POST-EVENT REPORT

Improving Climate Resilience and Sustainability of Farming and Food Systems: Exploring the Contribution of Agroecology

DeSIRA LIFT

Insights from the 8th African Agribusiness and Science Week held on 6 June 2023.

On 6 June 2023, DeSIRA-LIFT, the Forum for Agricultural Research in Africa (FARA), and the International Fund for Agricultural Development (IFAD) jointly hosted a parallel session during the FARA-led 8th African Agribusiness and Science Week (AASW8), focusing on "Improving Climate Resilience and Sustainability of Farming and Food Systems: Exploring the Contribution of Agroecology". The session brought together 143 participants representing a wide range of stakeholders, from policy, research, farmer organisations, and the private sector.

During the session, diverse stakeholders shared experiences and evidence of how various actions aligned with agroecology can contribute to climate change resilience and the sustainability of farming and food systems in African countries. It also explored how agroecology and enhanced agrobiodiversity could inform the transition to more sustainable, inclusive, nutrition-sensitive and climate-resilient food systems in Africa. The event concluded with discussions on the specific actions and policies needed to facilitate this transition.

FARA
Forum for Agricultural Research in Africa

IFAD

Funded by
the European Union

Moderation and welcoming remarks

Wole Fatunbi, Senior Technical Cluster Leader/Innovation Systems Specialist, FARA

The future of agriculture will be shaped by the current challenges that the sector is facing. While progress in agriculture productivity has recently been made, effects of climate change - such as floods, increasing temperatures, erosion of sea banks, increased pest and diseases – have become new additional issues. The parallel session convened by DeSIRA LIFT, FARA and IFAD at the 8th African Agribusiness and Science Week on 6 June 2023 aims to bring together agrifood stakeholders from research, farming organisations and the private sector to discuss how to improve the resilience of agriculture. Climate change mitigation and adaptation solutions are essential to make African food and farming system sustainable. Agroecology is an approach that enables to address several of these challenges.

Introductory remarks

Alioune Fall – Chairperson, FARA Board of Directors

While the agricultural sector in Africa is facing a lot of challenges, Mr. Fall adverted that successes in coping with this reality in livestock and fisheries have been made. There is increasing political will and commitment by African leaders and researches, led by FARA, to ensure agricultural climate resilience and adaptation. However, urgent attention and action are needed as the challenges faced by the sector are emerging more quickly and stronger. Efforts in the implementation of the Malabo Declaration still need to be made, including regarding smallholders.

Africa needs to think about its population, better practices and moving away from labour intensive practices. Indeed, agriculture is the biggest livelihood in Africa with soil being of outmost importance. The use of external inputs in Africa's farming system is currently too high which endangers the quality and fertility of soil.
With an ever increasing population, there is a need to produce more food, hence to improve yields. It is key to agree on the direction of the transformation of the African agricultural sector; i.e. if it has to be designed towards productivity, sustainability or joint productive and sustainability?

Against this background, DeSIRA LIFT, FARA and IFAD convened to held this event to:
1) Share experiences and evidence of how and to what extent agroecology contributes to climate change resilience and sustainability of farming and food systems in Africa.
2) Discuss how attention to agroecology and agrobiodiversity could inform the transition to a more sustainable and resilient food system in Africa; including how policy processes may need to change.
3) Explore how to take forward agroecology as a way to support the transition to more climate-resilient and sustainable farming and food systems in Africa, including specific actions and policies.

Christophe Larose, DG INTPA, European Commission

It is key to have an agroecological approach in the transition and transformation of African agrifood systems. European policies such as the Green Deal and the subsequent Farm to Fork strategy provide a framework for increased internal actions that can support an agroecological transition. This is also a strong commitment to develop partnerships that integrate and promote agroecology in international cooperation. The potential of agroecological approaches in transforming food systems is also being discussed by scientific networks in Europe (i.e. CGIAR) and in Africa (i.e. such as FARA, CAADP XP4, extension services, etc.).

The European Commission is committed to ensuring food security and biodiversity for the future around the globe by promoting a comprehensive approach to agriculture and farming. To this end, appropriate technologies, existing sciences and knowledge need to be made use of. Agroecology is an approach that enables to gather all stakeholders to discuss and find together solutions to issues primarily identified. This means, for example, to first examine soil fertility and the potential of productivity, to then identify local solutions from local and/or farm level, e.g. by adding biofertiliser.

Keynote Presentations

The role of agrobiodiversity in promoting climate resilience: mainstreaming NUS and agroecological practices into the food system
By Sara Savastano, Director, Research & Impact Assessment Division, IFAD

IFAD has a very large portfolio of activities and the integration of agroecology is an important objective for the organisation. Evidence from a stocktake of 207 IFAD projects from 2018-2023 showed that among $6.67billion of IFAD projects, around $2.28billion (60%) financed agroecological-related activities. The main activities focusing on agroecology are aim at (1) supporting enabling policies, (2) strengthening the monitoring and policy tools.
The Adaptation for Smallholder Agriculture Programme (ASAP) is IFAD's flagship programme for channelling climate finance and expertise to rural populations, taking place in 41 countries.

Agrobiodiversity, which includes the use of stress-tolerant neglected and underutilized species (NUS), is integral to IFAD's strategic objectives and is an important component of agroecology. 6 projects on NUS are being conducted in 3 regions.

For at least 15% of all its projects, IFAD conducts at the end of the project implementation an impact assessment on resilience through indicators such as ability to recover from shocks and diversification indices, as well as the impact of adopting Good Agricultural Practices (GAPs). The situation of the group of beneficiaries is being compared with a sample group that has the same criteria. Among the themes in the agroecological projects of IFAD, the mains ones include gender, climate change, nutrition, youth and indigenous peoples. Considering main impacts of the projects, outcomes include increased incomes and productivity, improved market access and enhanced resilience to climate change and food security. IFAD has contributed to evidence that shows how the promotion of a wide range of agroecological practices bring large scale livelihood benefits, and that data and evidence contribute to the improvement of future design and implementation for increased impacts of IFAD projects.

Download the presentation

Climate Change Resilience and Agroecology: The Evidence
By Lini Wollenberg, Alliance of Bioversity and CIAT

Many sustainability frameworks have been developed as a reaction to Africa being a climate change vulnerability hotspot and to the need to transform food systems on the continent to these new parameters.
Agroecology can be considered as a social movement, ecological practice, and/or discipline. The main definitions of agroecology includes the ten elements of agroecology (FAO 2018) and the thirteen principles of agroecology (HLPE 2019).

It has been shown that agroecology can increase adaptive capacity and resilience impacts, especially for practices related to diversification, organic inputs, adding legumes and IPM. Evidence for agroecology's impacts on adaptation was show following a review of 50 articles with 77 cases of agroecological treatments relative to a baseline of conventional practices in low- and middle-income countries (Dittmer et. al. 2023 https://doi.org/10.1007/s00267-023-01816-x). Diversification provided clearest impacts but other agroecological practices had positive effects on climate change resilience:
• Use of organic nutrient sources, diversifying systems with legumes and integrated pest management (IPM) led to climate change adaptation across multiple contexts.
• Crop yields were higher for 63% of cases reporting yields.
• Indicators of adaptative capacity--crop diversity, income diversity, net income, reduced income variability, nutrient regulation, and reduced pest infestation--were associated with 70% or more of cas

In another project that involved the EU (donors) and IFAD, 230 advisory and performance assessment digital tools have been reviews. The main conclusions where:
• Few digital tools support agroecology comprehensively, but many have agroecological components.
• Exemplary features for technical advisory tools included context-specific technical options, use of videos, integration with coaching and hotlines for questions, and two-way communication.
• <20% of tools supported climate change action with adaptation functions focused on technical. There is a need to link climate change aspects to these tools.
To better assess how agroecology can improve climate change resilience, more evidence-based of the impact of agroecological practices. Focus should be on outcomes to enable comparison, comparison of agroecology with other sustainability approaches and cost effectiveness are gaps. Practices with strong evidence, such as diversification, should be prioritised.

Agroecological practices are highly scalable but require enabling conditions that include:
• The role of civil society organisations and partnerships
• Communication and digital technologies, especially videos
• Technical advisories, including farmer-to-farmer knowledge sharing and co-learning
• National policy
Lastly, agroecology is a risk adverse strategy and hence not able to deal with extreme phenomenon (e.g. 3 years of drought, hurricanes, etc.). Humanitarian assistance will be needed for most vulnerable regions. Best practices should be integrated with resilience and humanitarian approaches.

Download presentation

Moderation and introduction to the panel

Isolina Boto, DeSIRA LIFT

The panel brings diverse views from actors representing public and private sector perspectives supporting agroecological approaches which can strengthen climate resilience. It aims at learning from successful initiatives, approaches and practices by research, policy, smallholders and entrepreneurs on how agroecological practices may contribute to climate resilience and sustainable farming and food systems in Africa. Lessons learned would inform policy-makers and development partners, and community at large, on the investments needed to support agroecological approaches to support climate resilience and the need to share evidence on successes at field level.

Panel

Multistakeholder approach: The Alliance for Agroecology in West Africa By Mamadou Goïta (IRPAD), Mali

Mr. Goïta started by acknowledging that there are key obstacles to the agroecological transition in West Africa. However, many networks and initiatives have been created in the region to address climate change and promote agroecology. Research undertaken has identified 4 leveraging points to unlock the transition in agroecology:
1) Alliance building and collective action to promote a unified agroecological approach.
2) Integrated food systems by reframing them for agroecology.
3) Food sovereignty in a sustainable way.
4) Agroecology as a crisis response that identifies climate change as a key point to be addressed.

Initiatives in West Africa have been implement to gather the various stakeholders' knowledge and skills. The Alliance for Agroecology in West Africa (3AO) is a coordination and information platform composed of farmers' organisations, research institutes / universities, international NGOs and social movements. They reorganise existing strategies and look for solutions to address key points upstream and downstream – not just regarding the production.

Circular economy: Converting agricultural waste into biofertilisers
By Samuel Rigu (SAFI Organics Ltd), Kenya

Mr. Rigu, co-founder and CEO of the company Safi Organics Ltd., highlighted that agroecology can be sustainable and is great opportunity to create employment for the youth in their own communities with local resources.

Safi Organics Ltd. produces soil-specific organic fertiliser (ECOCERT) with local inputs using technology to decentralise small scale fertiliser production by producing fertiliser within 24 hours. This tailor-made fertiliser product increases farmers by 30% yields as use Safi fertilisers are improving the soil quality versus those using conventional products (African farmers pay fertilisers at very high prices, thus are only able to buy the cheapest that have the worse impact on the soil).

Safi Organics Ltd. integrates impact with profit. It has developed 4 different revenue streams to ensure the sustainability of its business and thus to increase its impact. On the short term, the company makes a 40% gross margin from selling the fertiliser to farmers. On the medium term, it collects per-ton usage fees for licensing its customizable fertilizer software as service. Technology sale is another source of income on the medium to long term through the license of their hardware to original equipment manufacturer. On the long term, Safi Organics Ltd. plans to sell their carbon offsets to the carbon trading market.

Download the presentation

The case of some neglected African crops associated with agroecology
By Carlo Fadda (Alliance of Bioversity and CIAT), Kenya

Dr Carlo Fadda discussed the need for genetic diversity to become more mainstream in agricultural research, as this has potential to increase food and nutrition security and resilience. He presented a case study on durum wheat, a neglected and underutilised species (NUS) which has been adapted to thousands of years of climate changes and pressures from pests and diseases in Ethiopia. This contributed to the development of a number of traits that have made the durum variety very resilient. Nevertheless, this genetic diversity was on the verge of disappearing due to its replacement by mainstream wheat with a place in the market. Through a 10 year research project that involved the participation of farmers who evaluated traditional varieties, results culminated in outcomes for greater productivity (especially in marginal areas); stability in the face of climate fluctuations and greater nutritional qualities and characteristics.

To overcome challenges, such as market entry, consumer uptake and infrastructure for production, there must be conditions for which traditional, resilient varieties can become marketable products. A key insight from this project was that farmers who start adopting these traditional crops while applying agroecological practices is associated with an added value for the crops.

Dissemination of agro-ecological practices through school farms promoted by youth in Togo
By Afantchawo Koudasse (Youth College ROPPA), Togo

CTOP (the Togolese Coordination of Farmer Organisations and Agricultural Producers) and REJEPPAT (the Network of young producers and agricultural professionals of Togo), are promoting agroecology as an adaptation option to climate change impacts in Togo. Agroecological approaches improve fertility and diversity of local agroecosystems, mitigate climate change through low use of non-renewable resources, avoid the danger of contamination and enhance the potential of ecosystems while also addressing challenges with soaring prices of chemical inputs in recent months.

REJEPPAT and CTOP have developed 15 agroecological farm schools in Togo run by youth to train young farmers and other stakeholders on agroecological practices and forest landscape restoration. The strategy has achieved key results for strengthening the capacity hundreds of youth farmers. There have been several initiatives developed by those trained, including the establishment of farms, production and marketing units for organic inputs and nurseries.

Download the presentation

Q&A
Wrap-up & Way forward

Richard Lamboll, DeSIRA LIFT

• Climate emergency and other concerns has resulted in a proliferation of sustainability frameworks intending to guide research and decision makers.
• Agroecology (AE) as a science, practice and social/ political movement is attracting increasing attention, but with very diverse perspectives.
• Some evidence from scientific papers that AE (e.g. diversification, organic amendments) can contribute to higher yields and strengthen adaptive capacity, but also there can be higher costs and benefits may take more time to achieve.
• AE thinking goes beyond production practices to consider the wider food system.
• Actions aligned with AE can create opportunities for farmers, local enterprises and other actors (biofertilizer, Kenya; neglected crops (e.g. durum wheat, Ethiopia); youth livelihoods, Togo).
• Multi-stakeholder networks and alliances guided by AE offer opportunities for learning e.g. West Africa.

Way forward emerging from the sesson

1. Actors should start with the challenges and opportunities related to the food system in a specific African context, taking into account interests and influences at local, national, regional and global levels.
2. More science is needed to measure the multi-dimensional aspects of AE and food systems, but also prioritise practices with evidence of working. Integrate these practices with other approaches.
3. Multi-stakeholder dialogue and co-learning with an emphasis on outcomes and processes, rather than labels. Non-research actors have an important role to play.
4. Approaches and technologies to support AE knowledge-intensive processes should make full use of latest technology, but with human interface and support.
5. Enabling environment for AE -informed transitions need to consider policies, finance and culture at all levels.

Conclusion

Guy Faure, DG INTPA, European Commission

This discussion reflects the importance of dialogue that engages a co-learning process and a multi-stakeholder approach. It has gathered presentations of scientific evidence from research institutes and testimonies of a range of actors including entrepreneurs, civil society and researchers. On-the-ground issues, such as access to markets, increasing the productivity and incomes of farmers, and ensuring that agroecology is truly linked to innovation and new ways of organising value chains and resource management have been addressed.

The agroecological transition must consider how to adapt to each context and situation based on needs and priorities of people in local areas, and countries. Hence, this discussion must continue to go on with all partners including regional research organisations, regional economic communities and governments, to adapt and find ways to support a food system transition based on agroecological principles.

The DeSIRA Initiative (Development Smart Innovation through Research in Agriculture), funded by the European Commission, Directorate General for International Partnerships (DG INTPA), seeks to enhance an inclusive, sustainable and climate-relevant transformation of rural areas and of agri-food systems, by linking better agricultural innovation with research for more developmental impact. It supports actions in low- and middle-income countries (LMICs) to strengthen the resilience of their agri-food systems, the relevance of the national and regional research and innovation systems, and the coherence and efficiency of their agricultural public research and extension services related to climate change challenges.

DeSIRA-LIFT (Leveraging the DeSIRA Initiative for Agri-Food Systems Transformation) is a service project (June 2021 – May 2024) to the European Commission, DG INTPA, with the main objective to enhance the impact of the DeSIRA Initiative by providing (on-demand) services to DeSIRA project holders and partners. DeSIRA-LIFT includes three service areas aligned to the three DeSIRA Pillars: Service Area 1 supports country-led DeSIRA projects to enhance their impacts on climate-oriented innovation systems in line with more sustainable food system transitions. Service Area 2 supports the Comprehensive Africa Agriculture Development Programme (CAADP) ex-pillar IV organizations in their Agricultural Knowledge and Innovation Systems (AKIS) related roles. Service Area 3 is providing support to policy makers on themes related to agricultural research for development (AR4D) and innovation policies and programming.

DeSIRA-LIFT is implemented by members of the Agrinatura and EFARD, in particular the members: Wageningen UR, CIRAD ISA (University of Lisbon), NRI (University of Greenwich), SLU and COLEAD. Agrinatura (http://agrinatura-eu.eu) is the European Alliance on agricultural knowledge for development. The European Forum on Agricultural Research for Development (EFARD) (http://www.efard.org) is an umbrella network of European research and non-research stakeholders from public and private European organisations and the European Commission.

Disclaimer
This publication has been realized within the DeSIRA-LIFT project financed by the European Commission / DG INTPA (FOOD/2021/424-11), and implemented by member organisations of the Agrinatura EFARD networks. The content of this publication is the sole responsibility of the author(s) and does not necessarily represent the views of Agrinatura, EFARD or the European Commission.

Citation
DeSIRA-LIFT. 2023. Post-event Report of the Parallel Session on Improving Climate Resilience and Sustainability of Farming and Food Systems: Exploring the Contribution of Agroecology, 6 June 2023, Durban.

Cover photo:
ADJMOR (Mali)

Funded by
the European Union

Website:
https://www.desiralift.org/

LinkedIn:
https://www.linkedin.com/company/desira-lift

Email:
info@desiralift.org

Address:
Wageningen Centre for Development Innovation
P.O. Box 88
6700 AB Wageningen
The Netherlands