REFOOTURE

Moving towards Regenerative Inclusive Food Systems

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Introduction

The food systems in which people in East Africa produce and consume their daily meals are in crisis. Hunger continues to grow. Climate change, biodiversity loss, depletion of natural resources and declining soil health are the factors making the lives of farmers and other actors in these food systems increasingly difficult.

This booklet is about Regenerative Inclusive Food Systems. These are based on the idea that for the food system to change for the better, fundamental changes are needed in society – in the agricultural sector and among both consumers and policy makers.

There are already many initiatives that aim to improve the current situation by focussing on sustainable outcomes, most of which are based on technology and economics. Regenerative Inclusive Food Systems approach go beyond this, by focussing on how to get to these outcomes, where the capacity to regenerate is key. Regenerative Inclusive Food Systems are about the motivation and capacities of people in the food system, starting from local communities: about their motivation and capacities to reflect on the situation, to create a common vision, and to inspire others to make a change. With this approach, interpersonal relationships will become stronger, as people take care of each other and pursue paths for equal opportunities in transforming their food systems, while leaving no one behind. Moreover, in Regenerative Inclusive Food Systems, people are seen as being embedded in nature and their relationship with nature is therefore fundamentally different. The ecosystem is regenerated, including the rich life in the soil beneath our feet.

In this way, Regenerative Inclusive Food Systems contribute to healthy ecosystems, resilience, a fair and inclusive transformation process, access to affordable and nutritious food for all, and hence to improved livelihoods. Shifting towards this fundamentally different relationship between people and nature requires not only technological and behavioural change, but above all a change in our thinking and action.

The concept of food systems was placed firmly on the agenda at the UN Food Systems summit in 2021, where the aim was to encourage countries to devise national pathways of change to the food systems they need. The concept of Regenerative Inclusive Food Systems, however, is relatively new in this debate. In 2020, Wageningen University & Research and universities in Ethiopia, Kenya and Uganda had the opportunity, funded by the IKEA Foundation, to start the research project REFOOTURE. The aim of this project is to contribute to food systems transformation by fostering Regenerative Inclusive Food System transformation. During the first phase of REFOOTURE (2020 - early 2023) the researchers worked together with stakeholders to create and support Food System Innovation Platforms, which are needed to build a common understanding and move towards Regenerative Inclusive Food Systems.

> "In Ethiopia, the number of smallholders has increased dramatically, but the land area is limited as much land is degraded. Agricultural input prices have increased dramatically due to the war in Ukraine. We cannot continue agricultural business as usual. We have to find ways to mend our collapsing food system."
>
> Tewodros Tefera,
> Country Manager Ethiopia,
> REFOOTURE project

Recent shocks, such as the restrictions due to COVID-19 and the increase in fertiliser prices due to the war in Ukraine, only emphasise the urgent need to engage more on working on Regenerative Inclusive Food Systems. Our findings from REFOOTURE I confirm that this urgency is shared by many stakeholders in East Africa. The Regenerative Inclusive Food Systems concept was received by many as an inspirational way of encouraging societal change: from farmers regaining the spirit to take control of their lives and live in more harmony with nature through to high-level stakeholders in Ethiopia, Uganda and Kenya who are keen to hear what is needed to further develop this movement.

This booklet does not provide final answers or solutions. Rather it highlights the journey so far of REFOOTURE partners and stakeholders, and it shares our insights and learnings. We start by discussing what Regenerative Inclusive Food Systems are about, showing why they are needed and how they differ from other approaches. Then we reflect on what we have learned about the development of Regenerative Inclusive Food Systems and put forward recommendations for strategies on how to move forward.

The REFOOTURE project

Launched in 2020, REFOOTURE aims to contribute to food systems transformation by fostering Regenerative Inclusive Food Systems. REFOOTURE starts from understanding innovations as doing new things in practice. This comprises social, technical and economical innovations, which collectively contribute towards the transformation of food systems.

REFOOTURE is developing the strategy and tools to make the transition in three East African countries: Ethiopia, Kenya and Uganda. The project collects evidence, identifies pathways and supports collaboration in innovation for Regenerative Inclusive Food Systems in Eastern Africa. We do this by mobilising motivation and capacity for innovation and strengthening the enabling environment to increase opportunities for change via Food System Innovation Platforms in the three countries. Scientists from Wageningen University & Research and East African universities collaborate in this project together with a broad range of stakeholders in the food system. REFOOTURE's starting point is empowering Food Systems Innovation Platforms to innovate for Regenerative Inclusive Food Systems.

What are Regenerative Inclusive Food Systems?

We define Regenerative Inclusive Food Systems as systems in which farmers, innovators, entrepreneurs, consumers, researchers and policy makers come together. They do so with the aim of finding new, nature-based ways to shape vibrant and healthy ecosystems in which people have sufficient, healthy food and sustainable livelihoods. The transformation towards such Regenerative Inclusive Food Systems should be fair and just, in which no being is left behind. In Regenerative Inclusive Food Systems, people produce food responsibly in a way that ensures food security and restores the environment by improving soil health, biodiversity, carbon stocks and crop diversification, thus regenerating and advancing the natural resource base.

Regenerative Inclusive Food Systems differ from the food systems we have today, in that people's relationship with nature is fundamentally different. In Regenerative Inclusive Food Systems, people 'nurture' nature's processes to build resilience and adaptation strategies that will enable them to cope with climate change and other future shocks. Regenerative Inclusive Food Systems evolve differently in different places, as they are specific to a particular place and the people living there.

> "Key in Regenerative Inclusive Food Systems is the spirit of place. The place where people live and work is more than just the location of activities. Place has a meaning for people, and developments rooted in that sense of place give people much greater spirit and vision about where to move and the ambition to get there collectively. Think about the meaning of locations in your own memories. Then you see the places emerging. And their values. It took quite some effort on the part of my REFOOTURE colleagues, but now I clearly see the need for starting from a place-based approach."
>
> Jochen Froebrich, Wageningen University & Research, Project Leader REFOOTURE

Regeneration refers to a whole systems approach that brings people and their places together. Regenerative food systems are aimed at minimising the use of natural resources and even improving the natural environment, hence reversing trends of environmental degradation. Regeneration means working to make both people and nature stronger, more vibrant, and more resilient. Place shapes communities, and communities in turn have shaped nature and the places in which they live and often depend on for their livelihood. Keeping this in mind, regenerative development seeks to harmonise human activities with those of the living system of which they are part. It also seeks to understand the role humans play or the potential role humans can play in the bigger picture. Regenerative development draws inspiration from the self-healing and self-organising capacities of nature, and works to restore these capabilities when they are missing or disrupted, whether in ecological or human living systems.

Inclusion is understood as a process of improving the terms of participation in society and in food system transformation, particularly for those who are disadvantaged, such as women, the very poor, youth and indigenous people. Inclusion is achieved by enhancing opportunities, voices, access to resources, and respect for rights. In much the same way, inclusion also refers to nature and its presence and voice in decision-making processes and carrying out plans. The conscious addition of 'inclusive' to regenerative thinking emphasises the importance of no one (people or nature) being left behind during and as a result of a food system transformation. The more inclusive the transition is, the greater the chances that enough people gain the capacity to regenerate. We need the voices of everybody.

Why is this transformation needed?

Many groups of people living in East Africa are vulnerable and face significant uncertainties, in the form of climate change, biodiversity loss, poor diets, natural resource depletion, declining soil health, unequal participation and cost and benefit sharing. Migration to urban areas is increasing, especially among rural youth. Calls or initiatives for responsible local action are often not heard or utilised, and local bodies offer few incentives. Some people still cannot access healthy food. All this points to the urgent need to transform food systems so that they become more regenerative and more inclusive.

> "We need grassroots development. And experimentation on the fields of smallholder farmers is important. But farmers also need the interaction with innovators and thinkers from outside their fields, like researchers from universities – to co-create ideas and experiments together with them."
>
> Jochen Froebrich,
> Wageningen University & Research,
> Project Leader REFOOTURE

It is crucial that people in the food systems in East Africa develop a strong capacity for own innovation and responsible ethics. This capacity urgently needs to be built up, starting with experimentation and innovation at the level of farmers' fields. But innovation at this level also needs to be linked to innovation from elsewhere to allow for out-of-the box thinking and solutions. Innovatory start-ups, business incubators and researchers should link their work with farmers. In that way, the farmers' products or processes may find an application in a completely different setting, or in other innovations. Likewise, farmers' initiatives need to be linked to the wider food system to overcome dilemmas such as the lack of access to markets, to finances, and to knowledge.

Key in this is that local communities benefit from regenerative and inclusive initiatives and activities. Only when they have experienced 'what is in it for their stomachs, pockets and souls', will people be motivated to think in terms of nature regeneration.

Goals of Regenerative Inclusive Food Systems

The aims of working towards Regenerative Inclusive Food Systems can be translated into four outcomes, which are nested and interdependent:

1. Resilient livelihoods
2. Food and nutrition security
3. Healthy ecosystems
4. Equality and caring communities

Go to the diagram on page 14 to see how the outcomes are achieved in the transformation towards Regenerative Inclusive Food Systems.

Supporting collaboration between doers, enablers and thinkers - student start-up black soldier fly

A team of young graduates from Egerton University in Kenya wanted to find out if they could convert biowaste from municipal markets and restaurants into high-quality organic fertiliser and animal protein using black soldier fly. The larvae of this fly can be used as feed for pigs and chickens. With support from the REFOOTURE project, the young innovators were put in touch with entrepreneurs and researchers. This enabled them to do experiments on the use of black soldier fly frass (faecal material) as organic fertiliser for growing local vegetables. It proved to do well compared to chemical fertiliser. Some elements of this organic fertiliser have to be fine-tuned to improve its efficacy. These include nutrient composition and the economics of production. Future efforts are required to see how integrated approaches can compensate for the higher prices. Meanwhile, other REFOOTURE teams in Uganda and Ethiopia are inspired to work more in this field – a great example on how the cross-fertilisation of ideas across countries increases the knowledge base for innovation.

How does this approach differ from other approaches?

Aiming at Regenerative Inclusive Food Systems moves beyond sustainability. Sustainability is often associated with finding specific solutions for a given socio-economic or environmental problem. The focus is on the single outcomes. In regenerative practices, the focus is much more on the process required to get there. A key element is that all stakeholders in the food system reflect on what is regenerative and inclusive. That requires the people in a particular food system, starting from local communities but also others, to have the opportunity and the capacity to reflect on the situation, create a common vision and raise spirit and motivation to make a change.

Much of the literature, new international programmes, and emerging conferences on regenerative thinking in the agri-food domain are restricted to regenerative agriculture. The Regenerative Inclusive Food Systems concept is broader: it is about food systems thinking and embraces the complexity of all the linkages between food production and consumption, as well as how these are shaped by the people,

> "Our endeavour towards Regenerative Inclusive Food Systems differs from previous work aimed at sustainability alone. When working in the past with Farmer Field Schools, farmers were also participating. Extension officers used to bring a package of innovations to farmers that they were to try. Now we don't prescribe a package, but give room for regenerative practices and ideas from the doers' perspective. In this approach we want to do the path-finding together with the farmer. They find out themselves in experiments what works and what doesn't. Then we link that to thinkers and enablers elsewhere in the food system. The aim is to enhance self-innovative capacity."
>
> Tom Owino, Regional Coordinator Kenya, REFOOTURE project

socio-economic and environmental drivers and activities involved. Also, Regenerative Inclusive Food Systems focus expressly on dilemmas in development such as access to markets, finance, and knowledge.

Examples, cases or research on regenerative agriculture are generally at a smaller scale and focus on healthy soils. Regenerative agriculture, circular agriculture or agro-ecology are all valuable and can be part of Regenerative Inclusive Food Systems, but a Regenerative Inclusive Food System entails more. It starts from the notion of space and its potential, looks what and who needs to be involved and focusses on increasing their motivation and capacity as well as opportunities to regenerate and innovate. As a result of such an approach, regenerative agricultural practices, circular or agro-ecological farming systems may emerge.

"Workshop participants formulated the difference between conventional, sustainable and regenerative approaches like this: in a conventional approach, it is like you invest 100 dollars, and get only 50 dollars in return because the rest is lost due to degradation of the soil and the environment. In a sustainable approach, you invest 100 dollars and get 100 dollars back. But in a regenerative approach, you invest 100 dollars and get 150 in return, because you save on the increasing costs of external inputs and make use of nature."

Tewodros Tefera,
Country Manager Ethiopia,
REFOOTURE project

Regenerative and inclusive principles

To guide the transformation towards Regenerative Inclusive Food Systems, we have developed five principles (RIFS principles)[1]. These principles give direction not only to the point of departure but also to the entire process towards Regenerative Inclusive Food Systems. They apply to all activities within the development towards a Regenerative Inclusive Food System. According to these principles we need to have a more extensive understanding of the place and to involve the food system stakeholders from the very beginning. The principles also ensure that nature is understood as an equal player. Applying the principles to the innovation process helps to distinguish between innovations that make a positive contribution to Regenerative Inclusive Food Systems and those that are less likely to contribute to regeneration and inclusion. The principles are nested in one another and like organs of a living body they work together to help us to connect to and embrace the complexity of our food systems.

Principle 1: Sense of Place and Purpose

Regenerative Inclusive Food Systems start with people, and with our unique experience of the place where we live. Through caring for our neighbours, for each other and for nature in the places where we live, we can nourish ourselves and feel part of a community and of a place. This gives a sense of purpose.

Principle 2: Socio-Ecological Design for Innovation

In Regenerative Inclusive Food Systems, innovations are triggered by the needs of a community. Farmers or other thinkers and doers in the food system are inspired to find solutions and opportunities to use the available resources and indigenous knowledge in more effective and creative ways, while working with nature for the collective well-being of all.

Principle 3: Building Connections

Building connections with each other and with nature makes us stronger; together we are stronger and better able to cope with and adapt to system changes.

1 O'Keeffe et al. (in prep) " Guiding Principles to support a transition towards Regenerative Inclusive Food Systems"

Principle 4: Just, Fair and Inclusive Transitions
In Regenerative Inclusive Food Systems, justice, fairness, and inclusivity are the foundations for promoting responsibility, accountability and giving a voice to all those involved in the production and consumption of food, while at the same time respecting and nurturing the natural environment that supports such food systems.

Principle 5: Design for Renewal: a living process
Transitioning towards Regenerative Inclusive Food Systems is a living process. It is a process of learning by doing, building our capabilities to regenerate parts of food systems to make them work for us and for nature.

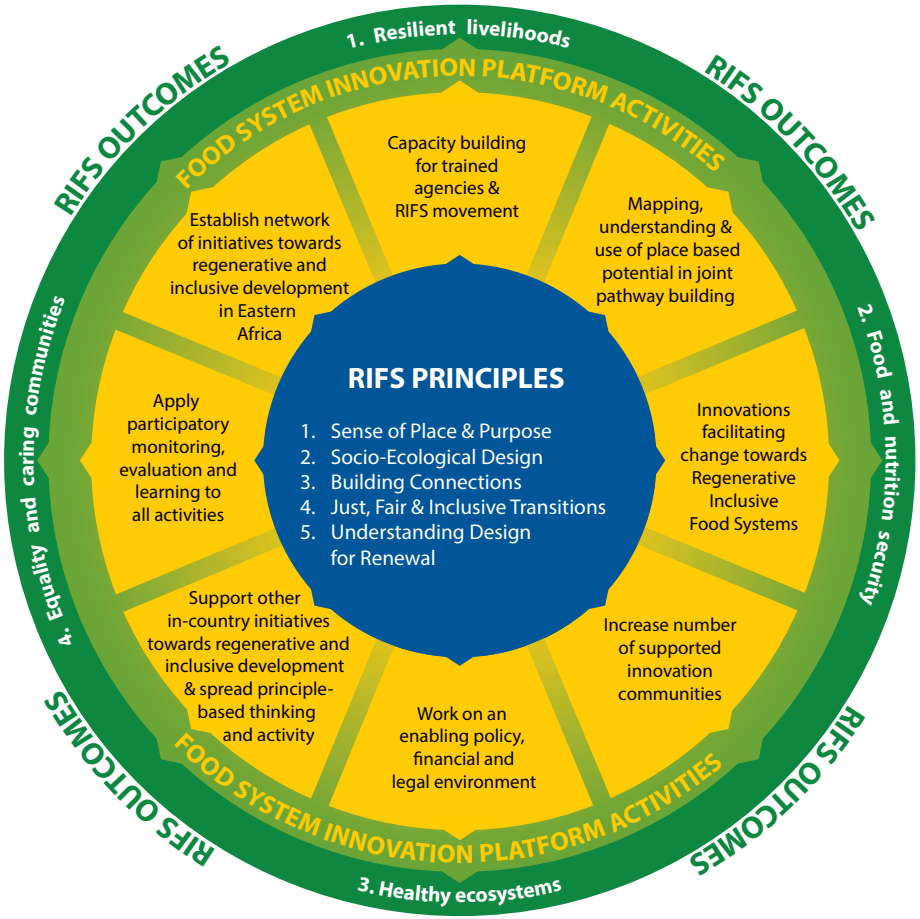
What is our approach for transformation towards Regenerative Inclusive Food Systems?

Regenerative development is still emerging as a concept, and food system transformation is complex. That makes the practical facilitation of change towards Regenerative Inclusive Food Systems challenging. It is an open-ended innovation: we don't know beforehand where we will end up. We do know, however, that a portfolio of simultaneous activities is needed at local, regional, national and international level. And that at all levels we need to experiment and learn what works and what does not. These activities are carried out by stakeholders organised in Food Systems Innovation Platforms (for more information on these see separate booklet[2]).

The activity domains that may collectively contribute towards a Regenerative Inclusive Food System are visualised in the figure on page 14. The principles of regeneration and inclusivity inform work done in all activity domains. In addition, all activity domains need to be developed in parallel, each at its own pace, but in connection with each other, as they reinforce each other. It is a nested approach.

Developing Regenerative Inclusive Food Systems is not a linear process, it requires a 'back-and-forth' approach. However, it starts with the place-based potential as an entry point. The communities, their territory and their surroundings determine the place-based potential. Support to local communities is aimed at developing understanding of the place-based potentials, envisioning a future for Regenerative Inclusive Food Systems, and at jointly setting an agenda for change. Mobilising and engaging local communities, and building local motivation and capacity are essential elements of this support. The principles of regeneration and inclusivity form overarching guidance for visioning, agenda setting and practices.

2 DOI 10.18174/629016



This figure summarises our approach for transformation towards Regenerative Inclusive Food Systems, starting from the principles in the centre of the figure.

Regenerative Inclusive Food Systems are about locally driven innovations. Innovations happen anyway but innovations that foster regenerative and inclusive systems need purposeful support. Making an agenda for change triggers innovations from communities themselves. The innovation cases that emerge can inspire others. Innovating communities get to link up with regenerative and inclusive activities from outside the community and co-create together. These then bring added value to the community within their territory.

Developing Regenerative Inclusive Food Systems is not a linear process. Learning what these systems actually mean to people – what works and what not, and why, and how to adapt accordingly – takes place continuously. For this, Planning, Monitoring, Evaluation and Learning is required in all activity domains, and needs to be done by local actors. Local communities are hence supported to develop the relevant capacities for tracking change towards a regenerative and inclusive vision. Participatory monitoring takes place at the level of the overarching REFOOTURE project as well, to be able to adapt innovation support in response to the emerging needs and opportunities.

Changes may not be restricted to one community alone. Monitoring, evaluation and learning inform evidence building on the development towards Regenerative Inclusive Food Systems, and their value and impact on local communities, their territory and surrounding. As the iterative approach proceeds, the number of supported local innovation communities increases. At the same time, facilitators are trained so they can help local communities to build agency and apply regenerative, inclusive principles in their way of work.

Simultaneously, work needs to be done on enabling conditions. Government policies need to contribute to a conducive environment, and access to finance is needed for farmers and other stakeholders involved in innovation cases. Increasing the access to markets is required as well.

From this back-and-forth development process, other in-country regenerative, inclusive initiatives emerge that can be supported. Connections can be made with other platforms and amongst networks so that they learn more about regenerative, inclusive development. The idea of basing thinking and activities on the guiding principles of regeneration and inclusivity gets spread and inspires others.

Our vision is that an international network of regenerative, inclusive development in East Africa will develop, based on sharing experiences. The building of such a broader movement towards RIFS evolves over a longer period – trust building and rethinking and changing mindsets takes time.

What has the REFOOTURE project accomplished so far?

So far, the REFOOTURE project has worked on some of the activity domains mentioned in the figure on page 14. The remaining domains will be addressed in the next phase of REFOOTURE.

Using place-based potential as the starting point

Place-based potential is the starting point for regenerative, inclusive development, and several local innovation cases were started from this. Communities received training to increase local capacity and agency. They were then supported to develop pathways toward Regenerative Inclusive Food Systems by collecting, reflecting, learning, and acting upon evidence of regenerative and inclusive practices that fit best into their local contexts. From this process, innovations emerged, along with behavioural change.

> "The Menengai Forest means a lot to the residents living around the forest. It is vital for many as they collect firewood there. Others graze their animals, collect honey or wild vegetables in the forest. Some value the medicinal herbs they find in the forest. The forest also holds caves that people use as a spiritual place of worship. The people care about preserving the forest, and that was the basis of the vision building they did with a group of residents who are members of the Menengai Community Forest Association. REFOOTURE facilitated the multistakeholder process to help them create the vision."
>
> Tom Owino, Regional Coordinator Kenya, REFOOTURE project

An example is the vision developed by the community around the Menengai Forest in the urban area of Nakuru, Kenya. The residents came together in multi-stakeholder meetings where they discussed their disparate views on using and preserving the forest. The approach was to get a wide range of representatives round the table on an equal footing, including representatives of the marginalised and vulnerable and of nature.

RIFS principles guide change for community around Menengai Forest

An example of how the Regenerative Inclusive Food Systems principles guide change is found in the case of the Menengai Community Forest Association (Nakuru, Kenya). This pilot is the start of a regenerative, inclusive transformation of the community's food system. REFOOTURE facilitated the multistakeholder process among residents living around the forest, helping them to build a common vision on the forest. In future, collective activities to preserve the forest will be based on this. The process entailed meetings of several days over the course of a month.

It started with helping the community to articulate their sense of place and purpose (Principle 1).

Having some participants act as 'Mother Menengai' during workshops helped to give nature a voice and helped people to start seeing the place they depend on as a living being and a stakeholder with its own agenda. This is part of socio-ecological design for innovation (Principle 2).

By allowing each stakeholder group to articulate change agendas, and using songs, role plays and poems for people to express themselves and to present their situation, visions and strategies to other stakeholders helped to build connections and mutual understanding (Principle 3).

Specific actions were taken to identify unrecognised stakeholder groups and reach all, using drawing instead of writing tools, to contribute to the transition being fair, just and inclusive (Principle 4).

A culture of reflection, learning and space for changing plans was created during these meetings, supporting stakeholders' capacity to adapt to situations that could not have been predicted. This is part of design for renewal (Principle 5).

Learning from innovation cases to increase the number of community-driven regenerative and inclusive innovations

With the onset of the REFOOTURE project, several existing innovation cases were identified among local communities [see examples in box]. The innovation cases are examples of local start-ups, community self-help groups or other local initiatives: groups of people from a local community that work together on a particular innovation that is rooted in their place. A total of 19 innovation cases at local level were identified. All innovation cases showcased the innovative capacity and high motivation of the local entrepreneurial youth. They demonstrated the potential of

From waste to gain – an innovation case

Social conflict arose in a community on the edge of the city of Nakuru in Kenya, around the danger of animal manure. The biowaste was dumped along public roads by households that keep dairy animals and poultry, creating stench and environmental pollution. In 2015, a group of concerned residents, mostly women, hatched the idea of finding a solution to the nuisance. They formed a community self-help group – called GRIINCOM – to compost the waste into organic fertiliser to earn income. They got support as an innovation case, part of the REFOOTURE project.

After a successful start-up, the group decided they wanted to compost more manure than was available in the area. With the help of Nakuru Living Lab (the Food System Innovation Platform in Nakuru) and supported by the REFOOTURE project, residents were able to discuss the matter with the county ministry. As a result, the group was allowed to use waste from the municipal dumping ground, enabling them to upscale the business. Future work of the Nakuru Living Lab will address the required food safety issues. Linking this innovation case to another one – in which farmers were working on obtaining clean seed potatoes – provided an opportunity to test the compost. It proved to be suitable for replenishing soil nutrients while also stabilising soil pH, and much more cost effectively than chemical fertilisers. After just one growing season, potato farmers decided to switch to using compost.

An example of innovation: Griincom has opened up income opportunities for women and youth in the peri-urban slums.

start-up initiatives for finding solutions within the transformation of a food system. All cases clearly benefit from increasing skills in business planning and administration. But they also showed that innovation cases do not automatically contribute towards regeneration or inclusion. There is hence a need to select and co-create especially those that fit in with the individual local pathway towards a Regenerative Inclusive Food System.

The innovation cases are supported by regional Food System Innovation Platforms, facilitated through the REFOOTURE project. These orchestrate, lead and support the regional transformation towards Regenerative Inclusive Food Systems. In practice, Food System Innovation Platforms are groups of around 10-50 people, with representatives of various actors in the food system. They meet on a regular basis to discuss developments. The platforms include 'doers', 'thinkers', and 'enablers'. Doers can be farmers or entrepreneurs in the agricultural value chain. Thinkers can be researchers or innovators, but of course farmers can also be thinkers. Enablers are mostly extension workers, policy makers or people working at financial institutions. Food System Innovation Platforms link the innovations of farmers to researchers and innovators at regional level. More information on this can be found in the booklet on Food System Innovation Platforms[3].

> "In one innovation case, dairy farmers in South Achefer, Ethiopia managed to increase production. However, the milk collectors and milk processors were not able to keep up with the growth. Through the food system innovation platform, a solution was found. We organised a big workshop with farmers, dairy cooperative representative, the development bank, micro financers and government policy makers. As a result, other milk collectors from nearby could increase their business and step in."
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> Tewodros Tefera, Country Manager Ethiopia, REFOOTURE project

3 DOI 10.18174/629016

Planning, monitoring, evaluation and learning

In many innovation cases, research and experiments were done to find evidence for innovations, and several in-country and cross-country learning events have been organised to present this evidence. For example, in Ethiopia, many farmer field days and workshops were organised where researchers, policy makers, farmers, representatives of financial institutes and private businesses met. Four times a year a learning and reflection session was organised at national level by the Food System Innovation Platform in Ethiopia. For the Menengai Forest case in Kenya, a monitoring framework was developed covering the parameters of the goals of Regenerative Inclusive Food System development: resilient livelihoods, ecosystem health, food and nutritional security, and equality and a caring community.

Improving the enabling conditions

Work was done on improving the wider enabling conditions for Regenerative Inclusive Food Systems. Policy makers and government representatives are involved in the Food System Innovation Systems, as are representatives of the financial sector. In Kenya this led to the involvement of a commercial bank in some innovation cases. In Ethiopia, based on evidence generated in a local innovation case on making compost, a new agricultural extension advice package was developed.

"Based on our evidence, the new message of the extension service to use more compost in addition to chemical fertiliser was expanded to the wider Oromiya region in Ethiopia. That was a great result of our approach of learning from innovation, creating evidence and using that to make a change on a wider scale. The case even attracted the attention of a State minister who paid a visit to the OTIPAVA piloting sites. This may be further scaled up, as the innovation comes at the right time. Ethiopia couldn't buy enough chemical fertilisers in 2022, due to the lack of it and the high prices. So innovations that reduce the use of chemical fertiliser, such as using compost, come at the right time now."

Tewodros Tefera, Country Manager Ethiopia, REFOOTURE project

Policies improved following evidence from innovation case

Improving the enabling conditions for innovations and ensuring that they can be practised in the long term are fundamental to the development of Regenerative Inclusive Food Systems.

In Ethiopia, the agricultural advisory services are required to recommend the use of mineral fertilisers only. This hampers the additional or exclusive use of compost, and consequently the advantages of soil health regeneration associated with this are missed out on. Moreover, until now only large fertiliser bags are allowed to be traded. This amount exceeds the needs of significant smallholder farmers, and they cannot afford to buy these large quantities. Reducing the use of mineral fertiliser requires that official permission is granted to repack fertiliser into smaller quantities that meet the needs of smallholder farmers.

To encourage the wider use of compost in future, the Ethiopian REFOOTURE team demonstrated the advantages of providing small packs of fertilisers and combining the use of mineral fertilisers with compost. Experiments were set up which measured the response of different crops to the use of mineral fertiliser, compost, or a combination of both. The latter showed to yield good results, which proved the innovation. Based on this evidence, farmer field days and workshops were organised with field visits for policy makers. As a result, Meles Mekonnen, the State Minister for Agriculture and regional government officials visited the project initiatives. This created an enabling condition for further endorsement and the official promotion of additional compost use by the Ethiopian farm advisory services. Promoting small-pack fertilisers has now been picked up by the Agricultural Transformation Institute (ATI). ATI and the REFOOTURE team are now collaborating jointly in advocating that small-pack mineral fertiliser and compost use are placed on the government's policy agenda.

Further progress on improving regulations and policies in favour of increased use of compost and the official promotion of small-pack mineral fertilisers will open opportunities during the transformation towards Regenerative Inclusive Food Systems. It will not only make the fertiliser market more inclusive and reduce the amount of mineral fertiliser application but will also strengthen the inclusion of women and poor farmers in the extension advisory services.

Lessons learnt from REFOOTURE

Transition evolves at different scales

One important lesson from the first phase is that Regenerative Inclusive Food Systems evolve at different scales. At local level, in a community of neighbouring villages, transition often takes place as in the innovation cases described above and in the Menengai Community Forest Association example.

At regional and national level, linkages are laid between different local innovation cases. For example, in Kenya a workshop was organised for representatives of all innovation cases to learn about the vision building process of the Menengai Community Forest Association, which was highly valued. In all countries, various field visits and farmer exchanges were organised.

Also, linkages were made between local cases and regional or national innovators, researchers, and enablers such as policy makers and finance institutions. For example, in Kenya the Equity Bank was actively involved in the Food System Innovation Platform. Internationally, exchange visits between the three countries were organised, and FAO provided a training in Kenya.

To influence policy making, evidence is needed of what works and what doesn't. In Ethiopia, one lesson learnt was that local-level innovation cases were not reaching policy makers. To influence policy, a regional think tank was started, composed of representatives of farmers, cooperatives, government, financial institutions, research institutions and the private sector. This contributed to changing regional government policies on the type of agricultural extension given, for example, using compost instead of chemical fertiliser.

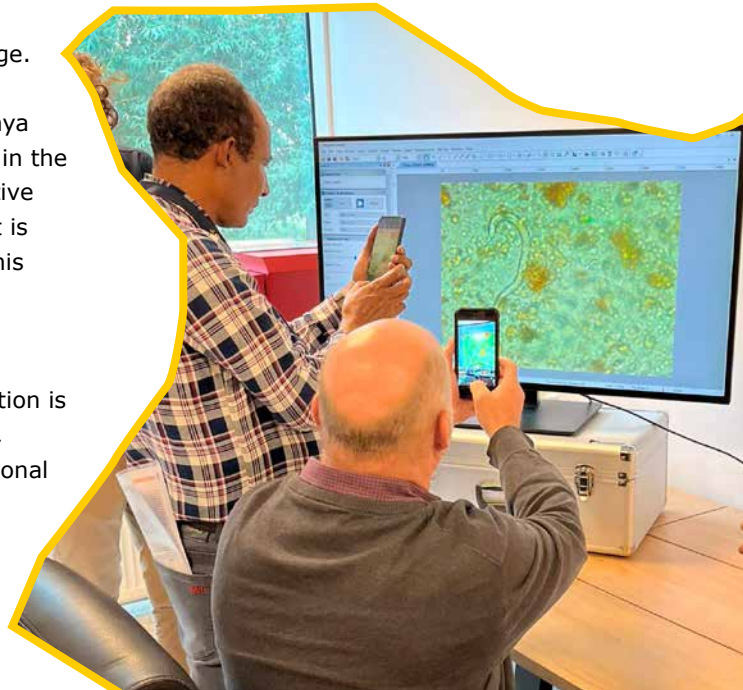
Transition takes time

Regenerative Inclusive Food Systems evolve over time. Their development cannot be planned but is the outcome of a process of facilitating the co-creation of innovation. People – the stakeholders in the food system – are the game changers. Successful transition depends on their capacity to regenerate.

Unpacking Regenerative Inclusive Food Systems takes time, given the interdisciplinary and intercultural nature of a team. People had different perspectives when thinking about Regenerative Inclusive Food Systems. The REFOOTURE team serves as a small society where discussions on these arise. Having found common ground makes it then easier to discuss principles of regeneration and inclusivity in wider circles. It will be important to continue dialogues on what Regenerative Inclusive Food Systems are and how they can be supported through Food System Innovation Platforms in the next phase of REFOOTURE.

We should be realistic, acknowledging that development of Regenerative Inclusive Food Systems is a monumental challenge. Transforming an entire food system in a regenerative, inclusive way is different than just shifting from conventional towards regenerative farming practices. Food systems are embedded in political stakes at the highest levels and no full transformation can occur without sufficient will on the part of government organisations. A network of actors and activities is potentially very wide, and their interdependency is huge. Mobilising sufficient stakeholders from different sectors to adopt regenerative principles takes time.

However, the innovative, inclusive approach developed in the REFOOTURE project attracted different stakeholder groups right from the start, and it is increasingly gaining the support of national governments and international organisations. At all levels, the concept was found to be an inspirational way of encouraging societal change. High-level stakeholders in Ethiopia, Uganda, and Kenya revealed a strong interest in the development of Regenerative Inclusive Food Systems. It is crucial that we maintain this momentum.



Innovation is key

We also found that innovation is key to fostering the social, technological, and institutional transition towards Regenerative Inclusive

Food Systems. The five principles described above proved to be a good way to guide further development of new innovation cases. Evidence produced by these cases strengthens the role of Food Systems Innovation Platforms in the transition. The innovation cases also provide a conducive environment for solving immediate problems, joint experimentation, co-creation, learning and long-term visioning on what regenerative food systems entail and how to advance towards them. These activities touch upon the values, beliefs, perceptions, and mindsets of the communities that are key to the further development of food systems.

We discovered that it is important to link innovation cases to existing initiatives – build on what is already there – and validate and research effectiveness through facilitation, brokering and mobilising support, before expanding. Profiling local examples and taking them forward helps in changing mindsets and mobilising actions. Seeing is believing, especially when the evidence comes from someone or an organisation in a similar context one can identify with. When a farmer's neighbour or a credit agency's competitor is able to do things differently, there is a greater chance that people will believe they should and will be able to change. It is crucial that farmers and local communities benefit from innovations, in terms of food in their stomachs and money in their pockets. Acceptance and applicability of regenerative and inclusive principles increase when successful impact is felt by local communities.

Socio-ecological innovation needs to be the starting point. The coordination team reflected that in the project, the word 'innovation' generally refers to a technical innovation, for example waste management or composting, and less to social or organisational innovations. The Menengai Forest pilot shows that management of the forest is all about people: their realities, their aspirations, their inter-relationships. We need to invest in mindset change, and people need to own the process. Given the important role that innovation cases play, it is important to facilitate local developments so that sufficient critical mass and momentum are formed to maintain continuity.

Future outlook: how can we continue to support Regenerative Inclusive Food Systems?

The lessons learnt indicate that continuity is key, and that the development of Regenerative, Inclusive Food Systems require long-term efforts.

Developing Regenerative Inclusive Food Systems is a continuous process. So far, we have learnt that it is a process that involves leveraging synergies and managing trade-offs in line with the five principles of Regenerative Inclusive Food Systems. This process contributes to shifting mindsets and to creating new points of entry for comprehensive transition on the ground, resulting in concrete actions.

Connect and integrate local community activities with new start-ups in the food value chain

To move towards Regenerative Inclusive Food Systems, it is important to start from local community initiatives. However, the examples of innovation cases and start-up initiatives in this booklet show that there is also a lot of potential beyond the perspective of local communities. Out-of-the-box solutions may be available elsewhere to address key challenges faced by rural communities such as lack of access to markets, finance, and knowledge. Future work needs to ensure that initiatives that emerge from local business incubators and a vibrant start-up culture for young entrepreneurs link up with each other and are enabled to comply with principles of regeneration and inclusivity. Opportunities should be offered to help rural communities in implementing their desired pathways towards regenerative and inclusive development.

Assess the outcomes of regenerative, inclusive development

Assessing the outcomes of regenerative, inclusive development on local communities, their territory and their surroundings is not a simple task due to the complexity of food systems and the time it takes for changes to become visible. Also, it is difficult to distinguish between impact from own initiatives and impact created by other forces. Future monitoring and evaluation needs to be based on the principles of regeneration and inclusivity developed. The impact of initiatives should

be measured against the four goals of regenerative, inclusive development. What and how to track should be defined, carried out and interpreted by the members of a particular Food System Innovation Platform and the communities working on an innovation themselves. Future work should be informed by indicators that can be investigated by the local communities themselves and that give them a say in choosing more relevant indicators.

Soil biology, one of the many indicators, should be understood better, as both food and nature depend on healthy soils. We need to understand better how soil health information can be integrated into a comprehensive framework and how information on this can be collected by local stakeholders themselves.

Assess the development process towards Regenerative Inclusive Food Systems

As the development of Regenerative Inclusive Food Systems is highly dynamic, there is a need to monitor the process itself. Key questions are what critical mass is needed for a truly Regenerative Inclusive Food Systems movement to occur, and when is the right time for this? Another question is how to involve and integrate different activities at local, regional, national and international scales to contribute more efficiently to the development of Regenerative Inclusive Food Systems. Other questions relate to monitoring the creation of local ownership of the concept and how to ensure that the development of Regenerative Inclusive Food Systems continues over a necessarily longer timeframe.

Improve enabling conditions

Innovation can only flourish when government policies or access to finance allow it. Working towards Regenerative Inclusive Food Systems requires improvements in enabling conditions concerning financial support, supportive regulations, and increasing access to markets. Future work must pay particular attention to maintaining continuous policy dialogue at different levels, as well as to conducting advocacy as specific opportunities emerge. Ways must be found to consolidate such policy dialogues on a regular and effective basis.

Capacitate Food System Innovation Platforms so they can facilitate on their own

Food System Innovation Platforms can play an important role in facilitating the process towards Regenerative Inclusive Food Systems. However, more effort is needed to bring the platforms into a position where they are capable of facilitating this kind of development process on their own and in a systematic and comprehensive way.

Spread principle-based thinking and activities

Advancing Regenerative Inclusive Food Systems requires many activities, at local, regional, national, and international scale. However, we need to build up experience stepwise, gradually. Future work should first concentrate on launching more innovation within a given community along the locally defined pathways. Monitoring, evaluation, and learning will inform evidence building on the development of Regenerative Inclusive Food Systems, and its value and impact on local communities, their territory and their surroundings. Evidence in combination with trained facilitators who are capable of helping communities to build agency and apply the regenerative and inclusive principles in their way of working will be used to increase the number of innovation communities.

Increasing the number of innovation communities requires evidence on the development of Regenerative Inclusive Food Systems, and their value and impact on local communities, their territory, and surroundings. The evidence needs to be collected through participatory monitoring, evaluation and learning, and combined with the work of trained facilitators capable of helping communities to build agency and apply the principles of regeneration and inclusivity. After carefully processing experiences and evidence, ways can be explored to mobilise other in-country initiatives and to consolidate the network within Eastern Africa.

We repeat: extending the movement towards Regenerative Inclusive Food Systems will take time. Building trust, and rethinking and changing mindsets require a back-and-forth approach, with multiple feedback loops in between.

No time to waste

The development of Regenerative Inclusive Food Systems is urgent and timely. If we continue current practices, we will exclude the use of local potential and miss out on the self-innovating capacity of societies and nature.

We have initiated a process towards Regenerative Inclusive Food Systems at different levels and our work is starting to be acknowledged. Governments, non-governmental organisations and individuals alike are seeking new ways to address the persisting crises, that are increasingly being recognised, also in international treaties. People are feeling the effects of these crises more and more in their daily lives and seek responses.

Through social media, people from different regions are learning more and more from each other. There is increasing societal interest in regeneration. The stakes are high, with influential entrepreneurs and civil society representatives involved. With our interdisciplinary approach, we are able to contribute to further developing the concept. This distinguishes us from others that either limit themselves to a specific part of the sector or fall into the trap of greenwashing.

There is a window of opportunity now due to the soaring prices of mineral fertilisers. Tapping into this with nature-based alternatives is a promising entry point. Our idea is to use this window of opportunity, but also to go further by challenging the agri-food sector more comprehensively with our developmental approach. When facilitating the participation of voiceless or vulnerable people, the prevailing decision-makers must also change. This may lead to conflict or resistance. We want to address this in a non-combative way, through our values-based approach and by seeking mutual benefits at different levels. The existing momentum represents an opportunity that we have created together through REFOOTURE. We should not waste this momentum but build on it, thus further increasing the capacity of stakeholders in the East African food systems to regenerate.

Glossary

REFOOTURE approach
The REFOOTURE project is based on the hypothesis that advancing Regenerative Inclusive Food Systems requires increasing capacity for the self-regeneration of food systems. Food System Innovation Platforms started as Living Labs and provide the institutional structure for the necessary transdisciplinary facilitation, collaboration, experimentation and learning to develop Regenerative Inclusive Food Systems.

Food systems
A food system is defined as "all the elements and activities related to producing and consuming food, and their effects, including economic, health, and environmental outcomes." The system is also influenced by social, political, technological, economic and environmental drivers. Applying the food systems approach to analyse current issues allows for useful interdisciplinarity and broadening of perspectives, which aids in the mapping of the impacts of main drivers on outcomes such as food security, for example for determining the limiting factors in achieving it and providing a list of elements to be addressed when trying to improve it.

Food System Innovation Platforms
In REFOOTURE, we defined Food System Innovation Platforms as innovation ecosystems – a social environment in which the development towards more regeneration and inclusion in food systems can be accelerated. Food System Innovation Platforms started under the name Living Labs (*see definition below*). They accelerate the movement towards Regenerative Inclusive Food Systems. Within Food System Innovation Platforms, a variety of actors from civil society, government, the private sector and research can jointly support existing innovation towards more regeneration and inclusivity, facilitate the co-creation of new initiatives aimed at regeneration and inclusivity, and improve the enabling environment for innovation. We see Food System Innovation Platforms as a vehicle on the pathway towards Regenerative Inclusive Food Systems. Food System Innovation Platforms aim to facilitate cooperation between different stakeholder categories, provide support in innovation, and to organise adaptive management in the entire development process towards Regenerative Inclusive Food Systems.

Living Labs
The European Network of Living Labs defines Living Labs as: "… open innovation ecosystems in real-life environments using iterative feedback processes throughout a lifecycle approach of an innovation to create sustainable impact." In REFOOTURE we use the term to refer to a specific mode of working.

Regenerative Inclusive Food Systems (RIFS)
Regenerative Inclusive Food Systems are socio-ecological systems that work innovatively with nature to ensure vibrant and healthy agro-ecosystems which enable resilient livelihoods and food and nutritional security for all. In the fair and just transition towards such Regenerative Inclusive Food Systems, no being is left behind. Our vision is to improve the quality of life through Regenerative Inclusive Food Systems.
In Regenerative Inclusive Food Systems, people produce food responsibly in a way that ensures food security and restores the environment by improving soil health,

biodiversity, carbon stocks and crop diversification, thus regenerating and advancing the natural resource base. Inclusiveness of the food system means it provides a fair income for farmers, agribusinesses and upstream and downstream sectors including consumers. It also means the food system provides accessible, affordable, and nutritious food.

Principles underlying Regenerative Inclusive Food Systems

The transition towards Regenerative Inclusive Food Systems (RIFS) is seen as a long-term process that can be guided by regenerative principles. We have conceptualised a set of five integrated and non-hierarchical RIFS principles: (1) sense of place and purpose, (2) social-ecological design for innovation, (3) connectedness, (4) fair, just and inclusive transition and (5) design for renewal.

Innovation & Innovation case

In REFOOTURE, innovations are generally identified as all the practices and activities in the food systems that could lead to regeneration and inclusiveness. In the REFOOTURE project, the identification of innovation cases is an important activity in the development of the Food System Innovation Platforms. These innovations can be something completely new but also something that was already present in the area. For example, indigenous practices that are considered 'innovations' because people start to re-adopt them.

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To tackle the issues of food insecurity, poverty and nature degradation in East Africa at a more fundamental level, we need to move towards more regenerative and inclusive food systems. But what do Regenerative Inclusive Food Systems entail?

This booklet unravels the concept of Regenerative Inclusive Food Systems based on the experiences and learning in the REFOOTURE project. The booklet is part of a series of three booklets. The other two booklets are on Food System Innovation Platforms (DOI 10.18174/629016), which are vehicles to move towards Regenerative Inclusive Food Systems, and on the REFOOTURE project itself (DOI 10.18174/629015). Each booklet can be read on its own.

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