

Agroecology's contribution 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. The study reveals many benefits not just in yields but also in food security, nutrition, health, education, poverty reduction, environmental regeneration, and climate resilience.

Measuring 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 than that. While industrial farming claims to have raised yields in places, 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 on our fragile planet. Simply measuring yield is not good 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, notably FAO and IPES Food. Meanwhile, there is a recently established benchmark against which we can gauge our progress: the Sustainable Development Goals.

What are the Sustainable Development Goals?

On 25th September 2015, the United Nations General Assembly formally adopted the universal, integrated and transformative 2030 Agenda for Sustainable Development, along with a set of 17 Sustainable Development Goals 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 political policies over the next 15 years. The SDGs follow and expand on the millennium development goals (MDGs), which were agreed by governments in 2001 and expired in 2015. There is broad agreement that, while the MDGs provided a framework around which governments could develop policies and aid programmes to end poverty and improve the lives of poor people, 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. Full SDG information is available online at <https://sustainabledevelopment.un.org>



Making the Case for Agroecology in Africa

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. Since 2013, AFSA and partners have 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. The 50 case studies document the experience of a diverse range of agroecological approaches collectively involving several million small-scale producers. The full collection is freely available online at <http://afsafrica.org/case-studies/>.

The Study

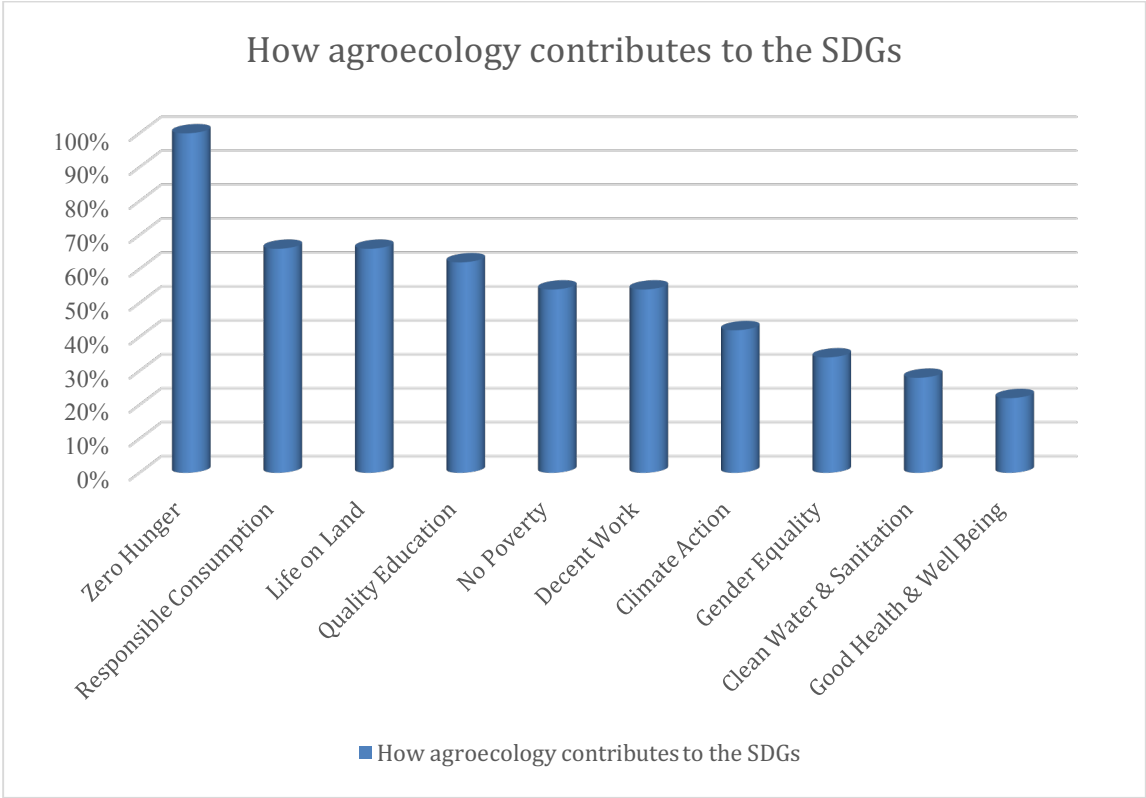
AFSA member organization Tanzania Organic Agriculture Movement (TOAM) recently developed a simple tool to establish how these 50 case studies contribute to the achievement of the SDGs. The team examined the 50 case studies, using the tool to record positive and negative impacts against the SDG goals and targets. See Appendix 1.

Key Findings

- 1 Every one of the case studies showed a positive impact towards SDG Goal 2 “End hunger, achieve food security and improved nutrition and promote sustainable agriculture”.
- 2 None of the 50 case studies showed any negative impact on any of the SDGs.
- 3 The case studies showed multiple positive impacts on 10 of the 17 SDGs.

The tables below detail the positive impacts recorded in the 50 case studies.

Sustainable Development Goals	Positive Impact Recorded	
	No. of cases	% of cases
1. No Poverty	27	54%
2. Zero Hunger	50	100%
3. Good Health & Well Being	11	22%
4. Quality Education	31	62%
5. Gender Equality	17	34%
6. Clean Water & Sanitation	14	28%
8. Decent Work & Economic Growth	27	54%
12. Responsible Consumption & Production	33	66%
13. Climate Action	21	42%
15. Life on Land	33	66%



Zero Hunger goal: The main 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 – all targets within the SDG Hunger goal.

“Our farm was very poor. We used to gather the crop residues and burn them but now we make compost which we are using as a fertilizer. For three years now we have never used any chemical fertilizer or chemical sprays. Secondly we used to buy vegetables for our family but today we sell vegetables, fruits and other crops for income, and yet we have the same land.” Celestino Ndungu Kibechu, Kenya.

“The orange fleshed sweet potato’s production was double the old sweet potato variety.” Farmer in Pelungu, Ghana.

Quality Education goal: Many cases 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 improving their knowledge and skills to promote sustainable development.

“I learnt a lot about the nutritional value of Bambara nut which was equated to livestock protein sources.” Mrs Rudo Nyakudanga, farmer in Mutoko, Zimbabwe.

Responsible Consumption & Production goal: The case studies reveal positive impacts on sustainable management and efficient use of natural resources, reduced post harvest losses, and reduced release of chemicals to water and soil.

“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 filed margins that we can use as pesticides. Many of the plants have other uses too, such as increasing soil fertility or their flowers helping support pollinators that maximize our crop yields.” Jones Thompson, farmer in Choma, Zambia.

Climate Action goal: Many of the case studies describe experiences directly responding to climate change, strengthening resilience, and raising awareness on climate change adaptation and mitigation.

“This is a way that can make people self reliant while at the same time caring for the environment.” Mrs E Kaniye, farmer, Malawi.

Life on Land goal: The cases show significant impact in restoring degraded land and soil, and halting the loss of biodiversity.

“The main lesson I learned is that man can rebuild what he himself deconstructed and destroyed. It is possible to reverse the trend if we choose to.” Issouf Oudraogo, student at Guie Training Centre, Burkina Faso.

“The lands on which it was impossible to grow are now being used. I have practiced rice production for a long time and my yields have never been so abundant. I thank the good Lord.” Mariam Ndiaye, farmer, Senegal.

Gender equality goal: Women’s full and effective participation is clearly evident in the case studies.

The studies also showed 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.

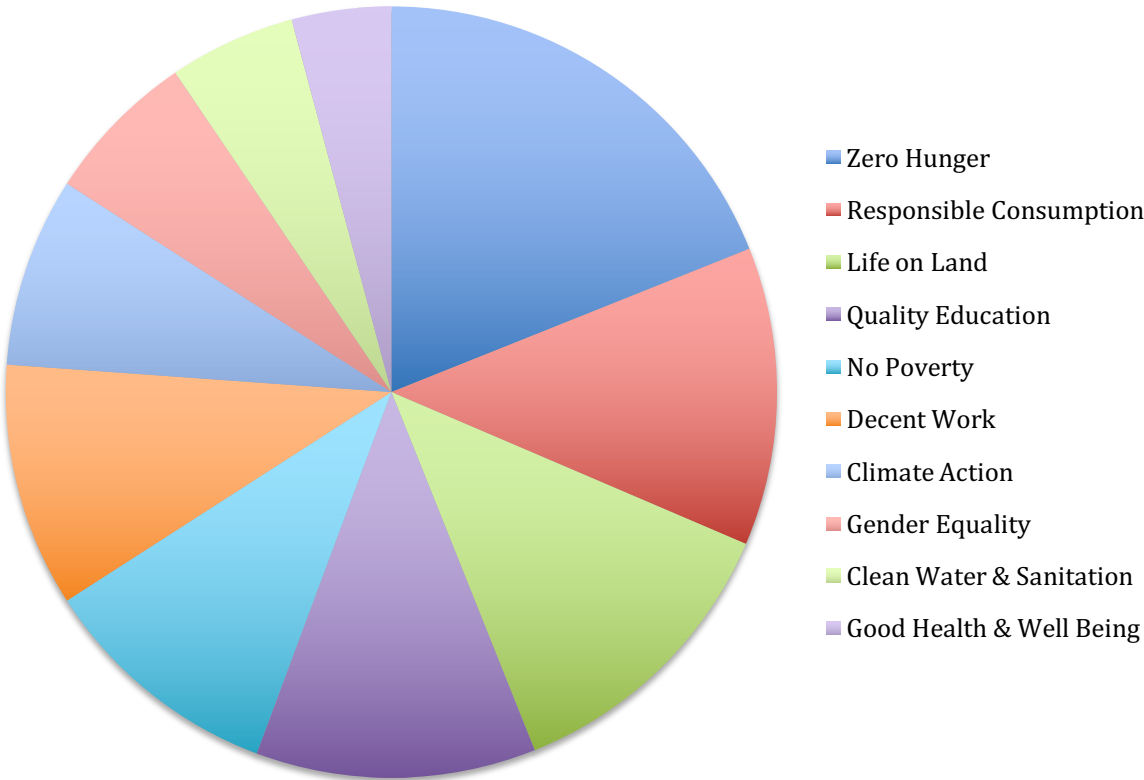
“My future and my children’s future is secure and will be pleasant and great because of these projects.” Sammy Ngondo Kitonyo, Kenya.

Conventional agriculture experts may say: “But where is the clinical data?” We would respond that these case studies are not field trials carried out in carefully controlled research plots, but rather the real-life experiences and testimonies of farmers, pastoralists, and other small-scale producers in villages and communities across Africa. Mapping the case study findings against the SDGs provides a useful meta-analysis of a large body of information on agroecology, showing very clear trends of wide ranging benefits to African small-scale producers’ lives.

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. Yet agroecology attracts very little research and development. The agricultural research community must appreciate that small-scale farmers produce 70% of the world’s food, and recognize the immense potential of agroecology to meet the world’s needs and challenges. Researchers need to get on board, collaborating with farmers to better understand agroecology, its challenges and opportunities.

As we embark on the ambitious task of transforming the world through sustainable development, it is time for governments, policy-makers, and development partners to recognize and value the huge potential of agroecology to sustainably increase food security and food sovereignty, reducing poverty and hunger while conserving biodiversity and respecting indigenous knowledge and innovation.

How agroecology contributes to the SDGs



Appendix 1

Measuring the Contribution of Agroecology to Achieving the SDGs.

Case Study Title..... / Country

	GOAL & TARGET CRITERIA	+ve impact	-ve impact	No impact	No data	Rich data
1	POVERTY: End poverty in all its forms everywhere					
1.2	Reduce poverty according to national definitions					
1.4	Ensure equal rights to resources, services, land and					
1.5	Build the resilience of the poor and vulnerable to climate-related extreme events and other economic,					
2	HUNGER: End hunger, achieve food security and improved nutrition and promote sustainable agriculture					
2.1	End hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient					
2.2	End all forms of malnutrition , including stunting and wasting in children under 5 years of age, and address the nutritional needs of adolescent girls, pregnant and					
2.3	Double the agricultural productivity and incomes of small-scale food producers , in particular women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, resources and inputs, knowledge, financial					
2.4	Ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change , extreme weather, drought, flooding					
2.5	Maintain the genetic diversity of seeds, cultivated plants and farmed and domesticated animals					
3	HEALTH & WELL BEING: Ensure healthy lives and promote well-being for all					
3.9	Reduce deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination					
4	EDUCATION: Ensure inclusive and equitable quality education and promote lifelong learning opportunities					
4.1	Ensure that all girls and boys complete primary and secondary education					
4.4	Increase technical and vocational skills , for employment, decent jobs and entrepreneurship					
4.7	Improve knowledge and skills needed to promote sustainable development , human rights, gender					
5	GENDER EQUALITY: Achieve gender equality and empower all women and girls					
5.1	End discrimination against all women and girls everywhere					

	GOAL & TARGET CRITERIA	+ve impact	-ve impact	No impact	No data	Rich data
5.5	Ensure women’s full and effective participation and equal opportunities for leadership and decision-making					
6	WATER: Ensure availability and sustainable management of water and sanitation for all					
6.3	Improve water quality by reducing pollution, eliminating dumping and minimizing release of					
6.4	Increase water-use efficiency, reduce water scarcity					
6.6	Protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers					
8	DECENT WORK & ECONOMIC GROWTH: Promote sustained, inclusive and sustainable economic growth,					
8.2	Achieve higher economic productivity through diversification, high-value and labour-intensive					
8.6	Reduce the proportion of youth not in employment,					
8.8	Protect labour rights and promote safe and secure working environments for all workers					
12	RESPONSIBLE CONSUMPTION AND PRODUCTION: Ensure sustainable consumption and production					
12.2	Sustainable management and efficient use of natural					
12.3	Reduce global food waste and reduce food losses including post-harvest losses					
12.4	Reduce release of chemicals to water and soil and impacts on human health and the environment					
13	CLIMATE ACTION: Take urgent action to combat climate change and its impacts					
13.1	Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters					
13.3	Improve education, awareness-raising and capacity on climate change mitigation, adaptation, impact					
15	LIFE ON LAND: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and					
15.1	Ensure the conservation, restoration and sustainable use of ecosystems , in particular forests, wetlands,					
15.2	Sustainable management of forests , halt deforestation, restore degraded forests and increase afforestation and					
15.3	Combat desertification, restore degraded land and soil , including land affected by desertification, drought and					
15.5	Reduce the degradation of natural habitats, halt the loss of biodiversity and protect and prevent the extinction of					
16	PEACE & JUSTICE: Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and					
16.6	Develop effective, accountable and transparent					

	GOAL & TARGET CRITERIA	+ve impact	-ve impact	No impact	No data	Rich data
16.7	Ensure responsive, inclusive, participatory and representative decision-making at all levels					
16.10	Ensure public access to information and protect fundamental freedoms, in accordance with national					