

## Watershed Component

Integrated watershed development activities of the AMAREW Project have been initiated in Lenche Dima and Yeku pilot watersheds with the overall vision of promoting and demonstrating conservation-based agricultural development, thus alleviating the chronic food shortage in the project areas and improving the natural environment and resources. The watershed-focused approach ensures site-specific application of suitable interventions and active participation of the community.

The project areas are in the drought-prone woredas of Gubalafto and Sekota where a crop-livestock integrated farming system with very low productivity prevails. Major constraints to proper natural resources development include: severely degraded and infertile soils, water-caused erosion leading to formation of extensive and deep gullies, scarcity of fuel wood and construction materials, inadequate rainfall and recurring drought. Additional constraints affecting agricultural production negatively include: poor farming practices, shortage of oxen, labor, and improved seeds, small size and fragmented land holdings, shortage of animal feed, and insect, disease, and weed problems both in crops and livestock. Furthermore due to cash shortage, the ability of farmers to use improved inputs is very much limited. In general, the low level of agricultural productivity is the primary cause of low farm income, which in turn is a reason for low level of input utilization. Income generating activities, both on-farm and off-farm, are minimal or non-existent. The multitudes of reasons listed above have made the farmers in the project area food-insecure. Testimonials from farmers confirm that agricultural produce in a typical household is sufficient to feed them for only seven months of the year. To fill the household food deficiency gap, farmers commonly migrate to urban areas and other farms far away from their homes, seeking low-wage labor opportunities.

**Goals:** To improve the livelihood of the community in the watershed, and by extension the region, by increasing agricultural production and natural resource conservation through effective integration of research, extension, natural resource conservation, and micro-enterprise development.

**Objectives:** a) To reduce the current level of land and water resource degradation caused by soil erosion, overgrazing, and deforestation; b) To reduce the current shortage of fuel wood, fodder, and construction material; c) To increase crop production by using *in situ* soil moisture conservation, improved crop varieties, and integrated crop and pest management; d) To improve livestock production and productivity; f) To improve the overall income and living standard of the

target community in the pilot areas; g) To test improved and alternative approaches in institutional and organizational issues through research and demonstration.

**Strategy:** A watershed-based natural resource conservation and agricultural development approach, with farmers' participatory and multidisciplinary problem/constraint identification, planning, design, implementation, monitoring and evaluation will continue to be followed. This approach includes: a) Natural resource conservation and agricultural development considered for the entire watershed at once; b) Genuine community participation ensured during planning, implementation, and monitoring and evaluation of proposed activities; c) Capacity building of the farmers through training and demonstration; d) Developing and deploying effective institutional linkages for implementing integrated watershed development

#### **Expected outputs**

- Soil erosion is minimized and better moisture conservation achieved
- Fuel wood and construction material made available
- Feed deficit improved and livestock productivity increased
- Crop production and productivity increased
- Skill of the local community in natural resource conservation developed
- Food deficit decreased, nutrition improved, overall farm income and standard of living improved
- Extension methodology on watershed-based resource conservation and agricultural development developed

#### **Watershed development interventions**

##### **Natural resources development and management component**

- Soil and water conservation on crop land
- Soil and water conservation on shrub/bush and grazing lands
- Gully rehabilitation
- Farmer training
- Planting trees and shrubs around homestead and riverbanks
- Introduction of vegetative soil conservation measures on farmlands
- Small rills and gullies on farmlands treated using *Agave sisaliana* (Sisal) locally known as 'Chiret'
- Improving of area closures with enrichment planting

**Crop production component**

- Introduction of *in situ* moisture conservation practices and implements
- Promoting the use of tied ridges on farms for moisture conservation.
- Introduction and promotion of improved and early maturing varieties of crops (cereals, pulses, and horticultural crops)
- Training and demonstration on the adoption and use of improved crop varieties and other technologies
- Demonstrating appropriate full crop packages (improved seed, fertilizer, water conservation, and other management practices).

**Crop protection**

- Training of farmers on integrated pest management (IPM)
- IPM training for woreda extension staff and DAs
- Control of *Striga*, *Parthenium*, and other noxious weeds
- On-farm trials and demonstrations in various aspects and fields of crop protection.

**Livestock development component**

- Farmers training in livestock management and improvement
- Goat restocking
- Grazing land improvement
- Improved backyard poultry keeping
- Apiculture development

**Social development component**

- Community organization and participation
- Water development
- Pond construction
- Capacity building at woreda and watershed levels

**Replicating lessons learned to new pilot Watershed site (Gumet)**

As part of the initial USAID support initiative, four pilot watershed sites had been selected as learning centers where pilot community motivational activities will be identified and implemented. The AMAREW Project, with its ANRS partners, has been working on only two of the selected pilot watersheds since the beginning of 2003. It was initially envisaged that lessons learned from these two watersheds would be replicated in the remaining selected sites. The Project believes that it has acquired adequate experiences in the principles of community based participatory

watershed management and is ready to work on one of the remaining two pilot sites (Gumet watershed) beginning in 2005. Detailed feasibility study including maps and possible interventions have already conducted and this will enable BoARD and AMAREW to start implementation with no further need for additional detailed study. The need for replicating the lessons learned into the remaining two watershed has been strongly emphasized in the original document and this has been thoroughly discussed at the RIT and endorsement from USAID has also been obtained.

With the above general introductory remarks, the budget summary by activity category for the three pilot watersheds of the AMAREW Project for 2005 is presented below in Table 11. The details of the work plan and the list of activities in each watershed is given in Annex Tables 14 to 16.

During this planning period the Environment Protection, Land Administration and Use Authority (EPLAUA) will implement activities funded by the Project in its mandate areas. EPLAUA will work both in the three pilot watersheds and three selected woredas where the Project is involved. EPLAUA's activities are expected to be integrated and harmonized with the activities of the other ANRS partners of AMAREW. The main activities of EPLAUA fall under land administration, demarcation, and certification as well as convening farmers' forums. The details of the activities and the budget for EPLAUA are shown in Table 12.

**Table 11. Budget summary by Activity Category for the three pilot watersheds of the AMAREW Project in 2005**

Components	Name of Watershed			Total
	Lenche Dima	Yeku	Gumet	
Crop Production	38,774	50,313	58,336	147,423
Livestock Production	94,350	111,779	33,280	239,409
Extension	21,105	20,900	15,940	57,945
Natural Resources	259,974	59,700	61,120	380,794
Land Administration	11,000	11,000	30,000	52,000
Operational	35,200	37,000	22,000	94,200
<b>Total</b>	<b>460,403</b>	<b>290,692</b>	<b>220,676</b>	<b>971,771</b>

**Table 12. EPLAUA List of Activities and Budget in Birr under the AMAREW Project for 2005**

**A. Watershed Sites**

<b>Activities</b>	<b>Gumet</b>	<b>Yeku</b>	<b>LencheDima</b>	<b>Total</b>
Land administration, registration and certification	28,000	9,000	9,000	46,000
Annual Land Committee Forum	2,000	2,000	2,000	6,000
<b>Total</b>	<b>30,000</b>	<b>11,000</b>	<b>11,000</b>	<b>52,000</b>

**B. Woreda Level Activities**

<b>Activities</b>	<b>Woredas</b>			
	<b>East Belessa</b>	<b>Lay Gayint</b>	<b>Tehuledere</b>	<b>Total</b>
Land administration and Registration	9,000	9,000	9,000	27,000
Annual Land Committee Forum	2,000	2,000	2,000	6,000
Farmers/Stakeholders Training	29,000	-	-	29,000
<b>Total</b>	<b>40,000</b>	<b>11,000</b>	<b>11,000</b>	<b>62,000</b>

Grand Total    A + B = 52,000 + 62,000 = **114,000**