

# Climate Change

## Farmers' Solutions



## Natural Resources

### Environmental significance

The contribution of the agricultural sector to Albania's GHG emissions is estimated to be 35% (data of 2001). Methane represents 78% of this share due mainly to enteric fermentation of livestock. In fact, 95% of this methane from the farm is emitted by cattle (73%) and sheep (16%) and the remaining from manure management.

Over the last fifty years (1951-2001), a rise in temperature of 0,3°C in average was recorded across the country. With climate change threats, more frequent extreme climatic phenomena are projected to occur such as high temperatures, prolonged drought, flood increasing the risk of landslides and fires (National Report on Climate Change, 2008).

### Socio-economic impacts

With more than half of the population living in rural areas, the agricultural sector is one of the most important sectors of the Albanian economy making 21 % of the GDP and employing 59% of the labour force. As most rural women, 89% of them, are active in the agricultural sector (compared to 80% of rural men), it is imperative to involve women farmers from the planning to the implementation processes of actions towards sustainable rural development.

### Political actions: Risks Assessment

The level of awareness of climate change and its negative impacts is growing among the public and the state officers. As climate change became an important issue, the Republic of Albania has implemented a National Action plan for Climate change mitigation and has carried out studies to evaluate climate change impacts in various sectors, including agriculture. The Ministry of Environment, Forest and Water is responsible for preparing national strategies, policies and action plans to face climate change impacts.

This initiative is provided by Albania Association of Organic Horticulture (AAOH Bioplant Albania).

### Further information

[www.ccalb.org](http://www.ccalb.org)  
[www.undp.org.al](http://www.undp.org.al)



## Anti-soil Erosion Practices Women farmers' actions

**Albania** is gifted with a rich biodiversity, a wide range of landscapes and microclimates and a large number of endemic species. This richness is vulnerable to climate change impacts and is likely to worsen the on-going land degradation.

Albania enjoys a subtropical Mediterranean climate and its coastal habitats such as coastal dunes, saline marshlands and other wetlands are fragile ecosystems which face the threat of coastal erosion, inundation and increased salinity.

Agriculture is a major economic sector in terms of value added and employment. Livestock production equals to more than half of the total agricultural production which explains that methane resulting from enteric digestion is the main GHG at the farm-level.

Albania has no commitments to reduce GHG emissions but it is undertaking efforts to optimize energy use in order to achieve development objectives.

Albania is a low emitter of GHGs relatively to other countries, in part because 95% of the electricity is produced from hydropower sources.



**Mountains and rivers have high erosive effects on Albanian landscape and agricultural lands.**

*Photo: courtesy of the World Bank*

### Land degradation: Soil erosion

The country's mountainous topography and weather patterns are natural causes of erosion and thus land degradation in Albania. Approximately 25% of the land suffers from natural soil erosion due mainly to the erosive effects of the torrential rivers. The progressive deterioration of natural habitats and land threatens the country's biodiversity as well as family farmers' livelihood who widely cultivate on small parcels.

Besides, salinisation, water logging, and inappropriate land management are accelerating the loss of soils and productivity for many hectares of soils. Soil erosion is estimated to 20 to 40 tons per hectare and under extreme conditions, soil erosion can represent more than 100 tons/ha/year (Albania Climate Change Plan Report, 2003).

Despite the severity of soil erosion and the forecasted intensity of land loss, Albanian citizens remain insufficiently informed on the risk of pollution, the link between the environment and public health and the benefits of a clean environment to the economy and the whole society.

## Multiple factors of land degradation

Reduction of soil fertility, desertification and impoverishment of the soil from degradation have intensified over the past decade. This progressive loss of land's fertility decreases productivity and worsens the vulnerable economic conditions of family farmers. Land degradation is caused by an array of interrelated issues:

Fragmentation of rural lands into small parcels  
Low development of the processing industry  
Conflicts over land ownership  
Overexploitation of the land  
Migration from rural areas  
Low technological level  
Deforestation  
Land degradation  
Underdeveloped irrigation and drainage systems  
Unsustainable use of marginal lands  
Low investment in agriculture  
Weak organization of farmers  
poor marketing of products  
Illegal logging  
Overgrazing

## Active participation of women farmers

Facing severe erosion threat, Albanian women farmers have implemented good agricultural practices to maintain soil productivity, conserve water and lower production costs. All these actions help mitigate climate change impacts:

- crop rotation
- intercropping, zero or minimum tillage; mulching
- effective irrigation systems and rain collection systems
- selection of resistant varieties
- composting
- biological pest and disease control

Promisingly, farmers of 25 communes in remote areas have recently received payments from the World Bank Bio Carbon Fund to manage and care for their forests.

## To stop further land degradation in agriculture:

- 1- afforestation and the setting up of barriers to protect the arable land
- 2- crop selections towards species that can sustain water stress
- 3- improvement of irrigation systems
- 4- a democratic approach in rural areas to involve farmers, particularly women, in the decision-making processes and consult them to take into account their needs and ideas on agro-environmental problems and solutions.



## Farmers' recommendations to the UN Framework Convention on Climate Change (UNFCCC)

### Investment

Farmers ask for substantial investment and targeted intervention in agriculture, land protection, water and forest (natural resources) management along with the introduction of adapted technology and cooperation between stakeholders such as government offices, scientific institutes and farmers organizations.

### Capacity building and Participation & multi-stakeholders dialogue

Farmers, men and women call for education and trainings on climate change issues. Farmers' organizations need to be involved with policy makers to identify proper mitigation measures to address climate change impacts. There is a specific need to organize women in rural areas into farmers associations and groups.

### Institutional framework

Farmers' organizations demand a strategic long-term and sustainable program plan to manage land, forest and livestock as well as a national framework that requires the participation of farmers' organizations in setting up governmental program policies, strategies and budget allocation for agriculture and for rural development.

## Biodiversity treasures – threatened by climate change

The mountainous relief with its different geological straits and tips of soil, overlapping Central Europe and Mediterranean climates are the two main reasons for having a diverse ecosystem and rich biodiversity (around 3,250 plant species).

The variety of wetlands, lagoons and large lakes also provide critical winter habitat for migratory birds.

Currently, Albania counts the highest rate of biodiversity loss in Europe.

Deforestation, soils erosion, uncontrolled land use, and pollution are rapidly destroying the natural resources.

Efforts are made to establish protected areas but no management plans are yet in place and the monitoring efforts are inadequate and insufficient.

Projected impacts on agriculture (from scenarios):

- reduction of arable land areas due to soil erosion and degradation
- changes in growth cycles, harvest time and quality of agricultural production (particularly along the coastal area owing to an increase in salinity).

At present, water logging due to inadequate drainage systems and salinisation occur in many irrigated land. Some 12,000 hectares of lands mostly near the seaside are affected by salinisation.

The variable impacts of climate change across the country may widen economic inequalities amongst affected farmers.

