



GREENING THE ECONOMY WITH AGRICULTURE

DID YOU KNOW?

GOVERNANCE



The food price crisis increased the number of hungry by 75 million in 2008 and a further 70 million people were pushed into extreme poverty in 2010-11. In 2011, 900 million people were undernourished in the world, although enough food is produced for the Earth's population.

SOCIAL



Nutrition-related diseases such as cancer, cardio-vascular and liver diseases are on the rise, with today, 1 billion people overweight and almost half of them classified as obese. In particular, Type 2 diabetes will double in developing countries by 2030 and triple in North America by 2050, resulting in challenging health care and societal costs.

ECONOMY



The financial and economic crisis resulted in 18-51 million more people unemployed and the poor increased by at least 110 million in 2008; today, economic stagnation continues.

ENVIRONMENT



The most severe environmental crisis of our modern times is climate change, representing a global security issue due to displacements and turbulence. It also puts food systems at risk by worsening growing natural resources scarcity and price volatility.

“Greening the Economy with Agriculture (GEA) refers to ensuring the right to adequate food, as well as food and nutrition security – in terms of food availability, access, stability and utilization – and contributing to the quality of rural livelihoods, while efficiently managing natural resources and improving resilience and equity throughout the food supply chain, taking into account countries’ individual circumstances. GEA can be achieved by applying an ecosystem approach to agriculture, forestry and fisheries management in a manner that addresses the multiplicity of societal needs and desires, without jeopardizing the options for future generations to benefit from the full range of goods and services provided by terrestrial, aquatic and marine ecosystems. Therefore, GEA strives to:

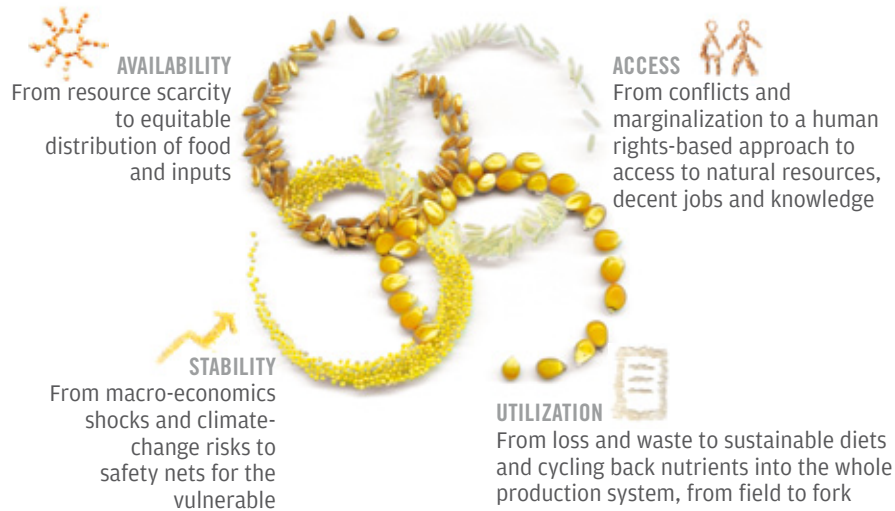
- Achieve food and nutrition security through an appropriate balance between domestic production and trade;
- Contribute to achieving the right to adequate food for all;
- Ensure decent rural livelihoods;
- Use traditional and scientific knowledge to maintain healthy ecosystems that integrate food production and respect natural resource constraints.”



WHY DOES GEA MATTER FOR SUSTAINABILITY?

- Due to the multiple environmental, economic and social crisis, policy-makers worldwide are searching for sustainable development pathways. One solution proposed is the green economy. There are different interpretations of the green economy but overall it is about achieving more (socio-economic development) with less (ecological impact).
- Any green economy action is bound to consider the food and agriculture sector, as this sector employs most of the planet natural and human resources. Croplands, pastures and forests occupy 60 percent of terrestrial land, agriculture uses 70 percent of globally withdrawn freshwater, and the sector as a whole provides livelihoods for 40 percent of the world's population.
- The food and agriculture sector is threatened by climate change, resource degradation and poverty - the same problems that the green economy is designed to tackle. The sector has also the largest environmental footprint, with negative impacts outweighing the entire sector earnings. However, the food and agricultural sector can become an engine for sustainable development, with the creation of millions of green jobs and livelihoods and of landscapes that can mitigate climate change.

FOR EACH OF THE FOOD SECURITY PILLARS, GEA CONSIDERS THE CHALLENGES AHEAD



THE GEA MODEL TARGETS KEY ACTION AREAS FOR EACH SUSTAINABILITY PILLAR



HIGHLIGHT

REHABILITATION OF THE TIGRAY AREA (ETHIOPIA) FOR MORE CLIMATE RESILIENT LANDSCAPES AND COMMUNITIES

The Tigray Region of North Ethiopia is highly mountainous and hence degraded, posing difficult challenges to farmers. The degraded environment contributes to low agricultural production, in turn exacerbating rural poverty. The Tigray Project started in 1996 in four local communities: by 2011 it was being taken up in 50 percent of the mixed crop growing areas of the country. Through a watershed management plan, main activities include: gully rehabilitation and soil conservation through terracing and agroforestry; compost making and use including monitoring impacts on crop yields; restricting free range grazing and feeding animals from cut grass and branches of woody plants; making community ponds, small hand-dug wells, dams and river diversions to catch and hold water for use in the dry season; promoting and encouraging innovator farmers in water harvesting; bee keeping and use of biopesticides based on indigenous knowledge; supporting women-headed and elderly families through supplying seeds of spices and training in raising fruit and forage tree seedlings for sale to their neighbours; training unemployed girls who complete formal schooling to equip them with skills for earning an income; experience sharing through cross visits; and supporting the use of new and easy to manage technologies such as treadle pumps, and changing from broadcasting to row planting of field crops for easier timely pest and weed control.

The Tigray Project has demonstrated that ecological intensification practices can bring benefits to poor farmers, particularly to women-headed families and market-marginalized communities. Among the benefits demonstrated are: doubling of yields of most crops; an improved hydrological cycle with raised water tables and permanent springs; improved soil fertility and soil carbon sequestration; increased biodiversity for food and fodder/forage usage for domestic animals and honey bees; and adaptation to climate change.

The project is an initiative of the Institute for Sustainable Development in partnership with the Environmental Protection Authority and the Tigray Agricultural Development Bureau that deploys over 3 000 extension officers in the area. The project has been community-led and built on local technologies, knowledge and labour. Notably, each adult community member starting in 2011 now offers 40 days of free labour a year to assist in water and soil conservation, gully rehabilitation and improving community infrastructure.

The success of the project has led to its expansion to include the majority of communities in the Tigray Region as well as in the main crop growing areas of Amhara, Oromia and Southern Nations, Nationalities and Peoples Regions because the government has adopted the approach used by the project as its main strategy for combating land degradation and for eradicating poverty from Ethiopia. In particular, the Extension Directorate of the Ministry includes training in making and using compost in its main extension programme. By 2011, about 6 million of the around 12 million smallholder farming households had started to benefit from this project, giving a total of over 50 million beneficiaries working to maintain over 6 million ha of rehabilitated formerly degraded lands. While the Tigray population suffered hunger in the early '80s, nowadays they are rapidly approaching household and regional food security.





PRODUCERS

- Celebrate native crop/animal species and food values and practice ecological intensification and off-farm diversification.
- Encourage rural-urban food networks through farm open-days and farmers' markets.
- Engage in agri-tourism activities to increase basic understanding of where food comes, while generating rural livelihood opportunities.

CONSUMERS

- Create sustainable demand patterns through healthier diets (e.g. diverse, seasonal and less processed) and selection of products according to their place of origin and process of production.
- Recycle organic household wastes for composting.
- Engage into community-supported agriculture, box schemes and other short supply chains.

HOW CAN YOU HELP?

FOOD INDUSTRY

- Decrease the production of foods with high sugar and fat contents during processing.
- Communicate sustainable practices through transparent labeling.
- Promote greener products through payments for environmental services projects.

POLICY-MAKERS

- Maintain tenure systems that are secure and fair, especially for women.
- Increase public investment in research and training on greener production methods and prioritize smallholders' requirements, including labour-centred intensification in employment-scarce settings.
- Procure green foods for the use of public institutions (e.g. schools) to encourage sustainable supply and lifestyles.
- Seek policy coherence through cross-sectoral cooperation (e.g. food, energy, climate, trade) and commit to a long-term vision.

RESEARCH REQUIREMENTS

- The technological innovations for GEA require both environmental science (e.g. agroecology, multi-trophic aquaculture and marine multi-species dynamics) and green inputs, meaning safe, environment-benign substances designed to maximize energy efficiency and minimize waste disposal.
- Technologies readily available to vulnerable populations through farmer-led research for plant varieties and animal breeds adapted to climate change.
- Methodological approaches that assess the nutritional content of foods produced according to different methods (e.g. seed type, fertilization, input intensity) and that measure farming performance according to both quantity (kg) and quality (nutritional index) per unit area.



The Greening the Economy with Agriculture (GEA) initiative analyzes the opportunities and constraints between the green economy and the food and agriculture sector. By bridging the agriculture and environment divide and considering the multiplicity of actors, GEA seeks to strengthen the overall resilience of countries to exogenous shocks.

For more details: www.fao.org/nr/sustainability/gea