



## Rural development

# Agricultural production and sustainable use of resources

### The challenge

Worldwide demand for food and agricultural resources is steadily rising as a result of population growth and changing consumption patterns. According to Food and Agriculture Organization (FAO) estimates, the agricultural sector must produce 60 per cent more food by 2050 in order to meet demand. At the same time, the availability of natural resources such as soil and freshwater are limited.

Efforts to increase productivity in the short term frequently ignore ecological and social factors. This puts additional pressure on natural resources and leads to their overuse. Climate change is also contributing to resource degradation in many countries. In the long term this poses a threat to the agricultural production base and thus to food security.

### Our approach

GIZ assists partner countries to develop and implement strategies for sustainable agriculture. We promote processes which increase productivity while conserving the environment and natural resources. Approaches and technologies suitable for specific sites are selected according to sustainability criteria and integrated within local production systems.

Strategies for dissemination are drawn up jointly with public and private partners, and measures are planned and implemented in close cooperation with local stakeholders. This partnership-based approach helps those people whose livelihoods depend on farming to improve their living conditions by their own efforts and to operate more sustainably in the future.

The potential to increase productivity is extremely high among small-scale farmers in the developing countries. But agricultural productivity and sustainability must be improved in other regions of the world, too.

### Our services

We work closely with farmers and their organisations and involve other partners from the public and the private sectors and civil society. Essentially, our services can be broken down into three areas:

1. We advise partner governments on framing strategies for sustainable resource use and promoting appropriate production systems. This calls above all for the creation of an enabling setting which is coordinated in a process of political dialogue. Risks to food security – arising from the cultivation of bioenergy crops, for example – must be assessed carefully.
2. We offer proven concepts for the promotion of sustainable production systems which are adapted to the requirements of the particular partner nation. We help farmers to implement successful approaches towards sustainable resource use. We ensure that the technical expertise available locally is taken into account. Agricultural machinery manufacturers, producers of farm inputs, processing organisations, traders, certification bodies and other stakeholders are all involved; we promote development partnerships with the private sector.
3. We boost the provision of public and private services for sustainable resource use, particularly by developing training materials. A key element in this respect is knowledge management. When providing advice we use the Response-Inducing Sustainability Evaluation (RISE) method which assesses the sustainability of agricultural production at farm level.

### The benefits

GIZ has extensive international experience in providing advisory services on sustainable resource use. We have a comprehensive portfolio of proven technologies and meth-



ods for various production systems. Our market-oriented working methods ensure that ecologically sustainable increases in productivity are reflected in higher incomes for the producers and contribute to economic development in rural areas. Our profound expertise in many associated and cross-cutting issues – such as environmental performance and gender – and our good contacts with other institutions involved in development cooperation enable us to offer tailor-made solutions.

### **An example from the field**

The cultivation of steep slopes and frequent overgrazing and deforestation are characteristic of traditional farming practices in the densely populated highlands of Ethiopia. Increasing land degradation is the consequence: up to 1.5 billion tons of fertile soil are washed away each year, leaving deep erosion gullies several metres wide. Degradation processes lead to the loss of up to 300 km<sup>2</sup> of arable land every year. Harvests and thus food security are declining.

The government of Ethiopia has therefore launched a national programme of sustainable land management that is co-financed by several donor organisations. GIZ supports the programme's implementation in six regions of the country. It provides advice to the Ethiopian Ministry of Agriculture on the management of the programme. Training is provided to various administration levels of the advisory services, which also receive coaching on how to transmit knowledge to farmers.

The main focus is on the dissemination of soil and water-conserving measures in the context of sustainable water catchment area management. First of all, infrastructure measures such as erosion control works are carried out as a communal effort. The training courses offered have resulted in smallholders and user groups increasingly employing resource-conserving production techniques on their fields and grassland. Soil fertility and water availability are improving, meaning that farmers can now generate higher incomes. This acts as an incentive to maintain the measures.

In total 200,000 hectares of agricultural land have already been restored (status in 2014). This has led to productivity increases of up to 35 per cent and a considerable rise in income for 80,000 households, which translates into some 400,000 people. Due to the success of the programme, the government is now extending the methods to areas which are not covered by the programme. Land which was previously degraded is again making an important contribution to food security.

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