State of Eritrea

Eritrea's Experience in Dryland restoration

KEFRI, Nairobi, Kenya
February 22-24, 2016

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Major interrelated Challenges in Agriculture / Environment

For Food insecurity and biodiversity loss

1. **Climate change**
2. **Desertification**
3. **Land degradation**

1. Diverse climate & complex soils

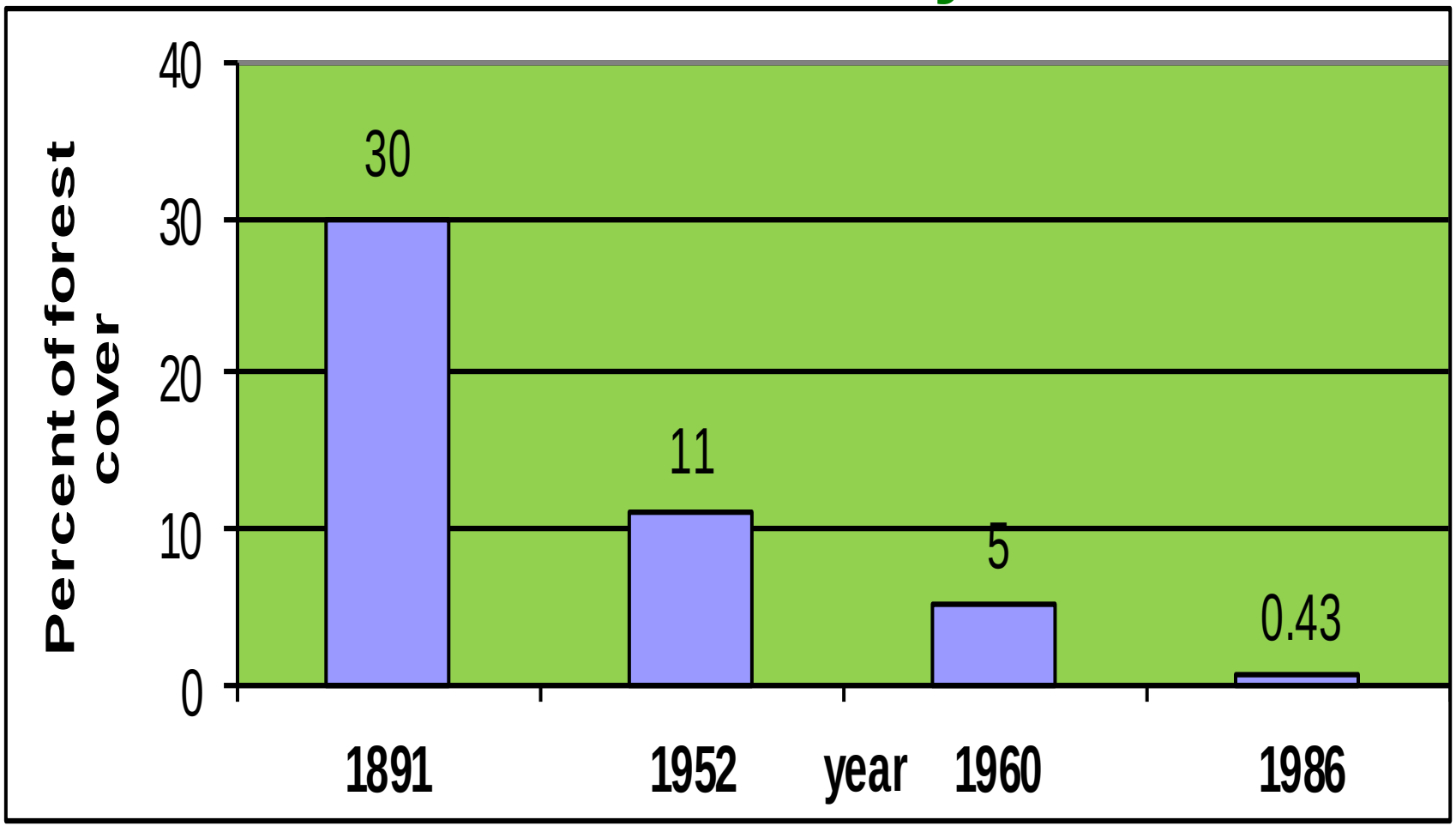
- Sahelian Zone of East Africa (frequent & prolonged drought). => (> 70%) Arid to semi – arid very hot (> 24°C);

- ***RF*** - extremely variable in space and time (high intensity, short duration storms) => heavy floods.

2. Natural resources declining / biodiversity loss

due to drought, deforestation, Overexploitation, Soil erosion / loss of soil fertility and prolonged war.

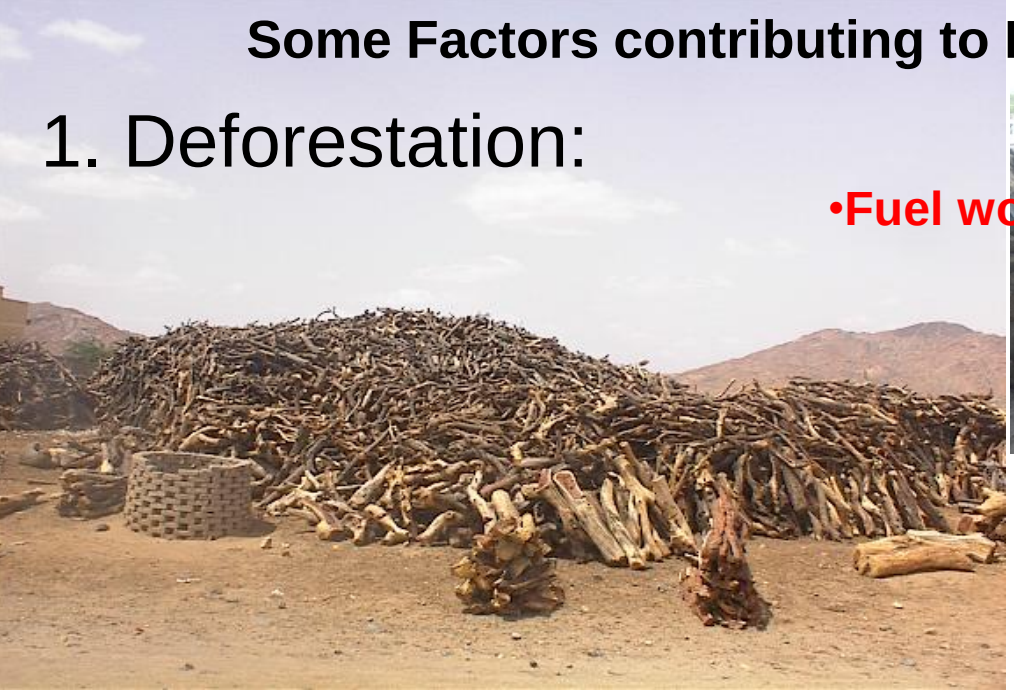
Forest status trend in a century = 30% to < 1%



Some Factors contributing to Environmental problems:-

1. Deforestation:

•Fuel wood



Traditional house making and Fencing

•Agricultural expansion & Charcoal making

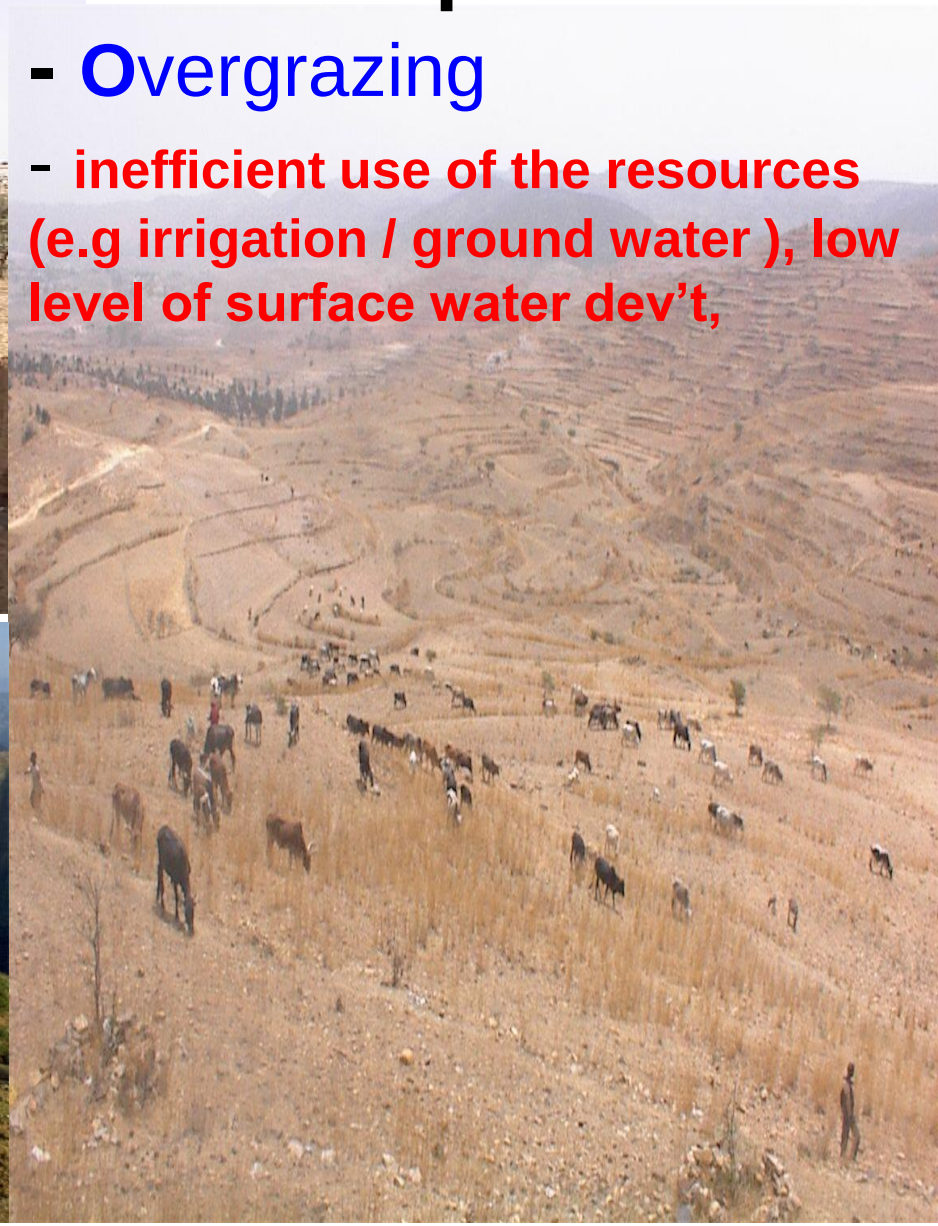
This house (hidmo) takes a staggering 100 poles (250 – 300 M^3 wood biomass)

2. Soil Erosion

- Inappropriate land Use practices, improper farming practice (riverine areas), limited SWC, etc

3. Over exploitation

- Overgrazing
- inefficient use of the resources (e.g irrigation / ground water), low level of surface water dev't,



INTERVENTIONS related to Dryland Restoration

Though the GGW not yet initiated the government has done a great endeavor that supports biodiversity conservation, environmental maintenance and poverty reduction

MoA - Vision & Mission

Vision

"Modern, efficient, competitive and sustainable agriculture sector to promote high value products through irrigation development".

Mission

- ***"Creation of technologically advanced agriculture sector to contribute to food security, economic growth and improvement of the livelihood of Eritrean society".***

MoA Strategies

- Transforming the traditional subsistence to modern irrigation driven production system
- Increasing income of farmers through improved cultivars/breeds, practices & technologies;
- Enhancing national capacity
- Developing & managing natural resources through SWC practices, & proper utilization.
- Conducting Agricultural Research
- Strengthening trilateral linkages b/n research, extension & farmers

National Agricultural Policy and Strategies related to Natural Resources Management

Policy

- Promote **soil and water conservation** in catchment areas, farmland and along the rivers and streams
- improve the ecosystem through **natural regeneration**;
- Promote the **development of NWFP**; and
- Promote and Ensure the **sustainability of the Environment**

Strategy

- To address the interlinked problems of poverty, food insecurity, land degradation, and biodiversity loss through **community mobilization in SLM practices.**

Vision on GGWI - Eritrea

To insure proper protection and judicious use of the environmental resources through effective harmonization of policies and programmes aimed at achieving sustainable socio-economic development in the country

OUR Motto

"We have not inherited this planet from our ancestors. We have borrowed it from our children "

1. Public Awareness Raising

- Religious leaders, students and other community members have been trained and sensitized on the need of land reclamation and environment conservation as a key strategy to proper natural resources management .

This will motivate a change in attitude

National Greening Day

Greening Day awards

2. Establishing enclosure & proposed Protected areas

Enclosure (ha)	At present	In 2018
Permanent	94,009	
Temporary	214,133	
Total	308,142	334,477
National Park	188,527	214,862

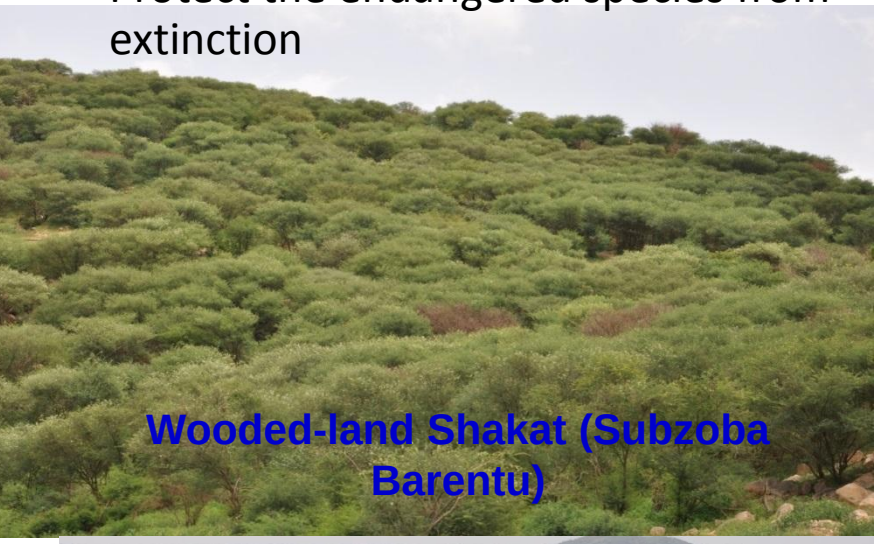
Closure establishment

Enclosure is an area kept back from livestock grazing, farming, settlements or tree cutting

(2 types Permanent & temporary)

Uses of enclosure:

- natural regeneration
- Protect the endangered species from extinction



Wooded-land Shakat (Subzoba Barentu)

Wooded -land Bartiyay around Augaro

•control run - off / Soil erosion downstream & retains moisture, improves ground water recharge

•Pastoral reserves for livestock and woody biomass for the local people will result

Benefits of community enclosure

In permanent enclosures, the surrounding communities obtain as many benefit as possible and as early as possible. These benefits include

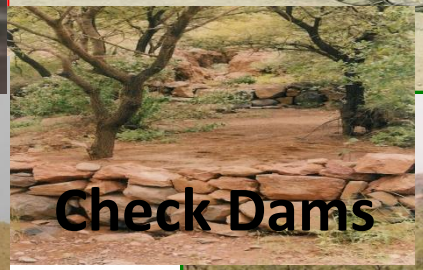
- Cut and Carry grass
- Collection of dry wood
- Collection of wild fruits and traditional medicines
- Placement of bee-hives (but care with fire!).

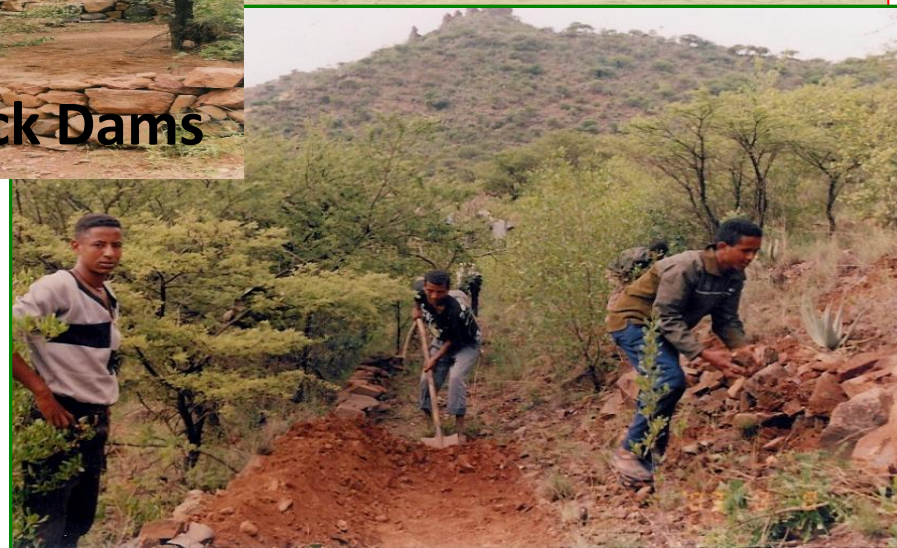
Cut and carry by vehicles as well as by manpower

Enclosures that are being used for bee-rearing

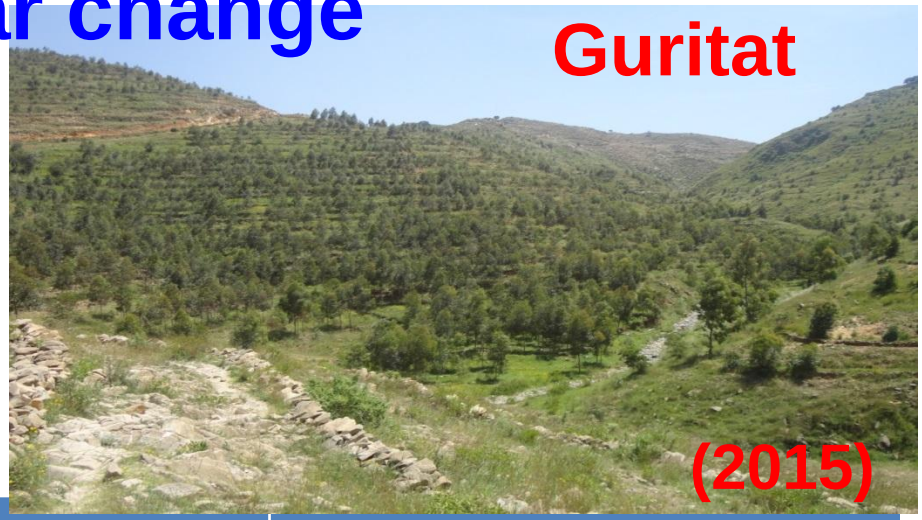
3. Planting trees/shrubs & SWC activities

1. Social Mobilization
2. National Service
3. Students summer campaign





Spectacular change



Activities	At present	Plan (3-years)
Planting Trees	11,000 Sq km (20576 in last 5 Yrs)	16 mil seedlings (8750 ha)
SWC	- Farmers in their farm - Spate irrigatn = 14,500ha	- 31,900 ha in 2018

SWC activities by the community

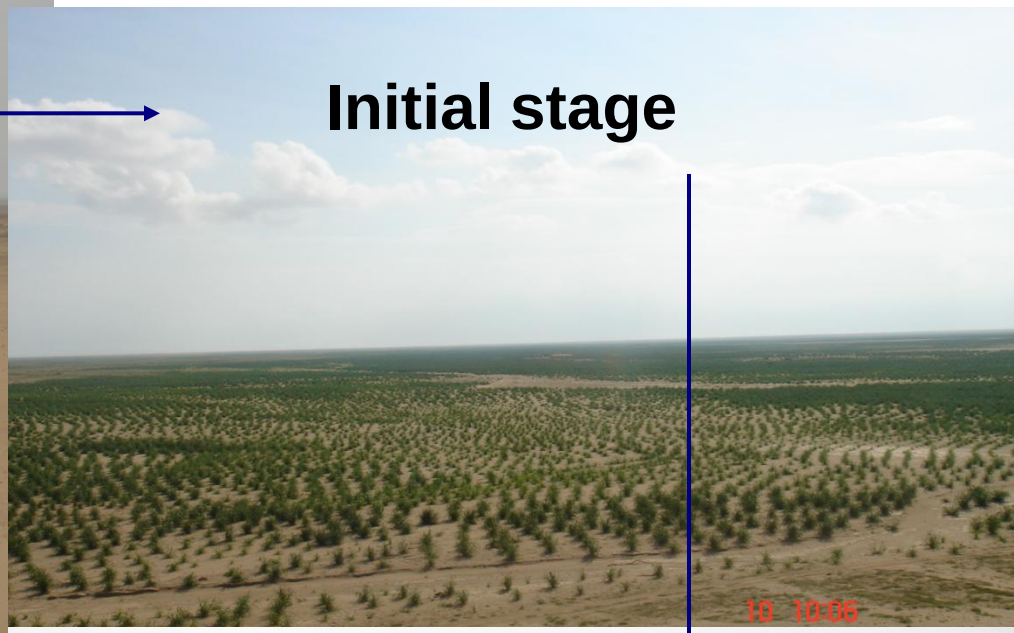
Bench terrace on farm land

Stone bund terrace on farm land

SWC at Farm land - increased yield by 40% (Mai Aini Area)

Hillside Terrace Construction Zoba Debub

From Sand dunes to fertile soil (Eastern lowland)



Eritrean Green Clubs and afforestation

No. of Green Clubs 126
with 13,613 members

Main activities:

- **Awareness raising**
- **Tree planting campaign and initiatives**
- **School tree nursery establishment**


Source of seedlings


Handling
30/03/2007


Watering
30/03/2007


Planting
30/03/2007

4. Improved stove (Mogogo)

Adhanet Mogogo	
At present	154,820
5 Years	> 40,000
In 2018	In all HH

5. Alternative Energy

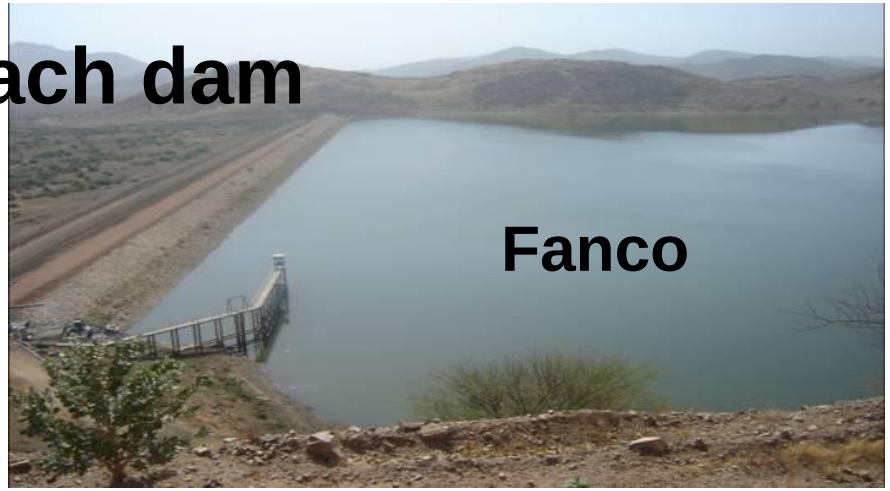
- About 300,000kwh ***solar energy*** for d/t agricultural activities

6. Construction of Dams, ponds & check dams for

- Drinking

- Irrigation: Irrigated & supplementary irrigated agriculture =>

Current = 54,000ha & potential land for irrigation 600,000 ha



Community involvement in pond construction



Community efforts to construct check dams and ponds

Water relief for drinking and irrigated agriculture

Masonry check dam construction in Tsilma Plain

Low water table

Construction of check dam

Adequate water for drinking and irrigation

Last 5 Years

Hillside Terracing (Ha.)	14,000
Check Dam Construction (m3)	1,185,153
Stone Bund Terrace km	1,185
Soil Bund Terrace km	2,650

	Number	Capacity /Area
Dam construction (No)	45	135 Mil M3
Pond construction	67	2.65 Mil M3
Spate and Surface irrigation		57810 Ha

7. Providing improved species/ varieties and breeds (from Research)

Local - , Cross - & Exotic - breeds adaptable to our condition

Eg. Livestock – for milk production – Barka,

- Crops and trees species

7. Diversification of crops (improve nutrition & soil fertility): Cereals 50%, oil crops 25% and legumes 25%

Forest & wildlife Protection

ex- fighters are assigned as national inspectorate

Inauguration ceremony of the National Forest and wildlife inspectors by H.E President Isaias Afewerki

Conclusion

- **It has a high expectation that the GGWI will enhance the ongoing projects aimed at food security through increasing agricultural products, soil and water conservation, afforestation and other activities.**

THANK YOU
For your Attention !!