



South-South and triangular cooperation

## Scaling-up the sustainable intensification of agriculture

### Development challenge

By 2050 the world will need an estimated 60 percent more food than is available today if global population and food consumption trends continue along the current pattern. A substantial part of this unprecedented increase in food production will need to be achieved from enhanced productivity and efficiency. Compared with current production systems, fewer inputs must be translated into greater yields. This must be achieved against a backdrop of erratic weather events and strong competition over an increasingly degraded natural resource base. Considering the scarcity of the natural resource base that remains available to support agricultural production, most additional production will have to come from the sustainable intensification of agriculture (SIA).

This means building productive agriculture systems that conserve and enhance natural resources. These systems can use the ecosystem approach, a strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way.

Farmers' decisions regarding production systems are usually socio-economic, and driven by policy, institutional and social frameworks; they are based largely on the financial benefits accruing from improved productivity and savings from reduced use of external inputs and increased opportunities arising from gains in time.

### Development solution

FAO aims to deliver tangible results and benefits by supporting the adoption of production systems and crop and livestock management technologies that boost productivity without having adverse effects on ecosystems.

The combined challenges of climate change, rapid soil degradation, the depletion of groundwater, extreme weather events, and the excessive use of pesticides and fertilizers are among the pressures collectively putting stress on systems of farming, livestock and

aquaculture as well as forestry and fisheries. This makes the empowerment of farmers, pastoralists, fisherfolk and forest dwellers as stewards of their natural resources a pressing issue. Commitment to make this approach a success is needed from field to ministerial levels, and will involve developing the right capacities among individuals, institutions and policy makers.

The adoption of eco-friendly practices is essential. As is the reduction of post-harvest losses and the conservation and sustainable use of genetic resources for the development of improved crop varieties, fish strains and livestock breeds and their deployment through family farmer seed systems.

## Key facts

- The planet will have to feed an additional 1.5 billion people in 2030, 90 percent of whom will be living in developing countries.
- The world will need to raise its food production by 60–70 percent to feed more than nine billion people by 2050.
- Every day, agriculture produces an average of 23.7 million tonnes of food.
- 2.5 billion people worldwide depend solely on agriculture to make a living.

## Lessons learned: Indonesia

In Indonesia, FAO activities have had positive impacts, notably in the sectors of forestry and aquaculture. In forestry, government commitment through supportive policies has brought about a decrease in the use of damaging practices such as slash-and-burn farming and instead farming communities are adopting integrated land management.

"In the future, FAO will continue to collaborate with government institutions and other development institutions to provide technical aid to overcome land degradation, climate change, and to implement sustainable forest management," said Mark Smulders, FAO Representative for Indonesia.

In another example, a traditional practice of growing rice and fish together in the same paddy, a technique known simply as rice-fish, has been widely adopted by farmers. An efficient use of land, rice-fish farming has proven to increase incomes while at the same time decreasing damaging ecosystem effects from the over use of fertilizers and pesticides. Recognizing the potential of rice-fish in the pilot areas, policy makers from the ministries of agriculture and fisheries are promoting this technique on a national level, with plans to expand it to one million hectares.

"FAO calls on all sectors and development partners to accelerate actions through the Zero Hunger Challenge and other relevant food security and nutrition initiatives, focusing on supporting resource-poor family farms and the most vulnerable and disadvantaged groups in society," added Smulders.

## Advantages

- **Socio-economic realities** can be positively changed through SIA, including enhancing farmers' resilience to climate change, empowering producer organizations and leveraging strong market linkages.
- **Tangible benefits** for farmers such as higher incomes, greater yields and reduced production costs mean this approach supports livelihood development.
- **Environmental pressures are minimized** by developing methods to produce more food from existing land, especially considering that land, water, and energy are already in short supply.
- **Policies for efficient resource use** will develop the enabling environment, critical for the 500 million family farmers in developing countries whose livelihoods depend on agriculture.
- **Biodiversity and ecosystem services** are maintained through the SIA and ecosystem approach, which stems the widespread loss of biodiversity, important genetic resources and reduces greenhouse gas emissions.
- **Reduction of rural poverty** and social protection for the world's most vulnerable groups through legislation, livelihood improvement, safety and resilience to financial and environmental threats.
- **Healthier diets** are encouraged through more functional, diverse and productive farming and food systems.

## Potential for upscaling

Agriculture is a potent sector for economic growth and rural development in many countries throughout the developing world. SIA can provide the best socio-economic rewards for family farmers while protecting the environment. South-South cooperation (SSC) is one modality that can facilitate the expansion of SIA by encouraging partnerships between countries so that greater numbers across the global South can benefit.



## Contact us

Interested partners are invited to get in touch with FAO for more information:

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