

## Cross-cutting topics

### Agricultural extension and training

It is not only important to develop strategies for sustainable farming. Producers must also be in a position to implement these strategies. To facilitate this process, agricultural extension methods that are adapted to local conditions are required, along with new forms of non-university agricultural training. The opportunities afforded by information and communication technology can play a key role in this context.

### Climate and agriculture

Climate change has a major impact on agriculture. However, it also produces 15 per cent of greenhouse gas emissions and thus contributes to global warming. Temperature increase, changes in precipitation, more frequent floods and droughts, and rising sea levels all affect agricultural systems and production. In the subtropical and tropical regions in many developing countries, the effects are negative and jeopardise the food security and incomes of farmers, most of whom are smallholders. Farmers will have to adapt to the changed conditions to safeguard their livelihoods. The programme aims to promote existing and new methods for adaptation to climate change and to introduce mitigation measures within the context of sustainable farming.

### Women in agriculture

Women play a key role in agriculture and generally have a wealth of experience and knowledge relevant to food security. For women and girls, the better their access to knowledge, land, credit and other means of production, the lower their risk of suffering from hunger. Equal access to these amenities for both genders would greatly increase agricultural productivity and significantly improve food security for the entire family. The aim is to help ensure that strategies for sustainable resource use are gender-equitable and that women's contributions are properly recognised.

## Our activities and services

### 1. Advising the German Federal Ministry for Economic Cooperation and Development (BMZ)

- » Providing technical input for national and international processes as requested by BMZ
- » At BMZ's request, participation in official committees and events

### 2. Collaboration with technical cooperation programmes

- » Upon request, advising projects and programmes in our thematic areas
- » Learning experiences, instruments and concepts are reviewed and evaluated with a view to promoting their more widespread use in future

### 3. Discussion and further development of strategies with other agencies involved in German development cooperation

- » Promoting dialogue on the issue of sustainable agriculture among German development cooperation actors
- » Making recommendations for German bilateral development cooperation projects on a case-specific basis

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## Sustainable Agriculture

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## The programme

The sector project Sustainable Agriculture (NAREN) addresses sustainable production systems, genetic resources, renewable primary products, soil and water management, climate change, post-harvest protection, animal husbandry, agricultural extension, and women in agriculture. Operating transregionally on behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ), the sector project provides services in all parts of the world.

## Our objective

Attempts to increase agricultural productivity often involve short-term, non-sustainable measures. Our objective is therefore to contribute technical expertise and concepts to improve sustainability in agriculture with a focus on increased productivity, and to incorporate them into national and international strategies.

## Background

Because of continuing population growth, the global demand for food is steadily increasing, while the arable land and access to freshwater remain limited. Moreover, agricultural productivity in many of our partner countries is suffering from the effects of climate change. Since three-quarters of the population in developing countries depend directly or indirectly on agriculture, the changes in farming conditions directly affect poverty. Rising demand for agricultural commodities for purposes such as energy generation further increases the pressure on agricultural resources.

## Priority areas

### ■ Sustainable production systems

If farmers are to use natural resources sustainably, they need access to information about best practices that they can use on their farms. The sector project NAREN offers smallholders ways of increasing their income while conserving natural resources. The methods used include conservation tillage, anti-erosion measures, organic farming, agro-forestry, and efficient value chains.

### ■ Genetic resources in agriculture

In the context of agricultural production, genetic resources help to maintain the food supply, livelihoods and the natural environment for local communities. Smallholders depend on agricultural diversity to safeguard their livelihoods, also under difficult climatic conditions. In addition, agricultural diversity provides the basis for developing new, adapted varieties of crops and breeds of livestock that will enable farmers to meet future challenges such as new markets and climate change.

### ■ Renewable primary products

Climate change targets and increasing oil scarcity are pushing the global demand for renewable resources for industrial and energetic uses. Developing countries in particular are considered to offer great potential for cultivating these crops. While this offers opportunities for generating additional income in rural areas, it also increases the pressure on natural resources and thus creates social and ecological risks, particularly for poorer communities. The aim is therefore to promote the sustainable production and use of renewable primary products without compromising the right to food.

### ■ Soil management

Soil is a crucial and non-renewable production factor in agriculture. It is also important to maintain biodiversity. Measures to conserve soil and to maintain and improve its fertility are therefore key in sustainable farming. The aim is to increase agricultural productivity with food security in mind.

### ■ Water in agriculture

Water is another critical resource for cropping and animal husbandry. Irrigation uses around 70 % of freshwater extracted from lakes, rivers and ground water. As water resources are limited, the number of conflicts over access to water is increasing. The aim is to prevent the overuse and degradation of this natural asset.



### ■ Post-harvest protection

Besides increasing agricultural production, reducing post-harvest losses is important to boost agricultural production and minimise adverse environmental impacts. Avoidable post-harvest food losses in developing countries leave a substantial ecological footprint. Measures to reduce these losses, which occur all along the value chain, must therefore involve producers, middlemen and processing companies. Improving harvest technology, constructing suitable storage facilities, expanding infrastructure, adopting better processing techniques, and training at all levels have a role to play in this context.

### ■ Sustainable animal husbandry

The demand for animal products is increasing, and the same applies to production worldwide. However, this constant growth is not taking place on all continents simultaneously. Projected demand is massive. Private companies, as part of complex value chains, are contributing substantially to this growth of production. However, livestock farmers with a smaller number of animals, including the many pastoralists engaged in extensive animal husbandry, also have an important role to play. The aim is to facilitate market access for smallholder livestock farmers, especially pastoralists, with improvements in the quality and quantity of products.