



# Agroecology contributes

## to the Sustainable Development Goals

A meta-analysis of 50 case studies from 22 African countries shows the contribution of agroecology to the attainment of the UN Sustainable Development Goals (SDGs). The trends revealed here make clear the potential of agroecology to sustainably increase food sovereignty while conserving biodiversity and respecting indigenous farmers' knowledge and innovations.

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**M** easuring the benefit of industrial agriculture is simple; you just count the crop yield per unit area. This is the basic indicator of conventional farming technology. However, the real world is much more complicated. While industrial farming claims to have raised yields, it has done so at great cost, with extensive soil damage, huge biodiversity loss and negative impacts on nutrition, food sovereignty and natural resources. By contrast, agroecology offers sustainable improvements, not only to yield but also to

many other aspects of life. Where conventional agriculture seeks to simplify, agroecology embraces complexity. Where conventional agriculture aims to eliminate biodiversity, agroecology depends on diversity, and builds upon it. Where conventional agriculture pollutes and degrades, agroecology regenerates and restores, working with nature – not against her.

**Beyond yield** Simply measuring yield is not enough – we need to establish new ways of measuring the impact of our agricultural systems. Many are grappling with the task of developing more holistic tools,

## IMPACT > CROSS-CUTTING TRENDS

notably FAO and IPES Food (see page 40). Meanwhile, there is a recently established benchmark against which we can gauge our progress: the SDGs (see box).

### Making the case for agroecology

The Alliance for Food Sovereignty in Africa (AFSA) is a Pan-African platform made up of farmer organisations and networks, championing small family farming production systems based on agroecological and indigenous approaches that sustain food sovereignty and the livelihoods of communities. Starting in 2013, AFSA and partners collected 50 case studies of agroecology from 22 African countries, with the aim of strengthening the case for agroecology as the bold future of farming in Africa. From adapting Sustainable Rice Intensification (SRI) to Ethiopian staples such as teff, wheat and finger millet to improving upon traditional systems of soil fertility management and setting up a national agroecology association in Togo, the 50 case studies document the experience of a diverse range of agroecological approaches, collectively involving several million farmers. The full collection is freely available online at <http://afsafira.org/case-studies/>.

To further strengthen the case for agroecology, AFSA member organisation, Tanzania Organic Agriculture Movement (TOAM), recently developed a simple tool to establish how these case studies contribute to the SDGs. Three project officers examined the 50 case studies, using the tool to record positive and negative impacts against the SDG goals and targets. A two-page checklist containing the most relevant ten SDGs and 32 subsidiary targets was developed and used to cross check each case study, ticking off all reported incidences of positive or negative impact. For example if a case study reported that the use of chemical fertilizers was reduced, then a tick would be placed against SDG Target 12.4, 'Reduce release of chemicals to water and soil and impacts on human health and the environment'.

## Agroecology contributes positively to ten of the 17 SDGs

## The Sustainable Development Goals

On 25<sup>th</sup> September 2015, the United Nations General Assembly adopted the 2030 Agenda for Sustainable Development, along with a set of 17 SDGs and 126 associated targets. The SDGs are a new, universal set of goals, targets and indicators that UN member states are expected to use to frame their agendas and policies over the next 15 years. The SDGs follow and expand on the millennium development goals (MDGs), which spanned 2001

to 2015. There is broad agreement that, while the MDGs provided a framework around which governments could develop policies, they were too narrow. And unlike when preparing the MDGs, the UN has conducted the largest consultation programme in its history to gauge opinion on what the SDGs should include. Read more: <https://sustainabledevelopment.un.org>



The number and percentage of case studies, from the total (50), that contribute to each of the ten most relevant SDGs.

Sustainable Development Goals	Positive impact recorded	
	No. of cases	% of cases
No Poverty	27	54 %
Zero Hunger	50	100 %
Good Health & Well Being	11	22 %
Quality Education	31	62 %
Gender Equality	17	34 %
Clean Water & Sanitation	14	28 %
Decent Work & Economic Growth	27	54 %
Responsible Consumption & Production	33	66 %
Climate Action	21	42 %
Life on Land	33	66 %

**The trends** Agroecology contributes positively in various ways to ten of the 17 SDGs (see table).

Notably, every case study showed a positive impact towards the goal, ‘End hunger, achieve food security and improved nutrition and promote sustainable agriculture.’ Positive impacts are seen in increased access to safe, nutritious and sufficient food; increased productivity and farmers’ incomes; sustainability of food production systems; and maintenance of genetic diversity. Celestino Ndungu, a farmer from Ndungu, Kenya explains: “Our farm was very poor. We used to gather the crop residues and burn them but now we make compost which we use as fertilizer. For three years now we have never used any chemical fertilizer or sprays. Secondly we used to buy vegetables for our family but today we sell vegetables, fruits and other crops for income.”

Two thirds of case studies reported positive impact towards the goal, ‘responsible production and consumption’, through sustainable management and efficient use of natural resources, reduced post harvest losses, and reduced release of chemicals to water and soil. This is well illustrated by Jones Thomson, farmer in Choma, Zambia: “As organic farmers we have always used local plants for pest control in our family. We encourage many wild plant species to grow on our fallow land and field margins that we can use as pesticides. Many of the plants have other uses too, such as increasing soil fertility or their flowers supporting pollinators that maximise our crop yields.” A similar number of the case studies also showed a positive impact towards the goal related to ‘quality education’. Many of the case studies report families using their increased incomes to send their children to school, as

well as farmers learning vocational skills through agroecology schools, and communities gaining knowledge and skills to promote sustainable development.

**Lessons learnt** The meta-analysis raised some concerns about duplication or crossover within the SDGs. For example ‘building resilience to climate related extreme events’ occurs as a target within the ‘No poverty’ goal, yet the issue occurs again as a separate goal, ‘Climate action’. Moreover, the collection of case studies shows additional benefits of agroecology that are not well captured in the SDGs. For example, farmers praised the low cost of the technologies used, the use of locally available and locally adapted resources, and the value placed on indigenous knowledge.

While more elaborate and precise tools are being developed by FAO to directly compare the impact of conventional versus agroecological methods, and by IPES Food to chart the transition from one to the other in search of a sustainable food system, this exercise was able to draw out some clear impact trends across a huge range of agroecological experiences. Some might call it ‘quick and dirty’, but we argue that this is a perfect example of the concept of ‘appropriate imprecision’.

**Kicking goals** These case studies are real life experiences and testimonies of farmers, pastoralists, and other small scale producers in communities across Africa. Mapping the case study findings against the SDGs provides a useful summary of a large body of information on agroecology, showing very clear trends of wide ranging benefits to the social, environmental and economic dimensions of African small scale producers’ lives.

Highlighting the contribution of agroecology to an important policy framework such as the SDGs makes a clear case for cross-cutting policy that supports agroecology. It is now up to policy makers and the agricultural research community to recognise this potential to meet the world’s needs and challenges.

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#### Planting sunflower seeds in Tanzania

Photo: Michael Farrelly

