COMMUNITY SEED BANKING:
EXPERIENCE IN ETHIOPIA

Regassa Feyissa

Ethio-Organic Seed Action (EOSA)
POINTS FOR DISCUSSION

• The seed supply and production systems, and crop diversity use in Ethiopia
• The challenge of the 1984 drought that caused famine
• The role that the national gene bank and USC-Canada played to restore and introduce crop diversity
• Inception of community seed banking
• Challenges met in establishing CSB system
• Organization, management practices and achievements of community seed banking
Illuababora

N.Wello

North Shewa

South Welo

East Shewa

West Shewa

SNNP

Arsi

EOSA program sites
Production systems

• Mixed-cereal-livestock production system;
• Barley-livestock production system;
• Enset/Root crops-coffee-cereal-livestock production system;
• Forest coffee-enset/root crop-cereal-livestock production system;
• Pastoral and agro-pastoral farming system
Crop diversity use by farmers

• Diversity within and among crop/plant species is a norm for small-holder farmers production system

• Diversity is used in polygenic forms, the complexity of which depends on the agro-ecology/farm ecology. The agro-ecology is frequently diverse and is a challenge for standardized varieties.

• Farmers also use single genotype forms for specific niche and for specific use objectives.
Seed supply system

• The formal seed sector has a limited contribution to the overall seed supply system.

• The private seed sector is weak and operates with the objective that does not match the needs of small-scale farmers.

• Over 96% of the seed supply is based on small-holder farmers own planting materials.

• Community-based seed production and diffusion mechanisms provide farmers with access to seed of both traditional and modern varieties.

• The quality of seed reaching farmers through this mechanism is comparable with that of the formal seed sector.
Inception of community seed banking

The politics of GR in the 80s

• The vague idea that farmers could be entrusted with endangered seeds (ITC – 1981)

• The idea of "farmer-curators" with the notion that local farmers could back up conventional genebanks, and their contributions and practices should be recognized.

• Then came the concept of community seed banking with concerns that:

  - Farmers role and their traditional knowledge in saving seed diversity was under-rated and over looked;
Inception cont.

- much emphasis on CGR conservation was given to the institutional technologies of ex situ gene bank and formal breeding.

Then appeared the idea of community seed banking:

- to promote recognition of the competence of farmers in seed saving and breeding, their varieties, knowledge and innovations.

• RAFI (the now ETC-Group) introduced the first Community Seed Bank kit in May 1987, at the international PGR conference held in Addis Abeba.
The consequences of the tragic situation of the 1984 drought

- **It took away many lives and recovery took years;**
- **It was the greatest challenge that the Ethiopian seed supply system faced at the time;**
- **It was not possible for the national gene bank to reach the hard hit farming communities with necessary amount of seed to support the recovery.**
The impacts of the challenge

• It encouraged the establishment of the community seed banking system linked to the local seed networks and to the national gene bank.

• The national gene bank since then started working with farmers, linking on-farm and off-farm genetic resources activities.

• USC-Canada came in 1989 and played the greatest role in supporting the process of recovery and reintroduction of crop genetic diversity.

• This resulted in the inception of the Seeds of Survival/ Ethiopia (SOS/E) - now SOS/International.
Establishment of the first batch of CSBs

- Community seed banking was designed as a strategy for local seed security and germplasm reserve,
- It was set to backstop the diversity on farms, linking the formal genebank to the local seed networks.
- The establishment of the first 12 CSBs was supported through GEF project in 1994 for on-farm crop diversity management and community seed banking
Challenges met to expand CSB system

- **Limited financial sources for community seed banking support;**
- **Lack of policy support – allocation of land, legalization of farmer conservator and seed producer groups;**
- **Reluctance of the formal crop development and extension systems to collaborate;**
- **Sustaining the community seed banking system itself.**
WHAT HAS BEEN ACHIEVED SO FAR

• There are over 45 CBS that are functional and under construction:

  EOSA - 16 Functional (NGO)
    - 4 Planned (NGO)
  EBI - 8 Functional (Government)
  SNNP - 8 Functional (Government)
    - 8 Under construction (Government)
  MELCA - 2 Functional (NGO)

• The CSBs operate as organized community based dynamic *ex situ* crop germplasm conservation system and as community seed centres and grain reserves.
How the CSBs are organized and operating at present

- Organized as a key component of the community seed network,
- Represent a low cost and low technology system owned and managed by local communities as part of the existing community service cooperatives.
- Operate as organized community based dynamic **ex situ** crop germplasm conservation system and as community seed centres and grain reserves.
- The seed reserve system consisted largely of local varieties, including those enhanced/ selected and multiplied on-farm through resp.
- It supports farmers to control the choice of crop types and cultivars they want to grow in time and over space.
- It has a food security role in times of crop failure and the role of market outlet
- Farmers are organized as Farmer Conservators (FCAs) and Seed Producers
Some of the CSBs established by EOSA
Satellite CSBs in South Wello
Community seed banks built by the Southern Regional Government
Root crops banks
Ejere CSB and Farmers Training Center
CSBs as farmers’ institutions and some of its activities

• Restoration of displaced diversity (collecting, earlier collection from the National Gene Bank, donation, etc.);
• Introduction of New diversity (includes improved varieties);
• Promotion of participatory crop improvement (PCI) practices practices
• Seed production and distribution
• Duplication of CSB samples in the National Gene Bank
• Support to the decentralization of variety development and use – development of niche specific forms/genotypes
• Formation and distribution of compatible forms (mini population) of genotypes over locations – support to in situ conservation.
Seed distribution by community seed banks
Decentralization of variety development

Goro - 1600 masl (Bale)

Ejere - 2450 masl (East Showa)

Alteration of function of genes under different conditions
Seed production
Participatory variety development
Farmer - Scientist joint venture in restoring and improving diversity
The result of Scientists and Farmers collaborative work – recognizing farmers as breeders
Farmer developed varieties of local durum wheat
Enhanced forms of local durum wheat of farmers’ varieties
Role of scientists in adding values to farmers varieties
Training and experience sharing among farmers, researchers and decision makers on the role CSB for climate change adaptation and food security
Intergenerational passage of knowledge of crop varieties
EOSA’s crop conservation, variety development and seed security strategy

- National Gene Bank, R & D
- Conservation
- Satellite CSBs
- Central CSB
- Farmer seed storage facility
- Communal lands and forest
- Back yards and gardens
- Extension and training
- Marketing and other services
- Restoration and introduction
- Variety selection and Enhancement
- Seed multiplication, crop rotation
- Seed Distribution and Exchange