

AGROECOLOGY

Position paper

The world will have to feed over nine billion people by 2050. But there are already over 800 million people worldwide who do not have enough to eat.¹ Three in every four starving people live in rural areas, and 75 percent are women and children. At the same time, there are almost one billion people suffering from obesity.²

For example, 2.6 billion tons of grain were harvested worldwide in 2017, more than ever before. **But only 43% of this record harvest was used as food.**³ A large proportion was processed into animal feed, fuels and industrial raw materials. High prices and poor availability both locally and seasonally also prevent poor populations from gaining access to food. One third of the food produced also spoils in developing countries during storage or is lost in industrialised countries as "food waste".⁴ **Hunger is, therefore, primarily a problem of poverty and distribution rather than a production issue.**

The present agricultural and food system is one of the most important drivers of poverty and inequality and of current global environmental problems. Everyone is agreed on one thing: **There is an urgent need for a paradigm shift towards ecologically and socially more compatible agriculture.** This is where **agroecology** comes in. Thanks to the best possible closure of natural cycles, food can be produced efficiently.⁵ An agroecological system is more independent of external factors such as oil, fertilisers and pesticides, is more efficient in terms of resources in the longer term and is more stable in the face of changing conditions and extreme events. In addition to being a scientific discipline and agricultural practice, agroecology is also a socio-political movement. Described by the FAO as a sustainable food and agricultural system,⁶ it is able to combine **ecological and social aspects** effectively and give farmers around the world a prospect for the future.

What SWISSAID is calling for

SWISSAID is calling on Switzerland to provide consistent support at national and international level for agroecology as a strategy for global food security and rural development:

- In 2018, Switzerland approved the **UN Declaration on the Rights of Peasants and Other People Working in Rural Areas**. Now it should take to the national and international stage to champion the recognition and implementation of the declaration.
- Switzerland should campaign at national and international level for the implementation of the **UN Sustainable Development Agenda (SDG)** in particular for Goal 2 "Zero Hunger". Agroecology plays an important part in ten of the 17 SDGs.
- The further development of agroecology should be underpinned by **research**, in particular with additional financial resources. This also includes the active circulation of research results.
- Switzerland should promote the diverse, GM-free and public **plant breeding** (see SWISSAID position paper on genetic engineering)
- Swiss investments in agriculture and food systems should be based on the **RAI principles**⁷ (principles for responsible investment in agriculture and food systems). This will also apply to international corporations based in Switzerland.

The arguments

Agroecology for world nutrition

Agroecology can feed the world without increasing land use. The prerequisite for this, however, is that more arable land is used for growing food, that the use of concentrated feed in animal husbandry is reduced as a result and less meat is consumed globally, and that food waste is reduced.⁸ Possible yield losses during transition or in the longer term for individual products can be cushioned in agroecology with a diversified production, helping farming families to become more resilient.

Renewable instead of limited resources

Agroecological farming is hardly dependent on external inputs, as it mainly uses renewable resources that are available locally. Industrial agriculture, however, is highly dependent on increasingly scarce and thus more expensive resources. These include fossil fuels as well as phosphorus. Fossil phosphorus reserves will be depleted within 80 years at the latest ("peak phosphorus"), according to current estimates.

Agroecology against climate change

Agroecological practices bind carbon from the atmosphere in the soil, making a contribution to the fight against climate change. Carbon levels in ecologically managed soils are 3.5 tonnes (12-15%) higher per hectare on average than in non-ecological ones.⁹ Agroecological farming also causes significantly lower greenhouse gas emissions, for example by avoiding the use of chemical fertilisers, which are produced with high energy input.

Increased resistance

Diversified agroecological systems are much more resistant (resilient) to disease. Soil that is cultivated by microorganisms has the potential to inhibit disease.¹⁰ Agroecological systems can recover more quickly from extreme weather events thanks to their diversity. As countries in the global south have less capacity to respond quickly to climate change at high technical and financial cost, resilient and stable systems matter all the more. Diversification through agroecological production also has a positive impact on mitigating economic risk.

Better storage capacity and health

Harvest storage is a major challenge in developing countries. Vegetables produced through agroecological practices have a longer shelf life, as farmers from SWISSAID's projects have demonstrated. In addition, diversified production supplements the diet with additional vitamins, and the products do not contain any toxic pollutants. Farmers do not have to spread toxic pesticides on the fields, and this also contributes to their health.

Lower costs

Agroecological production is less capital-intensive. On the one hand, many of the production resources are created by the farmers themselves; on the other hand, the systemic approach helps to reduce the need for production resources in general. While the intensity of labour is higher, farmers are less dependent on money for inputs and are, thus, financially more independent. This provides more opportunities for other investments, such as in education or health. Therefore, the switch to agroecological farming methods is not only more sustainable, but simply the best survival strategy, especially in developing countries.

Biodiversity and conservation of diverse ecosystems

The current system of separating intensive farming and nature reserves has led to competition for land. This separation is softened by agroecological systems, because the farmland itself becomes a diverse habitat. High biodiversity is essential for agricultural production, as bees, butterflies or ladybirds have important functions as beneficial organisms or as pollinators for crops. Experiments show that soil organisms also increase significantly in agroecologically managed areas.¹¹ Diverse ecosystems also deliver a variety of benefits, such as purifying groundwater.

Reducing the exodus from the countryside

Agroecological systems help to safeguard jobs in rural areas and preserve rural societies and spaces. They improve the living conditions of peasant farming families, generate higher income and reduce migration from rural areas. This is especially important in developing countries, where around half of the population still depends on agriculture for their livelihood¹². New income opportunities and prospects for the future are opening up for marginalised groups and young people. In view of the high labour intensity, fair prices and the reduction of other labour-intensive activities, such as drinking water projects or building mills, are important.

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- 1 World Food Programme (<https://de1.wfp.org/>)
 - 2 www.fao.org/state-of-food-security-nutrition/en/
 - 3 www.globalagriculture.org/fileadmin/files/weltagrabericht/EnglishBrochure/BrochureIAASTD_en_web_small.pdf
 - 4 www.fao.org/food-loss-and-food-waste/en/
 - 5 People in Switzerland usually talk about organic farming. Permaculture is an example of agroecology.
 - 6 www.fao.org/3/I9037EN/I9037en.pdf
 - 7 The purpose of the [10 RAI principles](#), which stemmed from a participatory process, is to ensure that investments in agriculture are made responsibly with a view towards improving food security and recognising the right to adequate food.
 - 8 [FiBL 2017](#): Organic can make an important contribution towards global nutrition.
 - 9 [FiBL 2012](#): Research Institute of Organic Agriculture (FiBL) Communiqué dated 16 Oct. 2012, Global Analysis: Organic farming enriches carbon in the soil.
 - 10 Kühne, S., Burth, U. and Marx, P. (2006): Biologischer Pflanzenschutz im Freiland – Pflanzengesundheit im ökologischen Landbau (Biological crop protection in the countryside - Plant health in organic farming). Ulmer Verlag, Stuttgart.
 - 11 [FiBL 2017](#): Documentation on the DOC (dynamic, organic and convention) trial.
 - 12 www.fao.org/3/CA1796EN/ca1796en.pdf