Relief Society of Tigray (REST)

Climate change vulnerability in local communities in Tigray, Northern Ethiopia.

The case of integrated watershed approach

UNFCCC Poznan 08

Presentation content:

- 1. Farmers experience with climate change and variability in Tigray, Northern Ethiopia
- 2. The Watershed Approach
- 3. Practical examples
- 4. Lessons learnt

Small farmers experiencing climate variability and change

Local vulnerability study conducted in 2 watersheds in Tigray: over the last 20 years:

- Severe, long lasting droughts have occurred
- events of flooding in relation to intense rainfall
- experienced increased surface temperature

In particular more frequent droughts have contributed to severe impacts on the livelihoods:

- •Reduction or total loss of crop yield
- •Serious losses of livestock
- •Soil degradation and soil fertility

Results: Increased poverty, food aid, migration, economic and social stagnation, malnutrition and death.

Integrated Watershed Approach and climate adaptation

REST started to implement the Watershed approach, emphasizing water as a key resource for livelihood security in the dry lands at both household and communal level. The approach mainly focus on:

- Conservation and development of key environmental assets: water, soil and forest resources to address livelihood needs of communities in a certain well defined geographical unit-Watershed.
- Clear understanding of the different assets people have in their surrounding watershed: to identify the gaps/challenges to be addressed; and the opportunities to be exploited.
- Watershed committee based on the existing community institutions for planning WS actions, mobilize labor force, targeting the poorest households, facilitate community implementation and long-term follow up
- Collaboration with, and capacity building, of local administration and government bureaus at local and regional level is necessary to ensure sustained technical backup for watershed community.

Climate change & local vulnerability Deforestation, Soil erosion, gully formation and farmland degradation in Tigray



Delineated watershed area based on the drainage pattern & land use cover Map



Soil & Rainwater harvesting using terraces, ponds & small trenches on communal & farm land



Local vulnerability: Rehabilitating eroded farm lands (gully) with physical and Biological measures, Tigray



Improved crop performance and yield with SWC measures



Water harvesting Check dam (Tigray)



Water harvesting Check dams. (Tigray, 2008)



= 3ha

Noode Dump irrigation

Climate change and local vulnerability (Increase in Vegetation cover: Sat-image)

Shimedren watershed



May 1984

May, 1999

May, 2007

Water harvesting not sufficient, but also saving in using it through drip irrigation



Technology transfer needed to make use of conserved resources (Water lifting) and surface water harvesting techniques









Lessons from Tigray:

- Livelihood Diversification is needed building resilience through integrated Watershed Approach
- Climate change doesn't impact local livelihood in isolation. It exerts its impact through interacting with local specific processes and conditions. (economic, social and political processes) Cross-sectoral approaches is needed
- Adaptation to climate change must primarily focus on reducing current level of local vulnerability in order to ensure better local capacity for climate adaptation. Enhancing food security must therefore be the first priority.
- Adaptation must be build and capitalize on existing good practices and useful local knowledge and strategies.
- Local technology transfer and development is important to enhance the use of Natural Resources, and in particular water. Increased south-south sharing and learning is needed!

Thank you <u>rest@ethionet.et</u> or berhanurest@yahoo.com