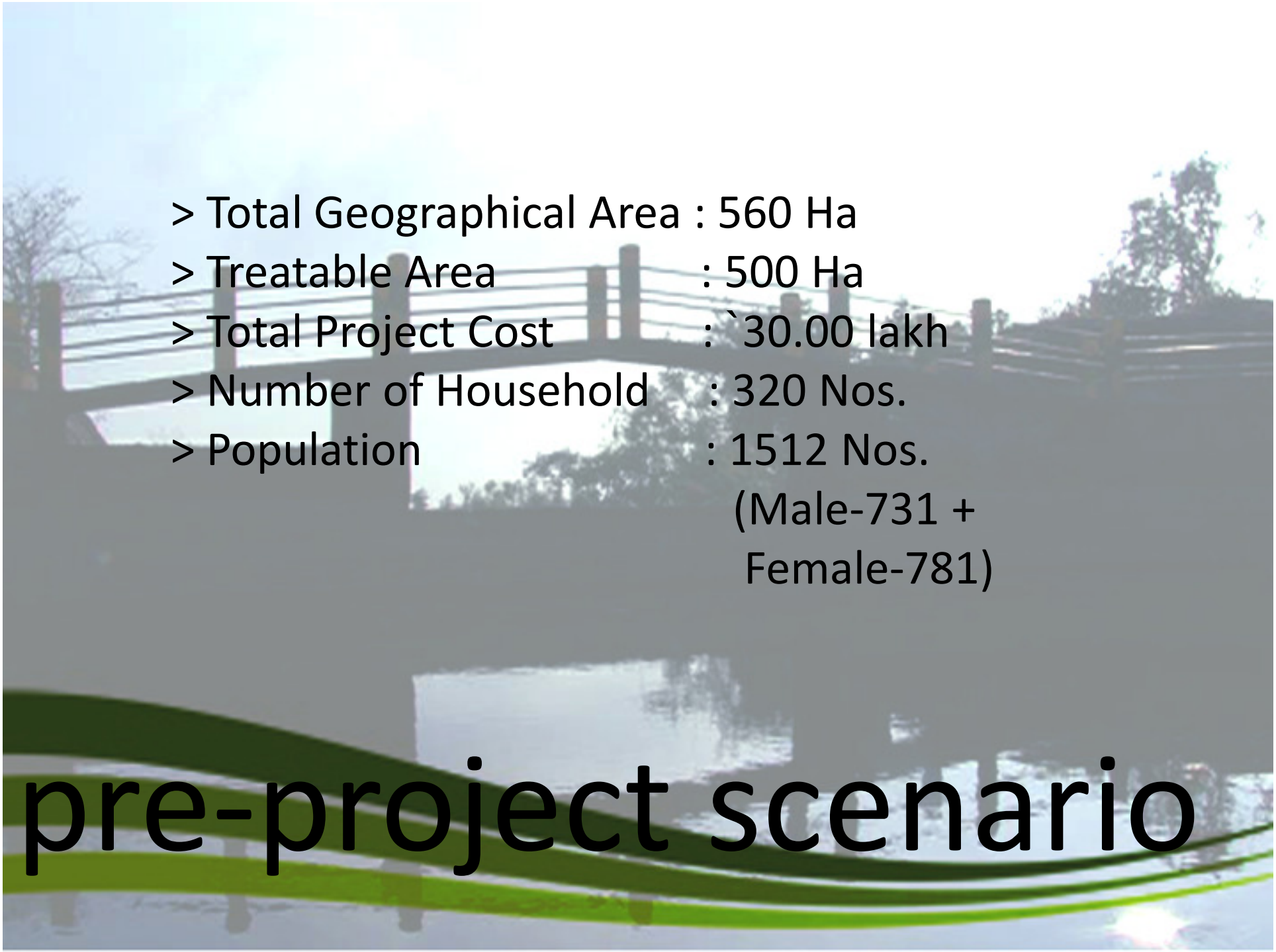
> Community participation thus has been the key to the success of the micro watershed development endeavours under IWDP in the state.

> The project area consist of Mawlangbna Village which is located in the southern part of East Khasi Hills District, close to Mawsynram, one of the wettest places on earth.

> Though the region receives bountiful rainfall during the monsoons, but due to undulating topography of the area, coupled with Jhumming cultivation, the top soil has been eroded resulting in poor soil condition.

pre-project scenario

Mawlangbna Topography : Ridges with steep slopes



> Total Geographical Area : 560 Ha
> Treatable Area : 500 Ha
> Total Project Cost : `30.00 lakh
> Number of Household : 320 Nos.
> Population : 1512 Nos.
(Male-731 +
Female-781)

pre-project scenario

area profile

> Topography : Ridges with steep slopes

> Soil : Sandy loam

> Irrigation : Non-existent

> Economic Activity : Horticulture & Forestry

> The overall slope of the land is to the south. Numerous streams and rivulets flow off as surface runoff to lower elevations.

> The waters have over the years eroded soil from the hillsides.

pre-project scenario

Mawlangbna Soil Type : Sandy Loam

> About 90% of the total population of Mawlangbna depend primarily on plantation of areca-nut, betel leaf, black pepper and bay leaf.

> People have to bear the hardship of daily life resulting from the shortage of potable drinking water and also of low crop yield due to absence of irrigation facility.

pre-project scenario

Indigenous skills development

> Part of the efforts of a productive infrastructure development for rural livelihood is to work with and develop indigenous skills and Indigenous Technology Knowledge (ITK).

> Since the method of water harvesting and its usage is built upon a foundation of indigenous technology knowledge, these are compatible with local land-use practice. Accordingly, the people readily understand and accept them.

intervention

Umthang Syiar Micro Watershed

A Head water dam was constructed at Mawlongbna Village under the Umthang Syiar Micro Watershed in 2009 using ITK.

intervention

Construction of Water Reservoir at Mawlangbna Village

Head Water Dam-cum-Drip Irrigation-cum-Foot Bridge at Wahumbhakoi, Mawlangbna


PROJECT - XVI
2006 - 2007
INAUGURATED
BY SHRI K . C . MOMIN
DEPARTMENT

Umthang Syiar Micro Watershed

Water from fresh springs scattered around the village is conveyed by GI Pipes to a head dam from where it is further channelled to storage tanks and then from there to plantation areas which is as far as 10 kms away from the source.

intervention

Water Source in Mawlangbna village

Water Source (springs) in Mawlangbna village

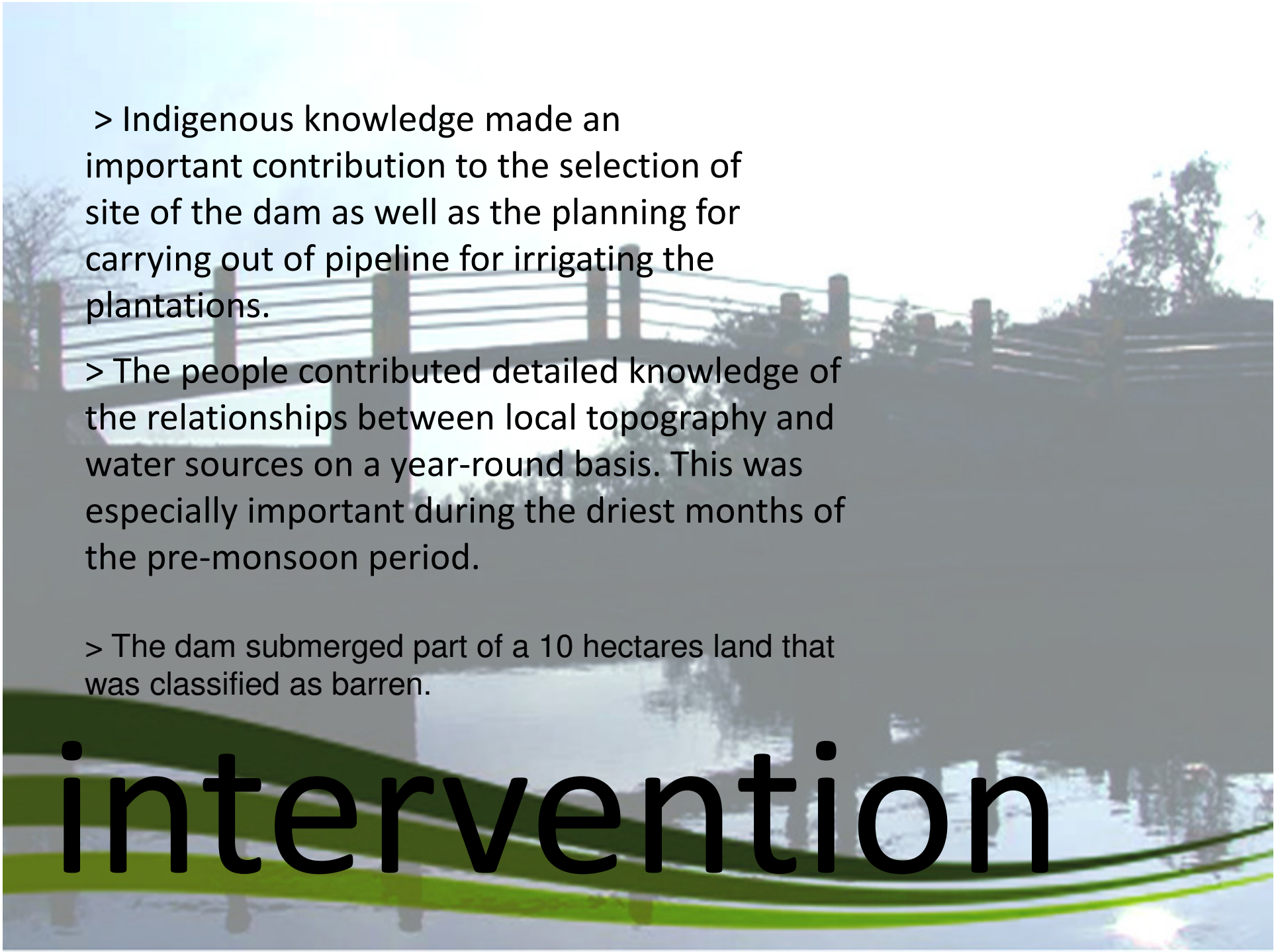
GI Pipes Fixture & Fittings connection from Head Water Dam
to Water Reservoir at Wahumbhakoi, Mawlangbna

GI Pipes at full throttle

Drip Irrigation at Wahumbhakoi, Mawlangbna

Storage Tank at Wahumbhakoi, Mawlangbna

GI Pipes linkage to plantation areas

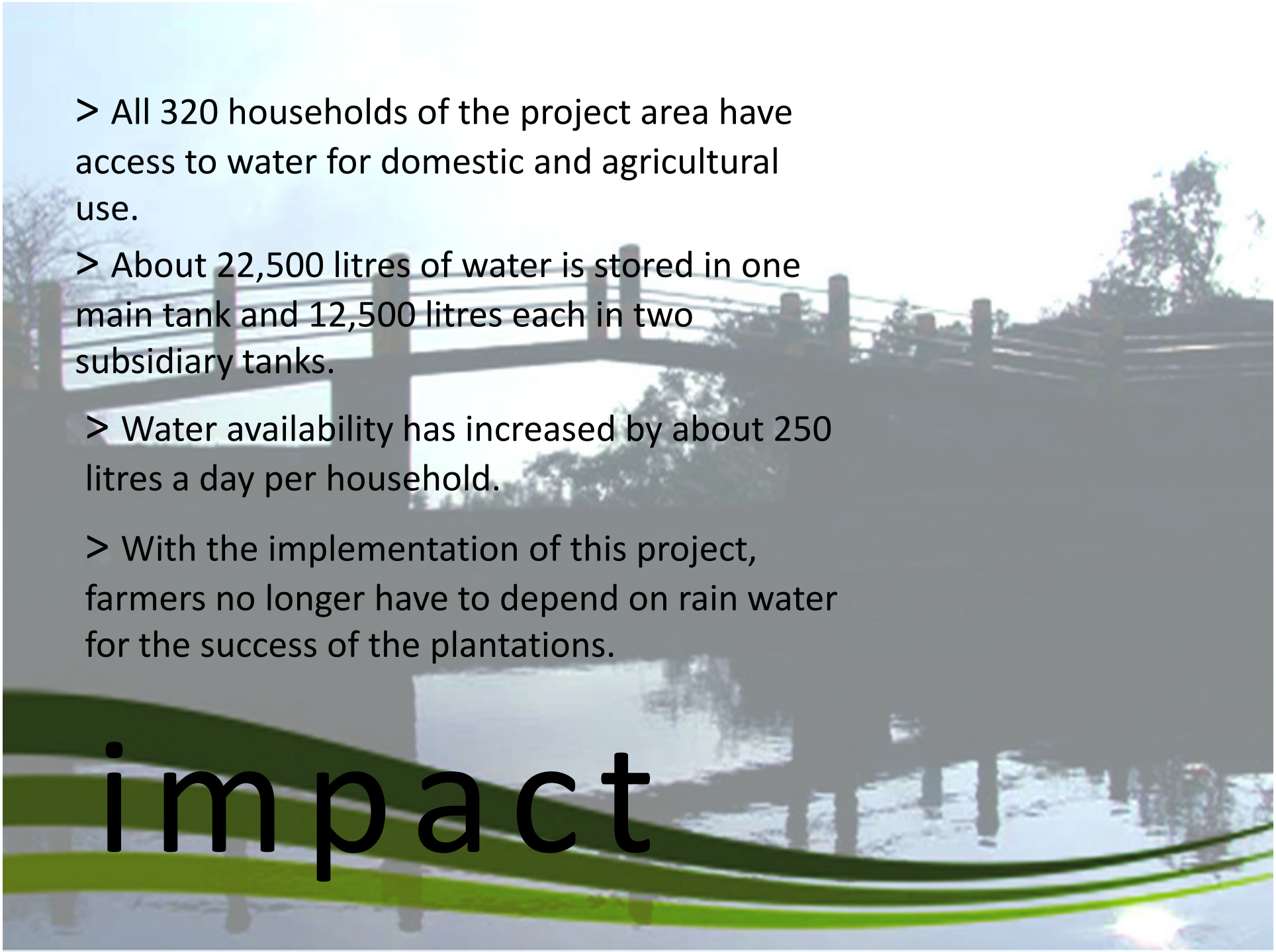


> Indigenous knowledge made an important contribution to the selection of site of the dam as well as the planning for carrying out of pipeline for irrigating the plantations.

> The people contributed detailed knowledge of the relationships between local topography and water sources on a year-round basis. This was especially important during the driest months of the pre-monsoon period.

> The dam submerged part of a 10 hectares land that was classified as barren.

intervention



> All 320 households of the project area have access to water for domestic and agricultural use.

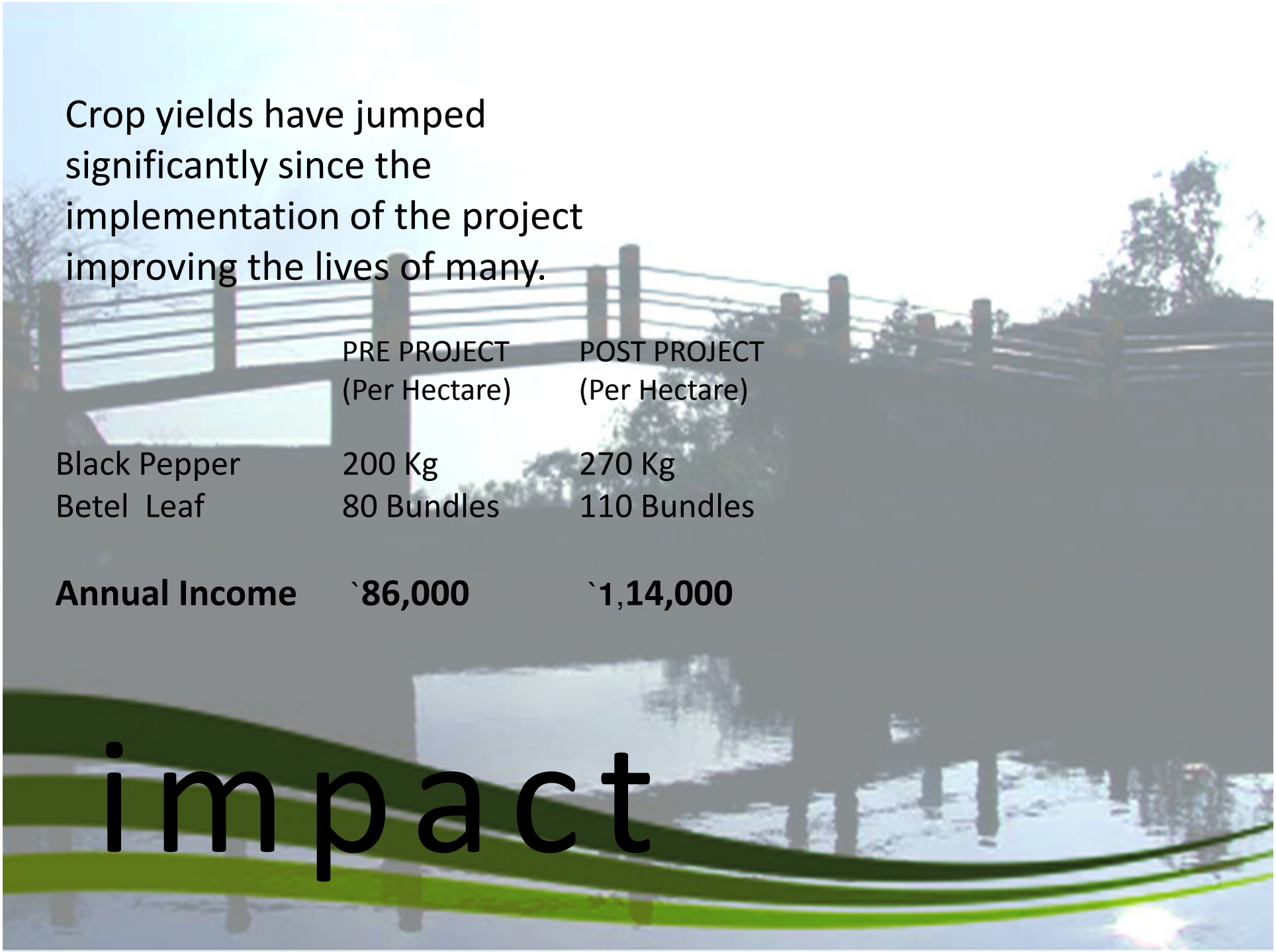
> About 22,500 litres of water is stored in one main tank and 12,500 litres each in two subsidiary tanks.

> Water availability has increased by about 250 litres a day per household.

> With the implementation of this project, farmers no longer have to depend on rain water for the success of the plantations.

impact

Arecanut plantation thriving
viz. easy access to water supply
channels



Crop yields have jumped significantly since the implementation of the project improving the lives of many.

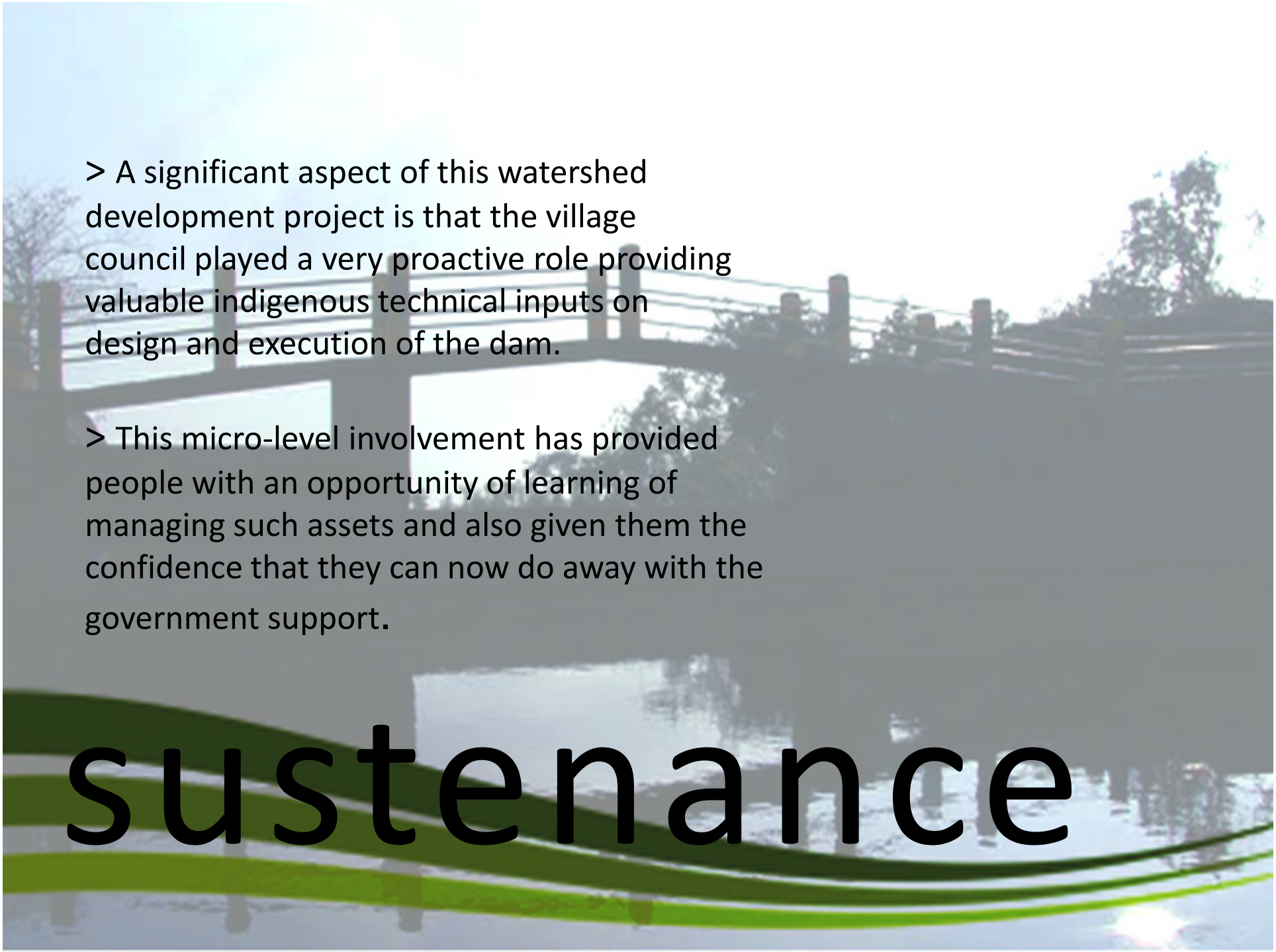
	PRE PROJECT (Per Hectare)	POST PROJECT (Per Hectare)
Black Pepper	200 Kg	270 Kg
Betel Leaf	80 Bundles	110 Bundles
Annual Income	**`86,000**	**`1,14,000**

impact

Mawlangbna Livelihood Activity : Arecanut Plantation

Mawlangbna Livelihood Activity : Arecanut Plantation

Black Pepper: viable economic activity for the villagers of Mawlangbna



> A significant aspect of this watershed development project is that the village council played a very proactive role providing valuable indigenous technical inputs on design and execution of the dam.

> This micro-level involvement has provided people with an opportunity of learning of managing such assets and also given them the confidence that they can now do away with the government support.

sustenance

Invaluable indigenous technical inputs for the village council

> The User Committee formed, now manages the asset and has so far raised ` 28,180/- in two years by collecting an amount of `100/- from the water users which will be used for maintenance and for creating more such assets in the village.

sustenance

Good Times Ahead!!!

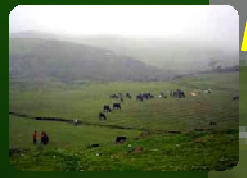

Thank You!!!

from conservation to sustenance...

A success story at
Ur Masi U Joh
Umiew IWDP Project–I,
2000-01, East Khasi Hills
District, Meghalaya





Department of Soil & Water Conservation
Government of Meghalaya

introduction

Over the last three decades, watershed development has emerged as an absolute necessity for strengthening the ecological resource base and improving the carrying capacity of fragile environments..

Meghalaya, has an area of approximately 3865.76 sq.km. categorised as wasteland.

introduction

> Ur Masi U Joh falling under the Umiew Micro Watershed under IWDP Project-1, 2000-01 in East Khasi Hills District of Meghalaya, is a glowing example of the changing scenarios.

> The Umiew watershed covers a total treatable area of 1885 Ha., with a total Project Cost of 113.20 lakh and 3388 households benefitted from the project.

pre-project scenario

> The area around Ur Masi U Joh has very limited cultivable land mostly on slopping ground, which is also extremely fragile and vulnerable to degradation or soil erosion.

> Since agriculture has been the mainstay of the region, land has had a direct impact on the livelihood of the people and even impeding development.

area profile

> Topography : Gentle slope with small depressions

> Soil : Medium in depth
Sandy loam in texture

> Total area : 30 Ha

> Cultivated area : 5 Ha

> Households : 10 Nos

> Irrigation : Non-existent

> Crop : Single

> Crop Yield : Paddy- 1300 kg/Ha
Income: Rs.26,000/- per Ha per Year
Potato- 8000 kg/Ha
Income : Rs. 60,000/- per Ha per year

pre-project scenario

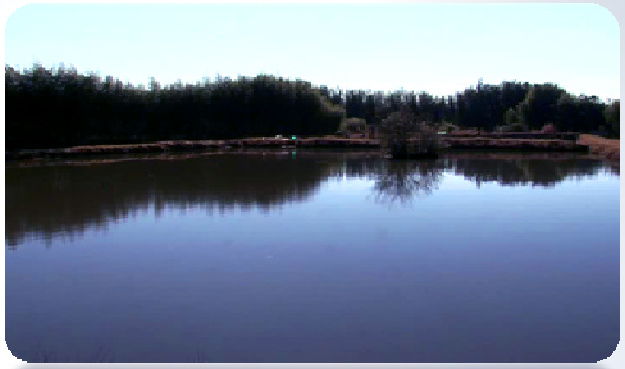
intervention

> The works at Ur Masi U Joh includes-

- Head water dam with irrigation channel
  -built at an estimated cost of Rs. 42,500/-

- Water harvesting pond
  -estimated cost of Rs. 60,000/-

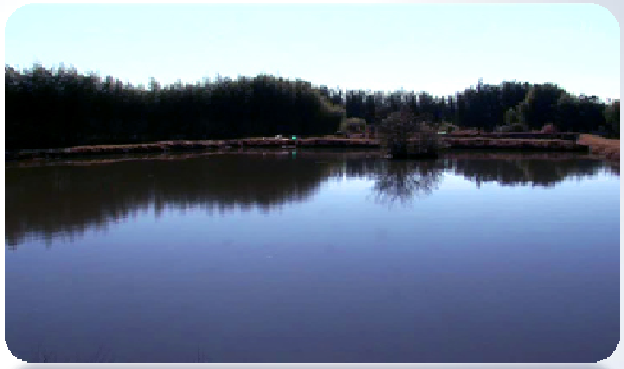
> The above works were taken up on community land.



intervention

the main objectives of the intervention were:

1. Providing water for irrigation, pisciculture and for domestic use.
2. Soil-moisture conservation
3. Ground water recharge
4. Improve the socio- economic condition of the villagers



Head water dam at Ur Masi U Joh Village

intervention

Head water dam at Ur Masi U Joh Village

intervention

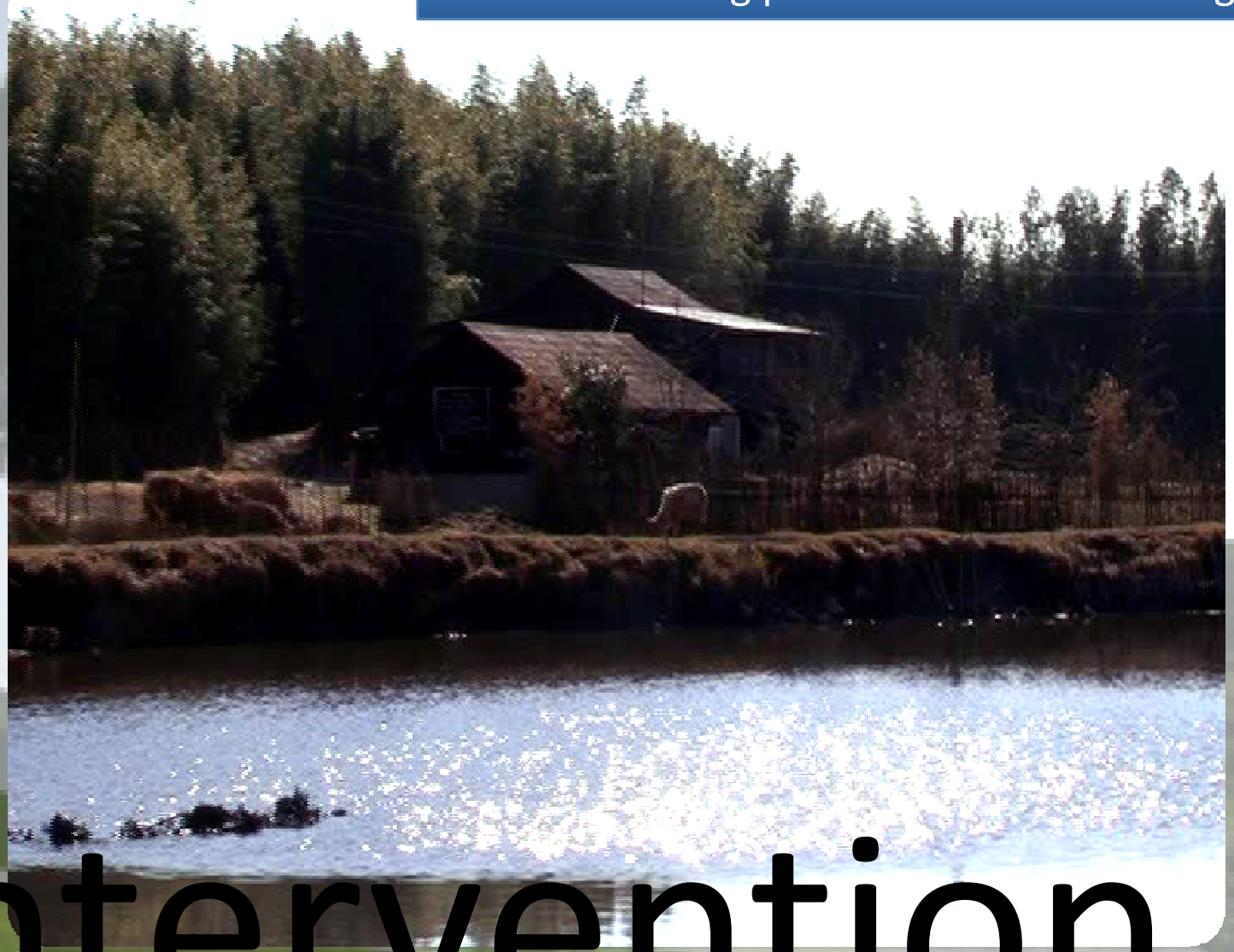
Head water dam at Ur Masi U Joh Village

intervention

Water harvesting pond Ur Masi U Joh Village

intervention

Water harvesting pond Ur Masi U Joh Village



intervention


Water harvesting pond Ur Masi U Joh Village
intervention

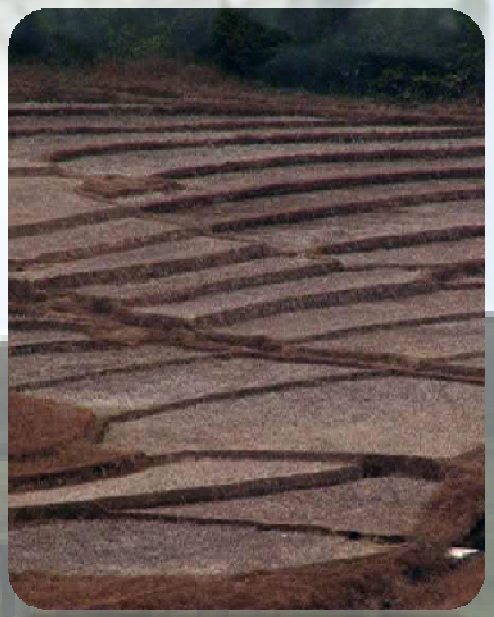
impact

> The head water dam constructed from the scheme along with land development by the farmers themselves has immensely increased the agricultural productivity by providing assured irrigation to 10 Ha of land throughout the year.

> Farmers have now adopted double cropping - **cabbage and paddy or potato and paddy.**

impact

Yields have jumped significantly improving the lives of the farmers.



> Paddy	1500 kg/Ha
Income	Rs.30,000/- per Ha /year
> Potato	8500 kg/Ha
Income	Rs.63,750/- per Ha /year
> Cabbage	12,000 kg/Ha
Income	Rs.96,000/- per Ha /year

Average Income from double crop per year = Rs.1,50,000- Rs.1,80,000 per year

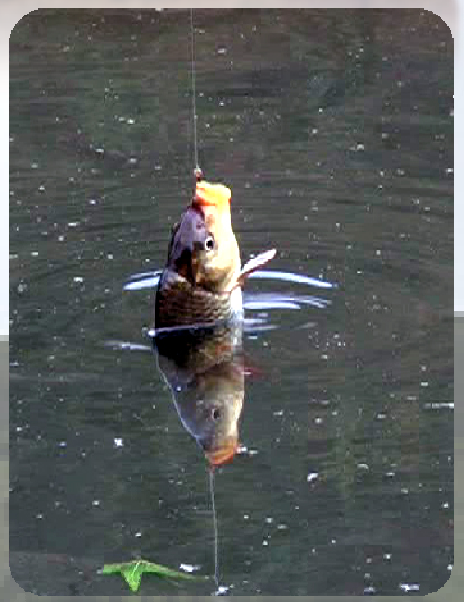
impact

> The Water Harvesting Pond has also brought bounty to the people. It is used not only as a rain water harvesting structure, but also for Pisciculture and other domestic uses.

> The net produce from the pond is about 2.5 quintals per year.

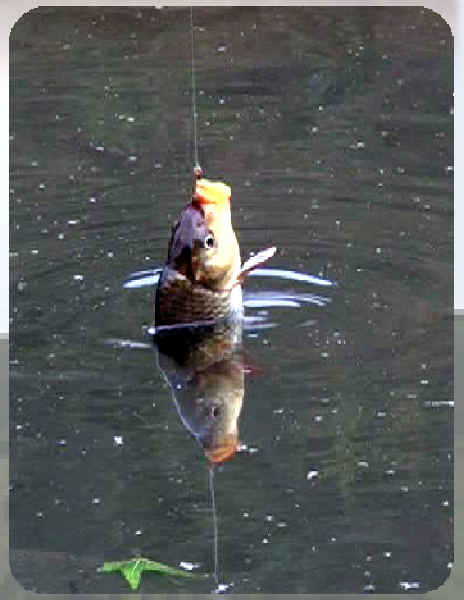
The average net profit annually is between Rs. 60,000 to 70,000/- thereby adding to the income as subsidiary income to one farmer.

> Emulating the success and sustainability of the pond created under the project, two more ponds have now been constructed by the local community themselves, adding to more income generated for two more farmers.



impact

> The work here has also opened up more scope for improvement of rural livelihood, whereby the living conditions of the farmers have improved tremendously.



Benefit Cost Analysis for Head Water Dam (Fin. In Rs.)

CROP	CULTIVATED AREA (HA)	COST OF INPUTS (Per Hectare)	TOTAL COST	YIELD Qtl/ Ha (POST PROJECT)	YIELD Qtl/ Ha (PRE PROJECT)	RATE (PER QUINTAL)	TOTAL INCOME (Annual)
PADDY	10	28300	283000	15	13	2000	300000
POTATO	5	43700	218500	85	80	750	318750
CABBAGE	5	53600	268000	120	114	800	480000
Construction Cost of 1 Nos. Head Water Dam			42,500				
TOTAL:			**812000**				**1098750**

B.C. RATIO= TOTAL INCOME / TOTAL COST

B.C. RATIO= Rs. 10,98,750 / Rs. 8,12,000

B.C. RATIO= 1 : 1.35

impact

Benefit Cost Analysis for Water Harvesting Structure (Dug out Pond) (Fin. in Rs.)

Items	No. of Structure	Cost of Constr-uction	Annual Cost of Inputs	Total Cost	Fish Yield (Kg per annum)	Rate (per Kg)	Total Income (Annual)
Water Harvesting Structure (Dug Out Pond)	1	60000	25620	85620	2500	50	125000

B.C. RATIO= TOTAL INCOME / TOTAL COST

B.C. RATIO= Rs. 1,25,000 / Rs. 85,620

B.C. RATIO= 1 : 1.46

impact

sustenance

> As a mechanism for sustenance and maintenance of the assets created, the inhabitants of the area has pooled in to the Watershed Development Fund of the whole watershed which has accumulated to a total of Rs.3.60 Lakhs in the bank.

> This project has truly emerged as a project of the people, for the people and managed by the people.

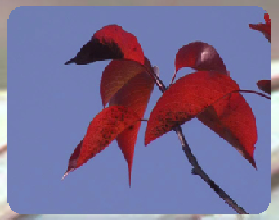
> In these five years the project has changed the whole area of Ur Masi U Joh from one of abject poverty and underdevelopment to prosperity and on the path of development.

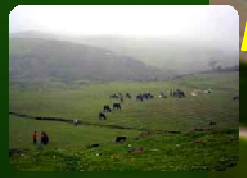
sustenance


thank you

from conservation to sustenance...

A success story at Mustem (Psiahsyniong Watershed IWDP- XI, 2006-07 Jaintia Hills District, Meghalaya)





Department of Soil & Water Conservation
Government of Meghalaya

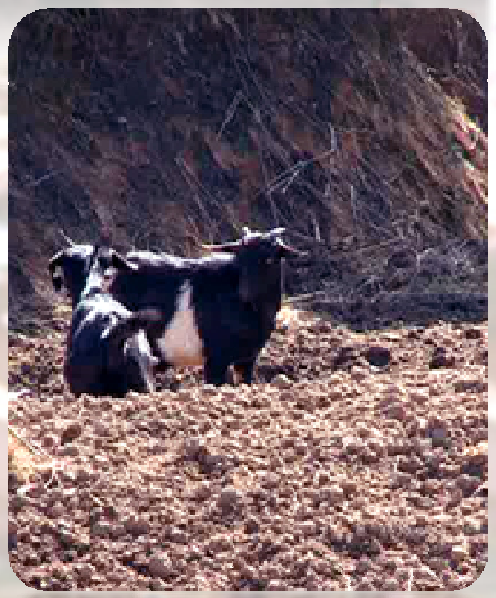
introduction

> Apart from natural resource management, the Integrated Wasteland Development Programme also facilitates in creating opportunities for livelihood activities.

> Thus, specific attention as has been paid to providing opportunities to the rural communities to diversify economic activities, often through the formation of self help groups especially for women, the landless and other marginal groups.

pre-project scenario

> Agriculture and animal husbandry were the primary economic activities of the people of Mustem Village in Jaintia Hills District.



> An average household here earned an approximate RS.30,000 annually and the limited opportunities available offered little potential for any growth.

> A household here was rarely able to mobilise sufficient resources to finance any development activity.

intervention

> Under the Psiahsyniong Watershed IWDP- XI 2006-07, FOUR Self Help Groups have been formed for different income generating activities in Mustem Village.

> The total cost of the project, including other watershed development works encompassing over 500 hectares of treatable land is Rs.30 Lakhs.

intervention

> Keeping in mind that people's involvement is paramount for the success of the project, participation was encouraged by adopting procedures that suited the already existing livelihood activities of the village.

> These groups are involved in a number of activities ranging from grocery shop and traditional crafts such as grass mat making, basket making, broom making to kitchen gardening, and even marketing bottled juice and jams.

NAME OF S.H.G : Kyrshanlang S.H.G.
Year of Formation : 2007
Number of Members : 10

FINANCIAL POSITION

Started with monthly collection of Rs. 10-/ per head, presently it is Rs. 50/- per head.
Completion 1st grading in 2008, 2nd grading in 2009.
Bank loan received in 2008: Rs. 75000/-
Bank loan received in 2009: Rs. 1,50,000/-
Outstanding loan for repayment: Rs. 3500/-
Present average Income: Rs. 25,000/- per month.

INCOME GENERATING ACTIVITY:

The main activities of the group are basket making and grocery store, which they started as a small shop in the year 2008. The shop has now flourished as the main store in the village. They have also opened a tea stall and are also doing small scale food processing of juice and jam from Sohiong (Black Cherry). The group members also helping other S.H.G.'s in the village in account keeping, maintenance of records and bank linkage.

intervention

NAME OF S.H.G : Myntoilang Women S.H.G.
Year of Formation : 2008
Number of Members : 10

FINANCIAL POSITION

Started with monthly collection of Rs.10/- per head now it is Rs.20/- per head. Completion of 1st grading in 2009.
Bank loan received in 2009: Rs. 25000/-
Outstanding loan amount : Rs. 3000/-
Present average Income: Rs. 18,000/- per month

INCOME GENERATING ACTIVITY:

The main activity of this group is poultry. But recently they have also taken up pisciculture too. They are able to earn a good income from sale of poultry and all the labour work to manage the poultry is done by the group member themselves.

intervention

NAME OF S.H.G : Turshaphrang S.H.G.
Year of Formation : 2009
Number of Members : 10

FINANCIAL POSITION

Started with monthly collection of Rs 20/- now it is Rs 50/- head. They are yet to avail a loan from bank. They using the amount collected to invest in the activity to generate income.

Cash in hand Rs. 10,500/-

Present average Income: Rs. 15,000/- per month

INCOME GENERATING ACTIVITY:

The main activities of this growth is piggery and vegetable cultivation. The group is earning a steady income with sale of piglets to the fellow villagers and nearby villages.

The main vegetable that are grown here are carrot, potato, peas and beans.

intervention

NAME OF S.H.G : Iatyllilang S.H.G.
Year of Formation : 2008
Number of Members : 10

FINANCIAL POSITION

Started with monthly collection of Rs. 20/- per head now it is Rs. 50/- per head. They are yet to avail a bank loan.

Present average Income: : Rs. 15,000/- per month

INCOME GENERATING ACTIVITY:

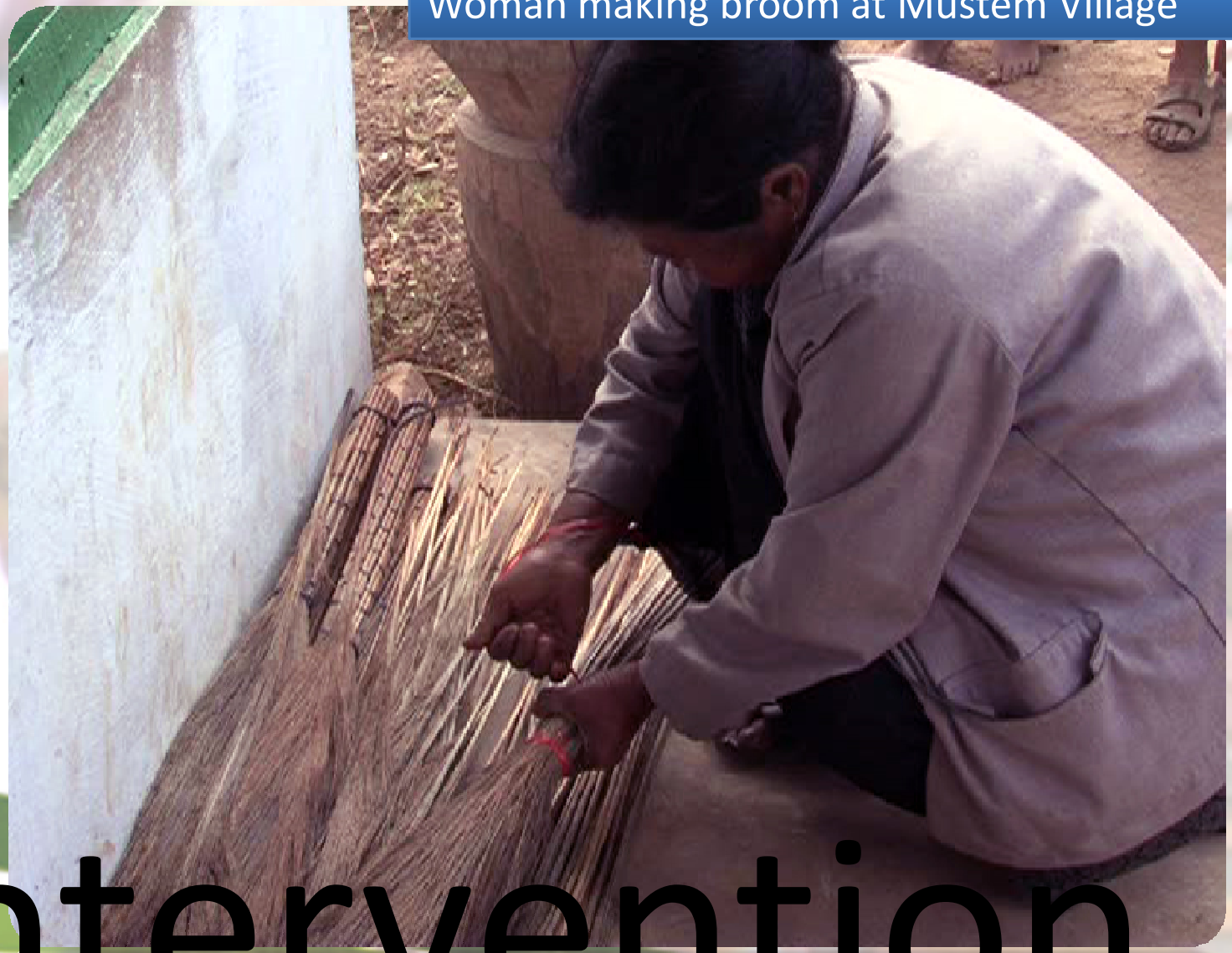
Their main activities are basket making, piggery, fishery and vegetables cultivation. Savings and profit from vegetable cultivation has bean invested in piggery and fishery which they just started in 2010.

intervention

Woman weaving grass mat at Mustem Village

intervention

Woman making broom at Mustem Village



intervention

Fishing basket weaved by the SHGs at Mustem

intervention

Baskets weaved by SHGs at Mustem Village

intervention

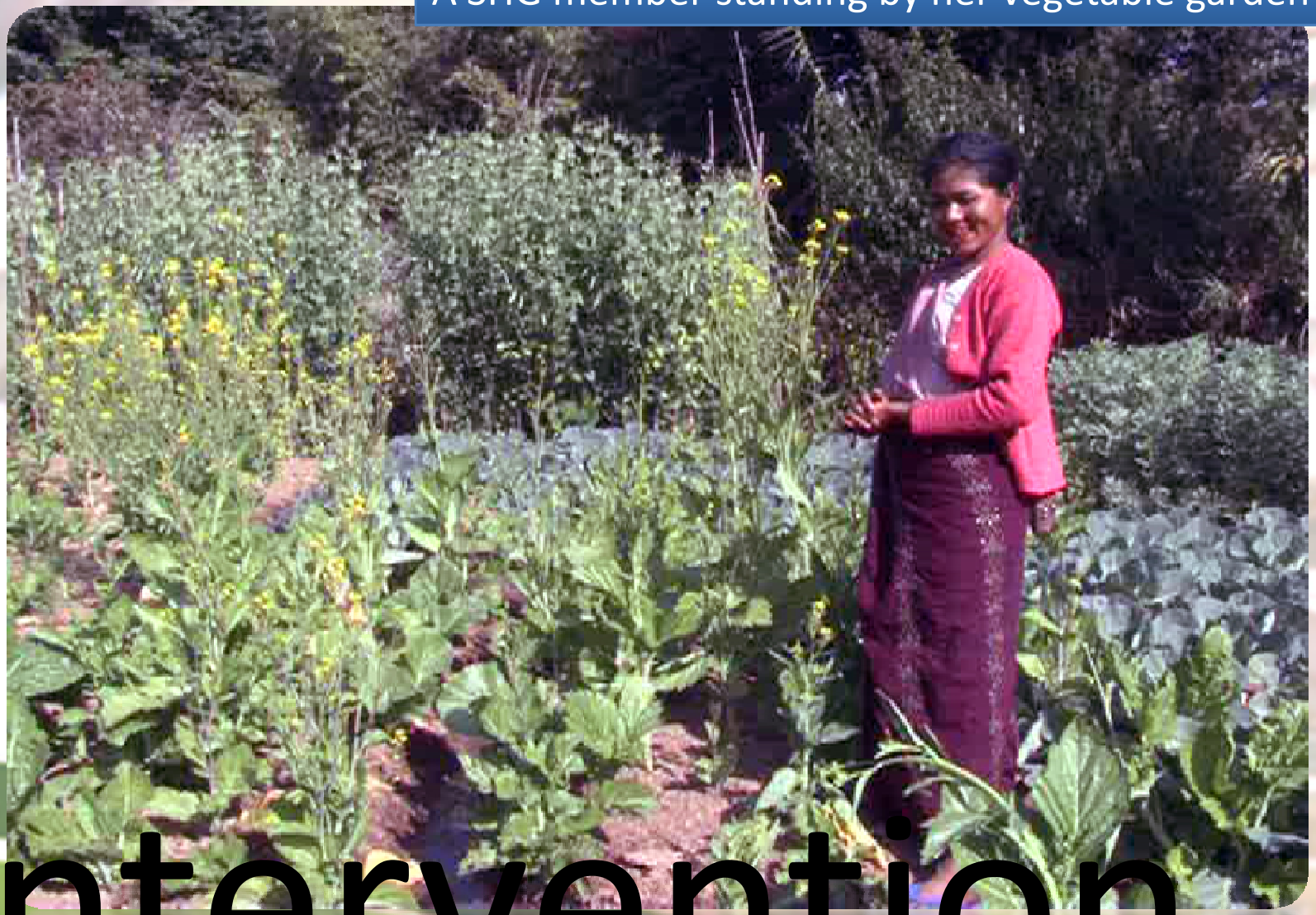
Woman showing bottled jam at Mustem Village

intervention

Poultry farm at Mustem Village

intervention

A SHG member standing by her vegetable garden



intervention

impact

> An appreciable upliftment in the socio economic status is already being noticed in only the second year since the implementation of the project.

> The income of an average household has jumped over 50% to Rs.45,000 annually.

> Subsequent increases in economic activities have also lead to employment generation and development of other economic resources in the village.

> Technical assistance and training programmes were conducted regularly to enable them to enhance their capacity and further build up their enterprises.

> Bank linkage is also being facilitated to the SHGs to enable them to avail loan and further improve their livelihoods.

sustenance

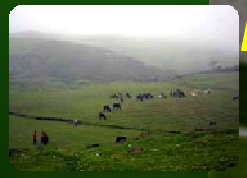
> In terms of the overall impact the livelihood activities of the SHGs as a means to rural poverty reduction, the Mustem experience has demonstrated as to how people themselves can improve the rural livelihood.

sustenance


thank you

from conservation to sustenance...

A success story at Musiang Lamare (Thwai Tyrso Watershed, IWDP-Project- I, 2001-02 Jaintia Hills District, Meghalaya)



Department of Soil & Water Conservation
Government of Meghalaya

introduction

> One of the several key schemes envisaged under the integrated wasteland development programme has been to ensure overall development of rural areas which implies both the economic and social betterment of the people.

> A clean drinking water supply system is one such endeavour under IWDP which has a huge social relevance while also contributing to the rural infrastructure.

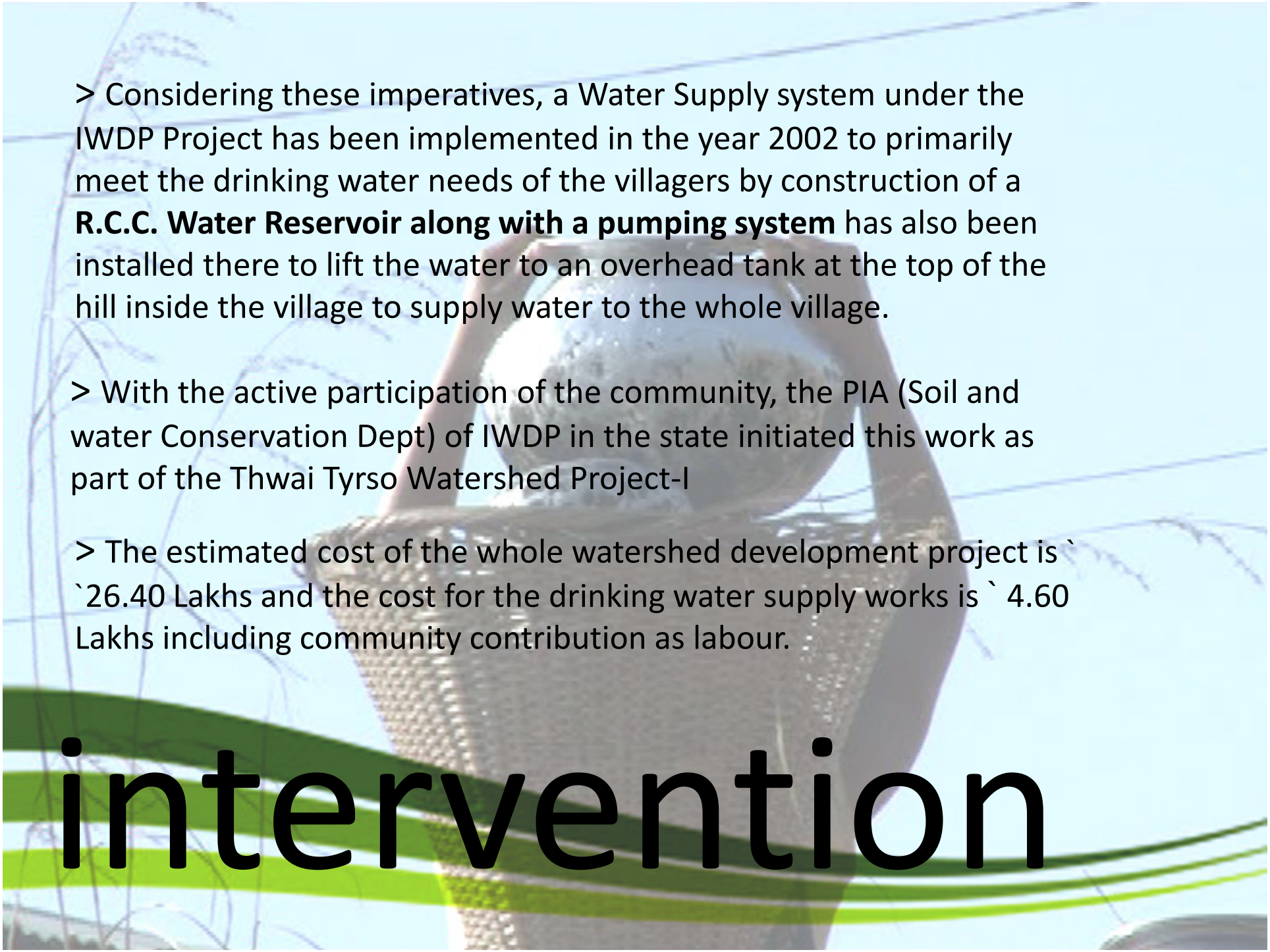
> Musiang Lamare is a remote hill top village in Khliehriat block of Jaintia Hills district.

> The population of the village is just under 400 but being a water scarcity area, drinking water is the most demanding factor among the people whereas there is no drinking water supply scheme ever implemented in the village.

> The main source of drinking water in the village was a natural spring located at the bottom of the hill, the path leading to this source is very steep.

> The shortage of water especially during the dry season was slowly affecting the lives of people as well as the environment around them as most of the time and labour is spent in fetching of water.

pre-project scenario



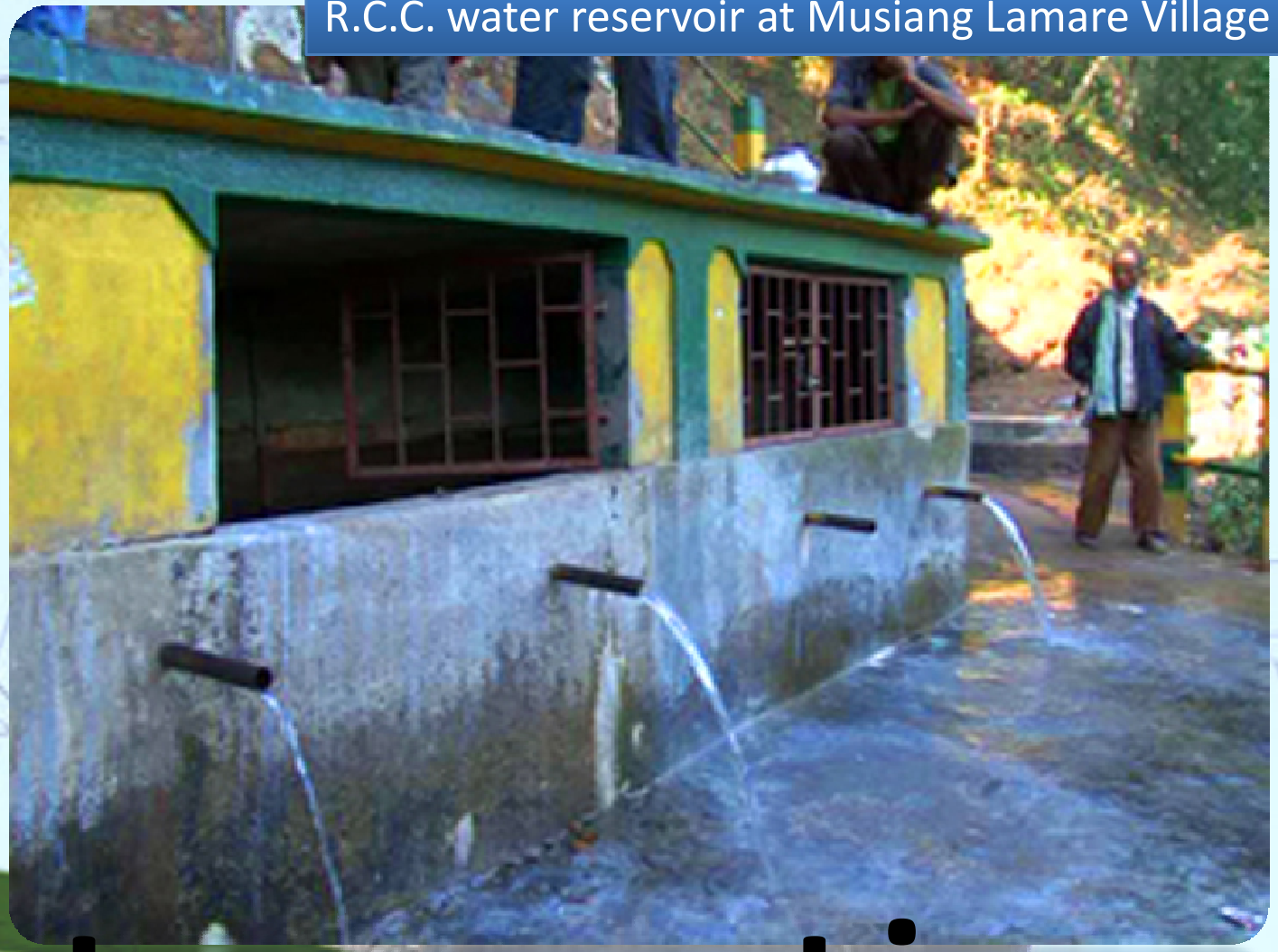
> Considering these imperatives, a Water Supply system under the IWDP Project has been implemented in the year 2002 to primarily meet the drinking water needs of the villagers by construction of a **R.C.C. Water Reservoir along with a pumping system** has also been installed there to lift the water to an overhead tank at the top of the hill inside the village to supply water to the whole village.

> With the active participation of the community, the PIA (Soil and water Conservation Dept) of IWDP in the state initiated this work as part of the Thwai Tyrso Watershed Project-I

> The estimated cost of the whole watershed development project is ` `26.40 Lakhs and the cost for the drinking water supply works is ` 4.60 Lakhs including community contribution as labour.

intervention

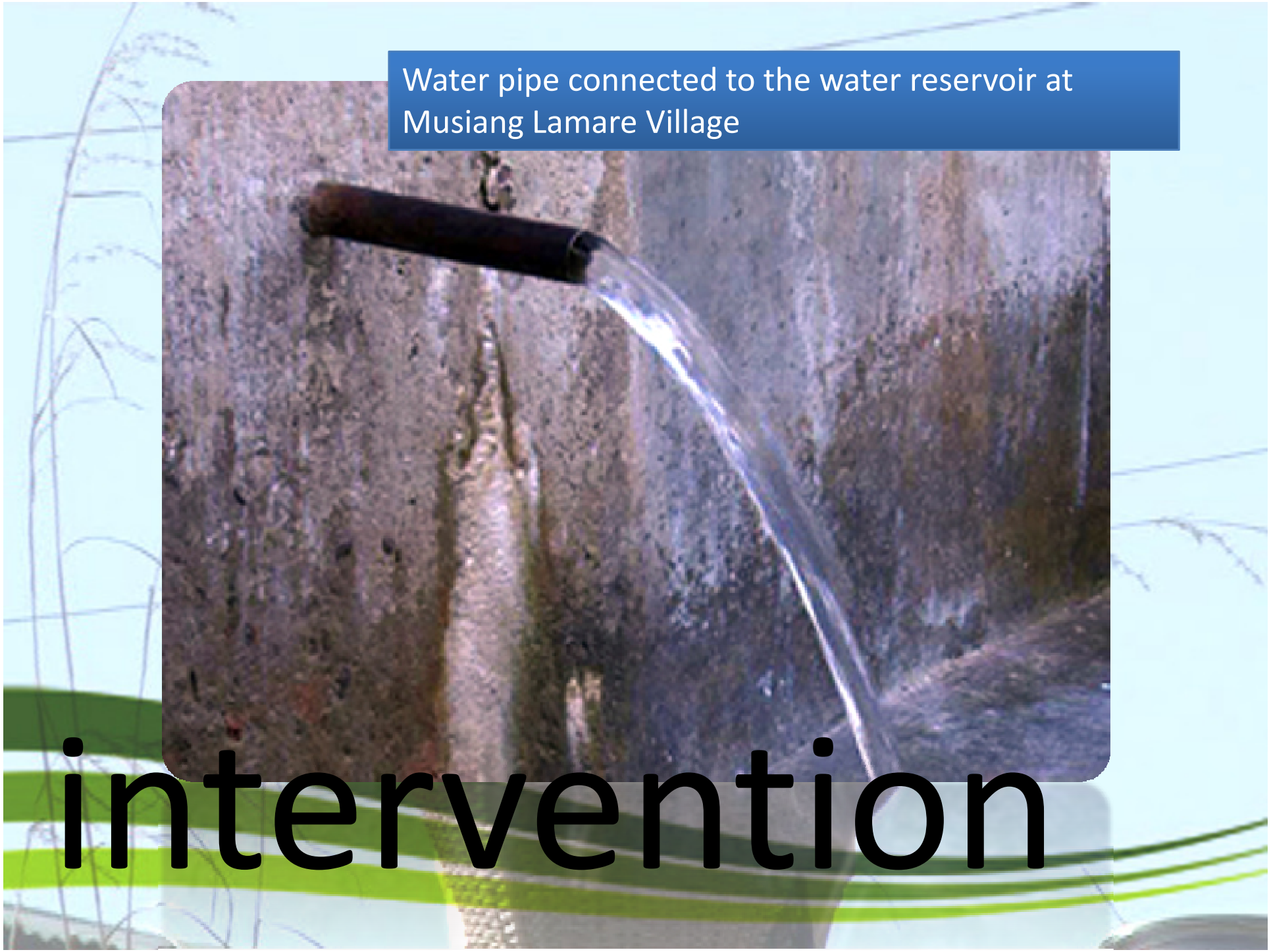
R.C.C. water reservoir at Musiang Lamare Village



intervention

R.C.C. water reservoir at Musiang Lamare Village

intervention



Water pipe connected to the water reservoir at Musiang Lamare Village

intervention

People collecting water from the Distribution Tank at Musiang Lamare Village

intervention

Main Water storage tank at Musiang Lamare Village

intervention

Water is distributed throughout the village from the tank

intervention

impact

> The water scheme, has transformed the entire village where residents now have direct access to clean drinking water, without having to spend time and labour for manual collection bringing an overall improvement where adults gets to spend more time at their work, and children spend more time at school and play.

sustenance

> The programme provided for a watershed development fund and this is to be used for maintenance of the asset created once the project period is completed.
The fund could also be used to undertake repairs, if any, and other developmental works.

> The villagers have also been encouraged to take up roof top rainwater harvesting through proposals of convergence of IWDP and MGNREGA, to improve water supply to meet different livelihood and domestic needs.


thank you