Regenerative Agriculture in Africa

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Mustardseed Research Reports Trust

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Introduction

The following slides give an introduction to this research: what were the research questions and methods, what is Regenerative Agriculture, and how does it relate to other sustainable ways of farming?

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About this report

This report was created for Mustardseed Trust as an internal knowledge building exercise centered around the following research questions:

What are the actors and factors to either enhance or inhibit a shift in thinking and practice to regenerative agriculture (RA) towards breakthrough success in Africa?

- Who are the most influential or promising (male and female) people and organisations that are enhancing/driving the practice of RA in Africa?
- What innovation do they present?
- What are the most influential factors that are enhancing/driving the practice of RA in Africa?
- What are the most important factors that are inhibiting the practice of RA in Africa?

The intended audience is Mustardseed Trust and partners.

Foreword from the researcher

The research questions are ambitious, when we consider the size & diversity of the African continent. Throughout the research, I was struck by the flourishing diversity of initiatives and actors in the RA space, from small to large scale; with local or international roots; with an "organic growth" focus on small communities first and scaling from there, or with scaling as the modus operandi from the get-go; and the various different types of contributions from building scientific evidence, through connecting farmers in communities of practice, to bringing financial capital to the RA world. Hence, this research can by no means be a complete and systematic review of all the relevant (f)actors. Rather, it is an anecdotal and necessarily subjective selection, informed by my own network (besides desk study), which inherently leads to a slight overrepresentation of international (and Dutch) actors. There are undoubtedly a great many other initiatives to be found that I have missed; but rather than aim to portray the RA field in completeness, this report is a celebration of the diversity of types of contributors, and hopefully a contributor itself to scaling and connecting the African RA movers & shakers.

Research methods

Desk study
Casting the net

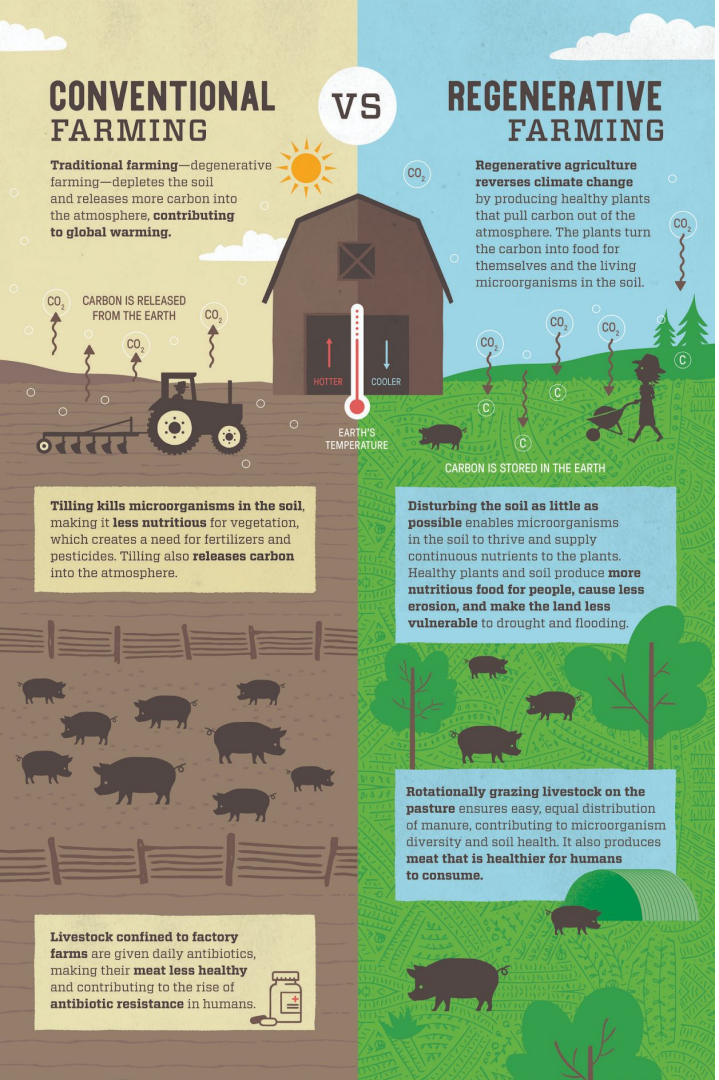
This phase served as a broad sweep of the (f)actors in the field of RA in Africa. It consisted of an online study starting with the African organisations listed on the Regeneration International website. All (f)actors found were collected in an Excel sheet. To narrow down the scope of actors and factors, Mustardseed Trust asked to focus on innovativeness and ability to scale, rather than provide a longlist of all (f)actors. The research focused on promising initiatives rather than aiming for geographical spread.

Interviews
Weaving the web

The second phase consisted of semi-structured interviews with key informants from the researcher's own network (see Reference List - Interviewees), online communities (eg. Regenerative Agriculture to Reverse Climate Change Facebook Group) and people the key informants referred to as influential or important to speak to. Goal: to add depth and colour to, and triangulate desk study results, as well as find additional, less well-documented (f)actors from experts on the ground.

Analysis & reporting
Reaping the harvest

Results from the desk study and interviews were analysed to extract inhibiting and enhancing factors, as well as influential actors with potential to scale. There were no formal inclusion criteria for the actors, but if actors were mentioned by multiple independent informants or were closely aligned with the conceptual framework and expressed the ambition or potential to scale, they were more likely to be included in this report. All found actors are listed in a living spreadsheet.



What is Regenerative Agriculture?

The simplest way to define RA is as agriculture that regenerates its ecosystem rather than depleting it. In an attempt to give this more body and create a universal definition at RegenerativeAgricultureDefinition.com, Terra Genesis International (a permaculture consulting firm quoted by Mustardseed Trust in the ToR for this research) has published a working definition which it updates based on collaborative input at:

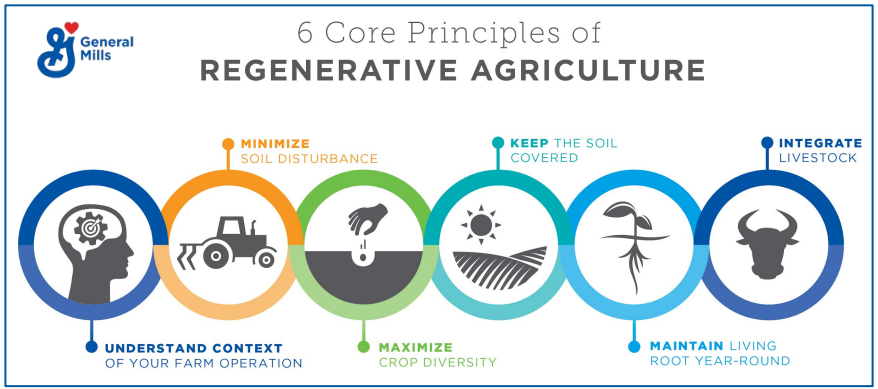
RA is a system of farming principles and practices that, besides the primary aim to produce food, also "**increases biodiversity**, **enriches soils**, **improves watersheds**, and **enhances ecosystem services**. Regenerative Agriculture aims to capture carbon in soil and aboveground **biomass, reversing current global trends of atmospheric accumulation**. At the same time, it offers **increased yields**, **resilience to climate instability**, and **higher health and vitality for farming and ranching communities**. The system draws from decades of scientific and applied research by the global communities of organic farming, agroecology, Holistic Management, and agroforestry." (Terra Genesis International, 2020)

Other important aspects of RA are improved nutrient density and water management (Regenerative Agriculture Initiative, 2017). The next slide outlines key RA principles and practices.

← **Left:** Infographic 'Conventional vs. Regenerative Farming' (Singing Pastures, 2019). It is important to note that conventional farming here refers to a set of degenerative practices often found in industrialised farming. For some farmers who have always used regenerative practices, conventional and regenerative may not be so opposed.

RA Principles and Practices

RA is based on principles of understanding the context, making holistic decisions, and aiming to improve soil health, consumer health, farmer health and climate resilience. Practices include minimal soil disturbance (no/minimal tillage), maximising crop diversity, cover cropping, reshaping land for water management, focusing on perennial crops and sustainable annual crop integration, and soil improvement through composting, biochar, and animal & plant integration. Not all RA practitioners will (be able to) integrate all of these practices and principles from the get-go. The practitioners included in this report were not selected based on strict adherence to all of these principles but rather on their expressed aspiration to regenerate soils, souls and societies.



Principles and practices as formulated by Terra Genesis:

4 Principles of Regenerative Agriculture

1. Progressively improve whole agroecosystems (soil, water and biodiversity)
2. Create context-specific designs and make holistic decisions that express the essence of each farm
3. Ensure and develop just and reciprocal relationships among all stakeholders
4. Continually grow and evolve individuals, farms and communities to express their innate potential

10 Regenerative Agriculture Practices

1. No-till farming & pasture cropping
2. Organic annual cropping
3. Compost & compost tea
4. Biochar & terra preta
5. Holistically managed grazing
6. Animal integration
7. Ecological aquaculture
8. Perennial crops
9. Silvopasture
10. Agroforestry

Terra Genesis International

Related terms (i)

There are many terms in circulation used in relation to what regenerative agriculture means, with varying objectives. Some are more or less related to food production, community engagement or nature restoration. The initiatives found in this research have been categorised into these terms in the spreadsheet, but not in this report, because the distinction is sometimes arbitrary or otherwise not very relevant. A few examples (more on next slide):

- **Agroecology:** the study of ecological processes applied to agriculture (but in practice, also used by organisations to describe the practice itself, including many in this report and the underlying spreadsheet longlist.
- **Agroforestry:** The integration of woody perennials (shrubs and trees) in the agricultural system for various benefits (see 'The benefits of trees' on the right). Many of the actors included in this research apply agroforestry.
- **Conservation Agriculture/Farming:** a farming system that promotes minimum soil disturbance (i.e. no tillage), maintenance of a permanent soil cover, and diversification of plant species. This term was not included in the research as other terms cover these techniques while also more explicitly adding regeneration (beyond conservation) and social elements, without which RA is unlikely to take root and scale.
- Farmer Managed Natural Restoration: When trees have been cut down for firewood or to make room for agriculture, the roots of many of these trees are still alive, and the trees live on as a bush. By pruning the bushes in a specific way and by protecting them from grazing livestock and wildlife, FMNR helps the bushes to grow back into trees. It is a technique used with success in much of Africa, so the next slide is devoted to saying a bit more about it. Some of the actors included in the Actors chapter also use this technique.

The benefits of trees

- Sequester carbon from the atmosphere
- Bring up water and nutrients from deep in the ground
- Provide a framework for above- and belowground biodiversity to flourish
- Build soil organic matter and thus soil carbon
- Create regulating micro-climates
- Provide fodder and shelter for livestock
- Innovate diversified farm enterprises
- Make agricultural landscapes more resilient
- Record climate history

(Source: World Agroforestry, n.d.)

Related terms (ii)

- **(Forest) Landscape Restoration:** aims to regain ecological integrity and enhance human well-being in deforested or degraded forest landscapes. This term was not actively included nor excluded in this research, because of its focus on forests rather than agriculture, though agriculture can be a component of it - when an initiative identified itself as Forest Landscape Restoration, it was evaluated on whether it included agriculture.
- **Holistic Grazing / Management:** the integration of livestock through planned grazing schemes to improve soil and plant health. Often the centre of discussions between 'vegans vs. holistic management supporters': does a sustainable system include animals and is it ethical? Actors promoting holistic grazing are included in this research, because of the vital role of animals in improving soil health and ecosystems in general, as well as their vital role in many African cultures. A bit more about this relatively unknown sector of RA is included on slide 12.
- **Permaculture:** the conscious design and maintenance of agriculturally productive ecosystems, which have the diversity, stability and resilience of natural ecosystems; and a set of design principles centered on whole systems thinking, simulating, or directly utilizing the patterns and resilient features observed in natural ecosystems. Many of the initiatives found label themselves as Permaculture, and as they are by definition aligned with the RA principles, they have been included.
- **Restoration Ecology:** the scientific study supporting the practice of ecological restoration. No practitioners found label themselves with this word, perhaps because it refers to the study and not the practice.
- **Re-greening:** a process in which farmers protect and manage trees that naturally regenerate on their land, rather than cut them down. The focus of this research is not on re-greening because of its relative isolation from agriculture, though they need not be mutually exclusive - some of the initiatives included do classify themselves as re-greening, while also doing agriculture.
- **Sustainable Land Management:** a knowledge-based procedure that integrates land, water, biodiversity, and environmental management to meet rising food and fiber demands while sustaining livelihoods and the environment.

Related term highlight 1: FMNR

This slide dives a little deeper into FMNR, the previously mentioned RA-related term coined by Tony Rinaudo, as it is a method that has been used successfully throughout Africa to involve farmers in regeneration.

"The Australian agronomist Tony Rinaudo is known as the "forest maker". Having lived and worked in Africa for several decades, he has discovered and put in practice a solution to the extreme deforestation and desertification of the Sahel region. With a simple set of management practices, farmers regenerate and protect existing local vegetation, which has helped to improve the livelihoods of millions.

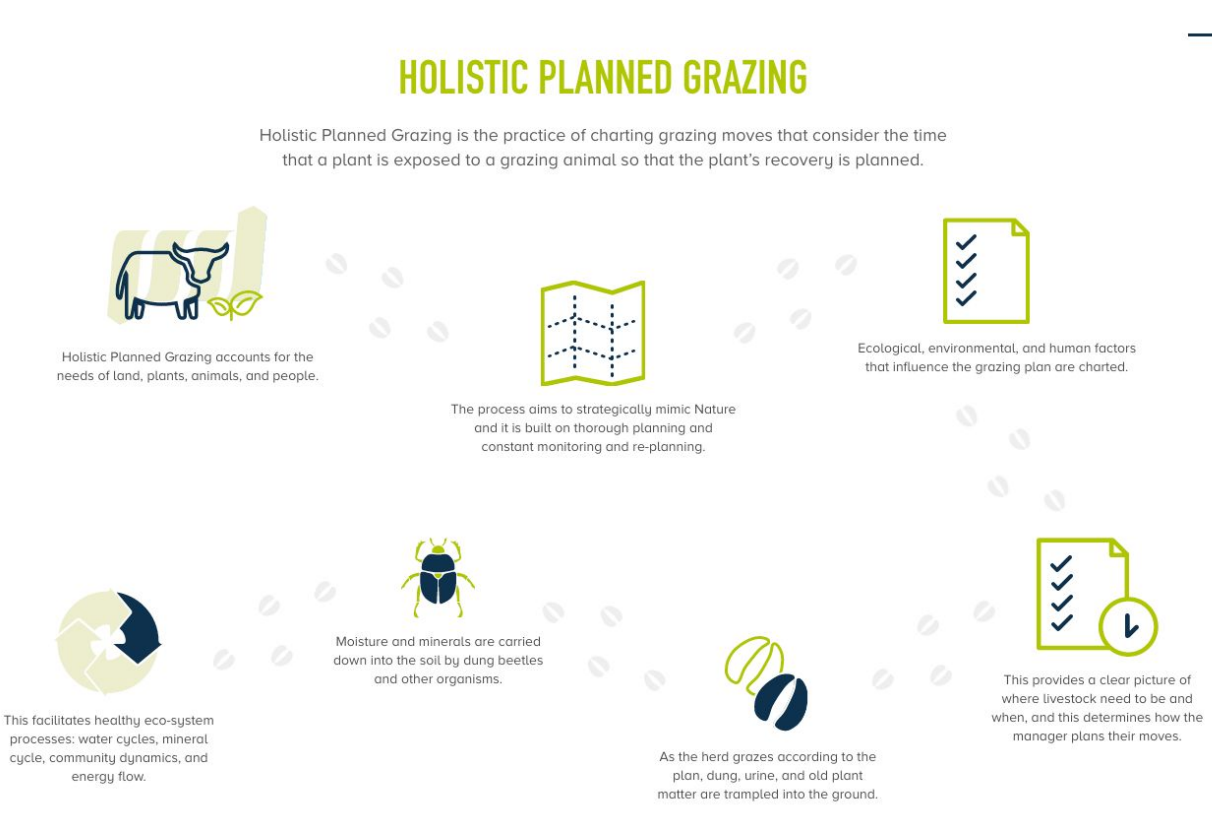
Rinaudo has pioneered a technique that involves growing up trees from existing root systems, which are often still intact and which Rinaudo refers to as an "underground forest". By choosing the right plants, and by pruning and protecting them in a certain way, they soon grow into trees. Rinaudo realised that if it was people who had reduced the forest to a barren landscape, it would require people to restore it. Changing attitudes has been key to Rinaudo's successful work.

Rinaudo's farmer-managed natural regeneration method, has restored 50,000 km2 of land with over 200 million trees in Niger alone. It has the potential to restore currently degraded drylands with an area the combined size of India. What Rinaudo has created is much more than an agricultural technique, he has inspired a farmer-led movement regreening land in the Sahel region."

Source: https://www.rightlivelihoodaward.org/laureates/tony-rinaudo/

Related term highlight 2

A little more about Holistic Planned Grazing or Holistic Management, as integration of cattle can be easily overlooked as an important aspect of successful scaling of RA on a continent where cattle is not seldom embedded in the local culture.



ABOUT

HOLISTIC MANAGEMENT

Allan Savory initially developed Holistic Management to halt the spread of desertification and the human impoverishment that always resulted.

Livestock had long been blamed for creating deserts, but Savory realized it was how those livestock were managed that was the problem, and it was the management that had to change.

Savory developed a method for planning livestock grazing that enabled pastoralists to simulate the effects wild herds once produced on the land, and the results were dramatic. But more than grazing planning had to change in order to transform whole landscapes and keep them healthy. Holistic Management arose from that insight.

Savory developed a new framework for management that enables people to make decisions that satisfy immediate needs without jeopardizing their future well-being or that of others.

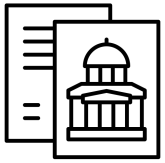
Although rooted in a quest to stop the spread of deserts, Holistic Management and its underlying framework, can also be used to better manage any situation that involves a web of social, economic, and environmental complexity.

Source: https://savory.global/holistic-management/

2

Enhancing & inhibiting factors for RA in Africa

The enhancing and inhibiting factors for RA to scale on the African continent are in part similar to the factors affecting RA elsewhere in the world: although some of the practices are ancient and/or indigenous, as a more or less organised movement it is a relatively young field. Practitioner knowledge, supportive policies, investor capital and consumer awareness about scaling RA are still relatively limited. What came up a lot in the interviews, is the impact of colonialism: it brought with it the oppression of traditional farming knowledge, which often was more in line with regenerative agriculture principles and is receiving more cultural appreciation than the industrialised form promoted by the colonisers. On the next slides, the various enhancing and inhibiting factors are categorised following the PESTELI model: political, economic, social, techn(olog)ical, environmental, legal and international factors.



Political factors

In general, only a few African countries have the proper policies in place to help scale regenerative agriculture (see for some examples The Policy Prodigies). In most countries however, conventional agriculture and/or imported agricultural products are subsidised, and when **regenerative agriculture is not considered part of that subsidy framework** (for example, when croplands are mixed with non-productive species, in some countries the land loses its agricultural status and therefore subsidies), it puts RA at a disadvantage for growth (Koehorst, pers. comm. 2020). This is exacerbated by the fact that labour costs for RA are often higher (Mendelsohn, pers. comm., 2020). Although input costs tend to be lower for RA, especially in the long run, and profits should in theory be higher because of the better soil health, there is still a **lack of funding** for the transition period or technical support for, for example, agroforestry (Regreening Africa, 2019), and a **lack of RA and ecological knowledge among agricultural policy makers** through which to help scale RA(Phiri, pers. comm. 2020).

Further, **agricultural and environmental policies not being aligned** can also pose conflicting demands to farmers wanting to farm sustainably, or limit the positive climate impacts of RA. According to geologist David Montgomery, "Putting more carbon in the soil will buy us some time. But if we continue to burn fossil fuels, once we fill up the soil with the carbon, all we have done is delay things a bit. If we invest in regenerative ag and 50 years later we [plough] it up, we undo all the [carbon storage, ed.] benefits. We have to find a way to help maintain it there. To do that, we need policies in place to ensure that the regenerative work that's done today is beneficial in the future." (Wozniacka, 2019). From a farmer's perspective, however, carbon capture will not be the main objective, and in their case, "**we should look at what makes farmers destroy their own land and future, which forces are at play?** Maybe they need freedom and protection more than policies driven by global challenges telling them what to do" (Visser, pers. comm. 2020). It will require adaptation and alignment of policies in various departments (for example, environmental, economic and agricultural as well as social to ensure good livelihoods for regenerative farmers), as well as specific regenerative agriculture policies, all of which are lacking in most countries. Further, it requires policies to **coordinate various actors** in the NGOs, public and private sector, and to organise feedback loops between them (Regreening Africa, 2019).

On the other hand, we see an **increase in pledges and (inter)national commitments** to restore degraded lands, to reforest, to sequester carbon, and to sustainability in general, which can raise awareness about and bolster RA (for example, the Sustainable Development Goals, The Drawdown project, the UN Decade on Ecosystem Restoration, the Bonn Challenge, AFR100, and Land Degradation Neutrality).

Economic factors

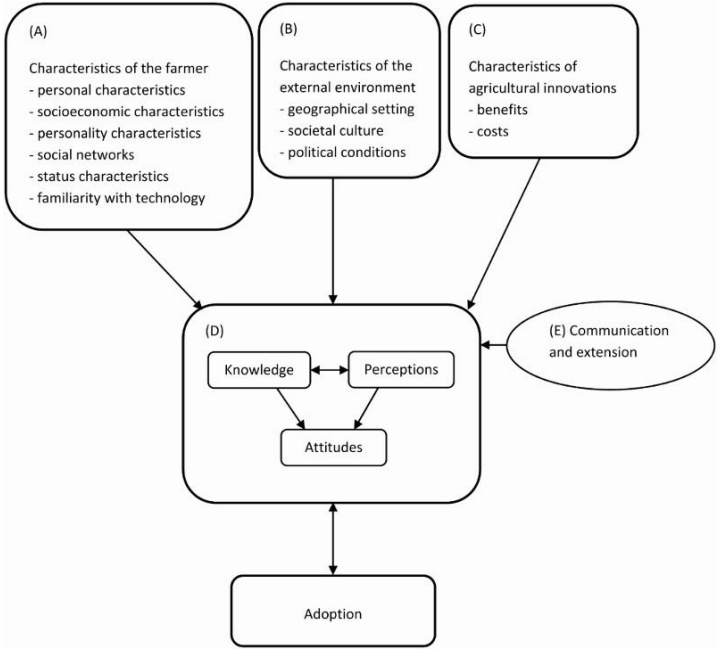
Current smallholder scale: Farm size has been decreasing in Africa, and is likely to keep decreasing, except in abundant countries where farm size is increasing. In Sub-Saharan Africa, about 70–80% of farms are smaller than 2 hectares and together, these small farms operate about 30–40% of the farmland (Lowder et al., 2016). This means efforts to change the sector are necessarily focused on changing the attitudes and behaviours of a large and increasing number of farmers. Efforts and expenses are higher for investing in smaller units of production (GlobalAgriculture, n.d.). Furthermore, these smallholder farmers often lack the (access to) the investment capital needed to transition to more regenerative ways of farming (Mendelsohn, pers. comm., 2020). This is in part mitigated by the fact that farmers can potentially start with small, less costly steps such as FMNR or integrating a few trees on their plots (see the examples of AWG and MOCT) or restoring watersheds (as Perma Atlas is doing through gabions; and as Wetlands International (2016) report about methods used in Ethiopia's Upper Fafan Catchment). Finally, the poor economic conditions most rural communities find themselves in mean there is a great incentive to deforest for firewood and agriculture, rather than integrating agriculture into nature (WWF, 2020), or to abandon farming altogether - in fact, the loss of knowledge among farmers has much to do with increasing urban migration of youth (FAO, 2017, p. 20). This limitation to RA could actually be overcome and reversed by RA itself: "bringing back nature into agriculture, growing firewood and charcoal as by-product from fertilizer tree systems and restoring the rural economy at the same time" (Visser, pers. comm., 2020).

Investment needed: With regards to the capital needed to kick-start regenerative businesses, there is a missing middle: farmers generally need between $20-200,000 and this is "too large for microfinance and too small for institutional investors" (Anderson, 2019). On the upshot, an increasing number of impact investors are interested in regenerative agriculture (see, for example, the podcast Investing in Regenerative Agriculture and the Triodos-Hivos Impact Management Fund). A limitation to the impact of the increasing number of impact investors* appears to be the difficulty in finding "bankable projects" (Mendelsohn, pers. comm., 2020), i.e. projects with viable business models, or with RA entrepreneurs who have "the confidence to compellingly tell their business' stories" (Anderson, 2019). Further, investors can be "wary for funding businesses that takes longer to mature, but restoring land takes time" (ibid).This may be mitigated as more practitioners start tracking and communicating their progress and results, as well as cooperating with larger businesses as outgrowers or through cooperatives (Visser, pers. comm., 2020).

Social factors

In colonial times, when temperate agricultural methods were exported to Africa, this led to the **loss of traditional systems** and ultimately land degradation (Wynants et al., 2019). The enhancing factor flipside of that is that culturally, regenerative agriculture methods seem to be met with **recognition** “and nostalgia: this is what my grandparents used to do!” (Topa, pers. comm. 2020). This, along with the **increasing number of example farmers** and role models, makes adoption of RA practices easier. At the same time, Visser cautions us n**ot to romanticise traditional methods**, which were aimed at subsistence farming, to the exclusion of efficient methods from mechanised farming so that RA may be scaled enough to feed growing urban populations and move beyond subsistence farming (pers. comm. 2020).

One impediment to scaling is the current level of **fragmentation of RA actors** (Anderson, 2019). Many organisations and individuals are working on RA, but they do not all know each other and can find themselves in competition with each other for funds, which can make them reluctant to share knowledge or have to grapple with **power imbalances** (Drimie et al., 2018; Phiri, pers. comm. 2020). An enhancing and mitigating factor in this regard is the growing number and capacity of networking organisations and ‘social architects’ with methods for equitable stakeholder involvement. Another obstacle is **cultural resistance to ‘new’ practices**. One example is the cultural norm that ‘a clean farm is better’, meaning one that is tilled and without cover crops. Another example is the exclusion of certain groups from movements based on religions or other social denominations (Lelieveld, pers. comm., 2020). Indeed, scaling RA will require changing hearts & minds in various levels of society: industrial producers, smallholder farmers and consumers alike. “You cannot change your environment without changing the attitude of people. The major investment I made in this community was changing the mindsets”, says Aba Hawi, a community leader in Ethiopia’s regreening.



Above: model showing the complexity of social factors playing into adoption of new agricultural practices (Meijer, S. et al, 2014)

Techn(olog)ical factors

Regenerative agriculture methods in themselves do not necessarily require much in the form of modern technology, but technology could help scale regenerative agriculture if it were made available to practitioners in Africa. For example, **mobile phones and access to internet** have proven to provide more **stable, fair prices and better market linkages to farmers** in the past (World Bank, 2017). Further, **blockchain applications** like Earthbanc, Seeds and Nori (though not specifically targeted at Africa) may pave the way for **traceability and tagging of regenerative products**, but this is a new and emerging field with currently little track record to prove its potential, so we can only speculate.

Better access to **technologies for monitoring and proving improved soil health, soil carbon, improved nutrient density,** and other indicators for regenerative agriculture could help African practitioners research effectiveness of various methods and track their progress to build the evidence base. But "the biggest advantage of incorporating agriculture technology into regenerative farming is automation. Sustainable and organic ways of farming require more land, work, attention and it is also fairly limiting because farmers are not willing to use pesticides and other chemicals on plants. This directly causes bigger yield losses due to plant diseases [although there are exceptions to this, for example when RA farmers use organic alternatives to pesticides, which can mitigate yield losses, ed.]. In addition, portable livestock farms that utilize AI to engage in automatic livestock rotation for dispersing nutrients could free farmers up, making the idea of scalability more realistic" (Miskinis, 2018).

Automation and technical tools like **precision agriculture drones, data analytics** and **soil health or weather monitoring apps** could help scale RA (Anderson, 2019), and some African companies like Lentera are making headway on this path. Besides this, under technological factors we can also include **gaps in farmers' technical skills** in RA practices, marketing and pitching - a gap that programs such as The Land Accelerator are attempting to bridge.

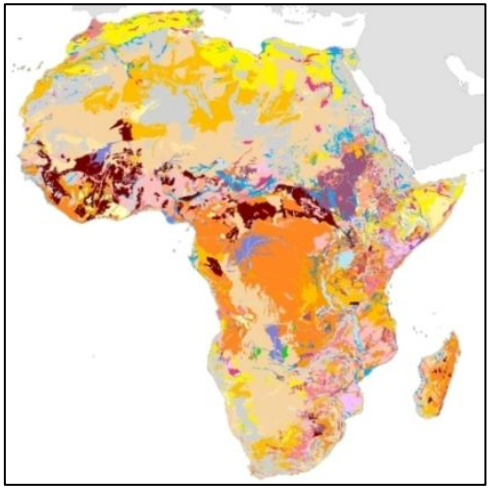
As discussed in the Social Factors slide, for RA to scale to the level of being able to feed not just the farmer, but bigger populations, we need to be careful not to throw the baby out with the bathwater when we switch from 'conventional' to regenerative farming. Rather, it is a matter of integrating the best of both.

Environmental factors

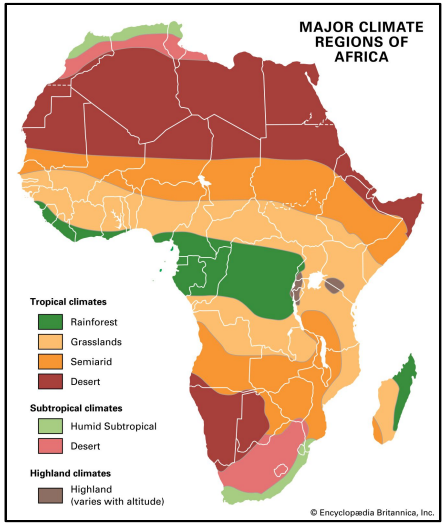
Environmental factors play an important role in scaling of RA in Africa.

Firstly, Africa is made up of a **different climate regions** (see image on the right) as well as a **large number of soil types** (see Soil Atlas image below), meaning RA practices have to vary to be suited to the various ecosystems and **cannot be replicated** at scale in a copy-paste fashion. This is an inhibiting factor towards the speed of scaling.

Secondly, **climate change** itself can both be a driver for or against RA. On the one hand, it is becoming increasingly clear that **conventional agriculture, biodiversity loss and climate change are mutually reinforcing each other,** and the increasing frequency of **extreme weather events** drives farmers to look for alternative, more resilient practices (Pool & Winterbottom, 2017). On the other hand, climate change can inhibit a transition to RA because floods and droughts can negatively impact regenerative projects, especially those in the transition phase when the system is not yet resilient. The actual capacity of RA to mitigate climate change on a global scale is still subject to debate (Ranganathan et al., 2020; Paustian et al., 2020), though the local and regional benefits are clear: direct cooling of the environment, increased biodiversity and resilience, increased infiltration and retention of water, etc.



Above: Soil Atlas of Africa (European Commission, 2014)

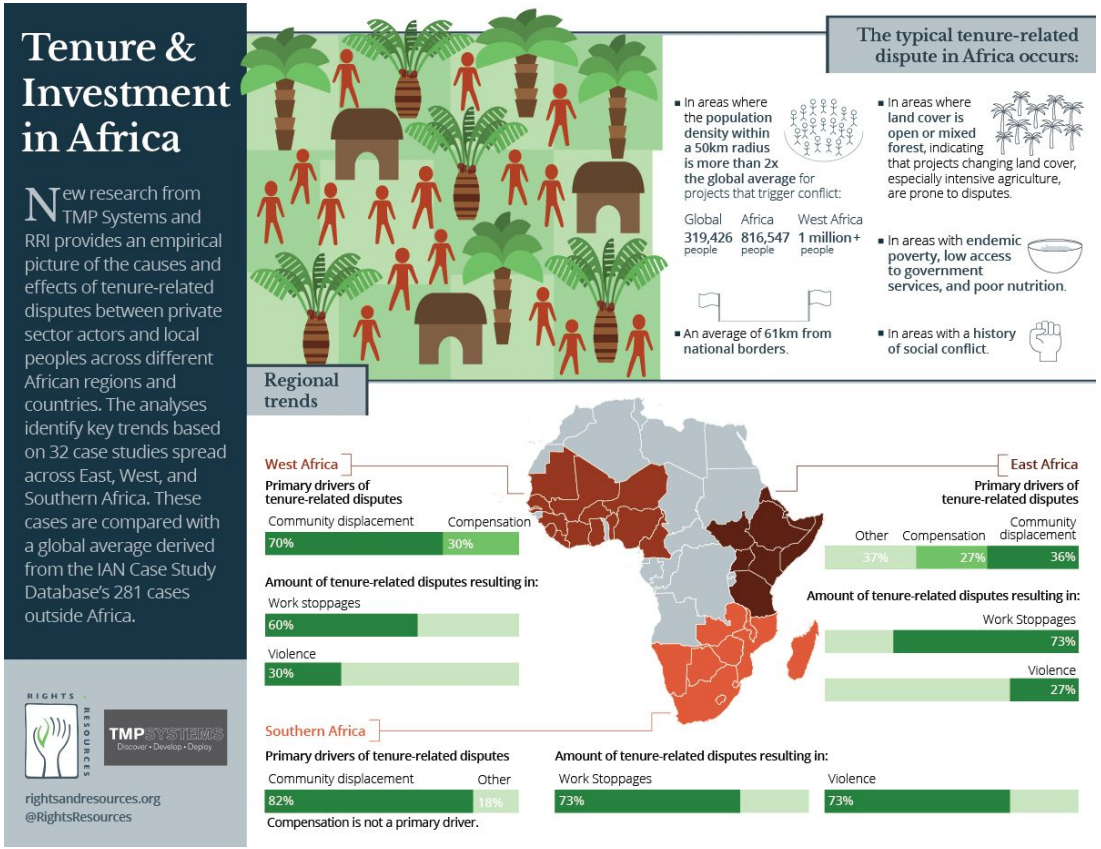


Above: Major Climate Regions of Africa (Encyclopedia Brittanica, 2019)

Legal factors

The biggest legal issues around regenerative agriculture have to do with land tenure and tree tenure rights. When it is unclear what the land ownership situation is, farmers are understandably reluctant to make the large and long-term investments associated with transitioning to regenerative agriculture (Akram et al., 2019), for fear of land-grabbing, redistribution or other encounters with the law. The reasons for the instability in land tenure often have to do with community displacement, nomadic and pastoral lifestyles, and lack of land rights registration and land management policies (Nnoko-Mewanu, 2018).

Tree tenure instability is another legal factor affecting RA. In some policies, trees on public land belong to the government, in others, to the person who planted it. This can make it difficult for regenerators to decide whether or not they can invest in agroforestry and other regenerative initiatives (Regreening Africa, 2019).



Above: analysis of tenure-related disputes in Africa (TMP Systems & Rights and Resources Initiative, 2017)

International factors

Many of the aforementioned PESTEL factors are related to international factors, in our globalized world, like the international treaties and pledges for restoration, and the increasing awareness of restoration and regenerative agriculture as solutions to may global issues. As the global public interest for sustainable products grows, international buyers seem to slowly but surely be catching on to regenerative agriculture, and helping the farmers they partner with to transition (see chapter on buyers here).

These corporates are still few and far between, and though some have started coalitions to boost regenerative agriculture, “it’s also the case that corporate strategies to protect the environment and prevent climate change often don’t have a great track record. For instance, a decades-long pledge by Walmart, Nike, and other global companies to avoid deforestation has been mired in problems. Loopholes for indirect beef suppliers, the fact that only some beef slaughterhouses signed [up to] the agreement, and a lack of government enforcement have all allowed cattle ranchers to continue to destroy the forest, despite corporate goodwill” (Wozniacka, 2019).

This quote implies the corporate goodwill is there and they are not at fault - no doubt, some corporates are working to advance RA, but others have adopted it only as a token, are inactive in the transition towards RA, or are even actively counteracting it. Much as there are large international buyers who are taking steps towards regenerative agriculture, there are also members of the ‘Big Ag’ lobby who focus on selling chemical inputs and GMO seeds to farmers, including as part of NGO initiatives focused on food security (Topa, pers. comm. 2020), or who adopt certain RA practices whilst keeping many destructive practices, and label themselves ‘regenerative’, to the detriment of actual regenerative initiatives. This lobby gains legal power from trade deals that criminalise farmers, make it difficult for them to acquire seeds, and destroy their soils (GRAIN, 2015).

An enhancing factor balancing this could be the rise of regenerative certifiers like the Rodale Institute, who developed a Regenerative Organic Certification system, officially launched in June 2020; the rise of blockchain-based economies; and the increasing international awareness about the benefits of regenerative agriculture.

3

Actors in RA in Africa

To make RA possible at scale, we need to address all the enhancing and inhibiting factors reviewed in the previous chapter. And to do that, we need a wide range of actors from farm to plate. In fact, the work starts even before the farms, with the right inputs and enabling environment from the scientific community to the farm inputs (seeds, seedlings, tools) and the policymakers. Then there are the practitioners: the farmers, the network organisations, the consultants… and finally those who bring RA to the market: business case developers, marketeers, awareness raisers, buyers and distributors.

The following slide first maps out the various roles found by the author, before diving deeper into case studies of various actors each playing vital roles in advancing RA in Africa.
It is important to note that a systematic comparative review based on criteria regarding the level of influence, maturity of effectiveness of the actors was out of scope of this assignment. The actors selected therefore should be seen more as examples of the various types of roles. Most have been selected upon recommendation of key informants, and additional ones found through desk research were included for their illustrative power and diversity.

Map of RA promoter roles from farm to plate

Input providers

- Scientific research
- Natural seed banks & nurseries
- Machinery & equipment manufacturers
- R&D, innovative products

Enablers I

- Lobby & policymakers
- Funders, investors
- Educators

Practitioner space

- Experimentative farmers (demonstration)
- Farmer network organisations & communities of practice
- Farmer consulting & advisory services

Enablers II

- Business case developers
- Ambassadors, promotors, communicators

Market actors

- Market access connectors
- Intermediary buyers
- Distributors
- Certifiers
- End consumers

The 'map' above shows the various types of contributions and actors encountered in this research. It would not be feasible to present all actors from each role in this report; please see the accompanying spreadsheet for a full list of actors found and use the filters or ctrl+F to search for various roles

The Policy Prodigies

Rwanda and Ethiopia have both succeeded in restoring vast areas of land through grassroots action flanked by domestic policies that created an enabling environment for regenerative agriculture (mostly through water management, agroforestry and FMNR). Malawi, Mali, Niger, Senegal and Burkina Faso have had similar successes. Here is how they did it.

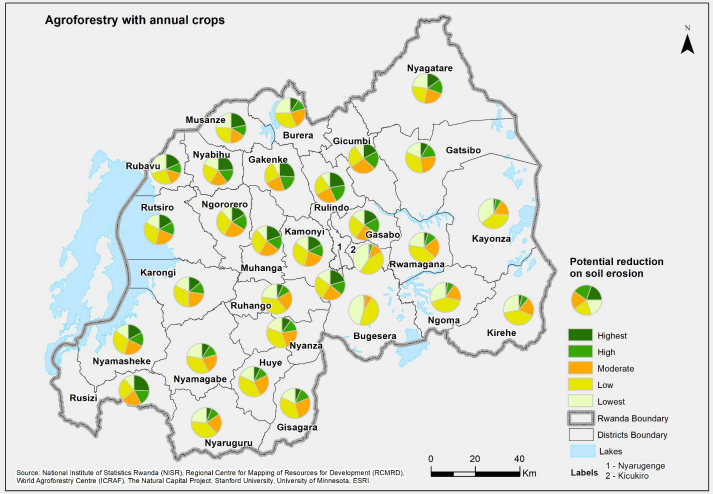
For a full list of actors in the policy space, please consult the spreadsheet and apply the Policy filter.

Rwanda

Border to border restoration through legal & policy frameworks

Rwanda was the first African country to commit to restoring land under the Bonn Challenge. The government committed to restoring no less than two million hectares by 2020. “With the UN Decade on Ecosystem Restoration (2021-2030) set to begin, Rwanda's investment in the legal frameworks to implement sustainable natural resources management and commitment to restore two million hectares of deforested and degraded land are a clear model to inspire others around the world” (IUCN, 2020). Besides adapting legal and policy frameworks (see next slide), Rwanda also invested in:

- improving coordination among agencies,
- improving delivery of high quality planting stock,
- matching farmers’ preferences to forest landscape restoration methods on offer,
- mobilising innovative finance and resourcing packages such as the Rwanda Green Fund (which facilitates direct access to international climate finance and streamlines and rationalizes external aid and domestic finance (UNFCC, 2020) and
- initiating early action in priority landscapes (IUCN, 2020).



Above: Large scale restoration in Rwanda (source: IUCN, 2020)

Left: mapping the potential of agroforestry (source: National Institute of Statistics Rwanda)

More about Rwanda

Rwanda's forest landscape restoration (FLR) approach became intertwined with the socio-economic transformation goals of the Economic Development and Poverty Reduction Strategy and Vision 2020, and provided a roadmap to achieve 30% forest cover by 2020. By utilising FLR to reverse degradation and harness ecosystem goods and services - such as water and improved agricultural productivity - Rwanda gained donor support and private investment to fulfil its pledge. The country additionally developed and revised laws and policies that directly supported restoration, such as the Green Growth and Climate Resilience Strategy, National Forest Policy, Organic Law on Environment Protection, and Strategic Plan for the Transformation of Agriculture. Although the latter does not mention the word 'regenerative' once and in fact advocates for higher levels of chemical fertilizer use*, and although the programmes seem to have been top-down and therefore potentially limited in ownership by the people and sustainability of the results (Visser, pers. comm. 2020), still the progressiveness and alignment of all social, economic, environmental and agricultural policies and the widespread adoption of agroforestry makes it seem likely that Rwanda's agriculture will increasingly move towards regenerative models. IUCN and the government of Rwanda published a beautiful, highly recommended story map about this work here.

*the use of fertilizers in regenerative agriculture is subject to debate - not only whether it is 'allowed' within RA, but also whether it is fair to ask of farmers in developing countries to limit their short-term profits by abstaining from the use of chemical fertilizers and GMO seeds.

Ethiopia

Regreening by the people of Tigray and beyond, with policy support

Ethiopia has pledged to restore 15 million hectares of degraded land (Mengistu & Anderson, 2018). In the region of Tigray, local communities have already managed to restore over 1 million hectares (Reij, 2015). These communities were supported by the Sustainable Land Management Programme and the Productivity Safety Net Programme (both supported by the World Bank and other large donors), which worked at watershed level and aimed to improve food security and sustainability by increasing soil fertility, decreasing erosion and nutrient loss, improving natural water infiltration, retention & flow, and improving yields. In addition, the Household Asset Building Programme helped improve marketing skills and value chains.

In 2011, Ethiopia also "adopted a Climate Resilient Green Economy strategy aiming to fine-tune agricultural and development interventions suited not only to improve livelihoods but also to protect and sustain the integrity of the environment" (Mengistu, 2014). The strategy aims to improve crop and livestock production practices for higher food security and farmer income. while reducing emissions (Federal Democratic Republic of Ethiopia, 2011).

Images: evidence of the regreening successes in Tigray. Source: Africa Regreening Blogspot (Reij, 2014).

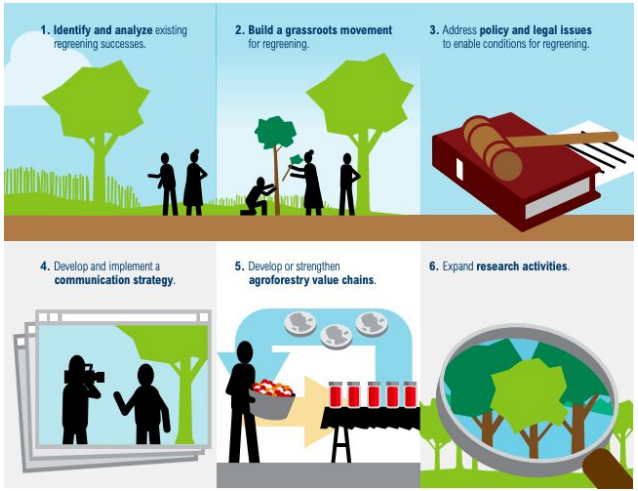
More about Ethiopia

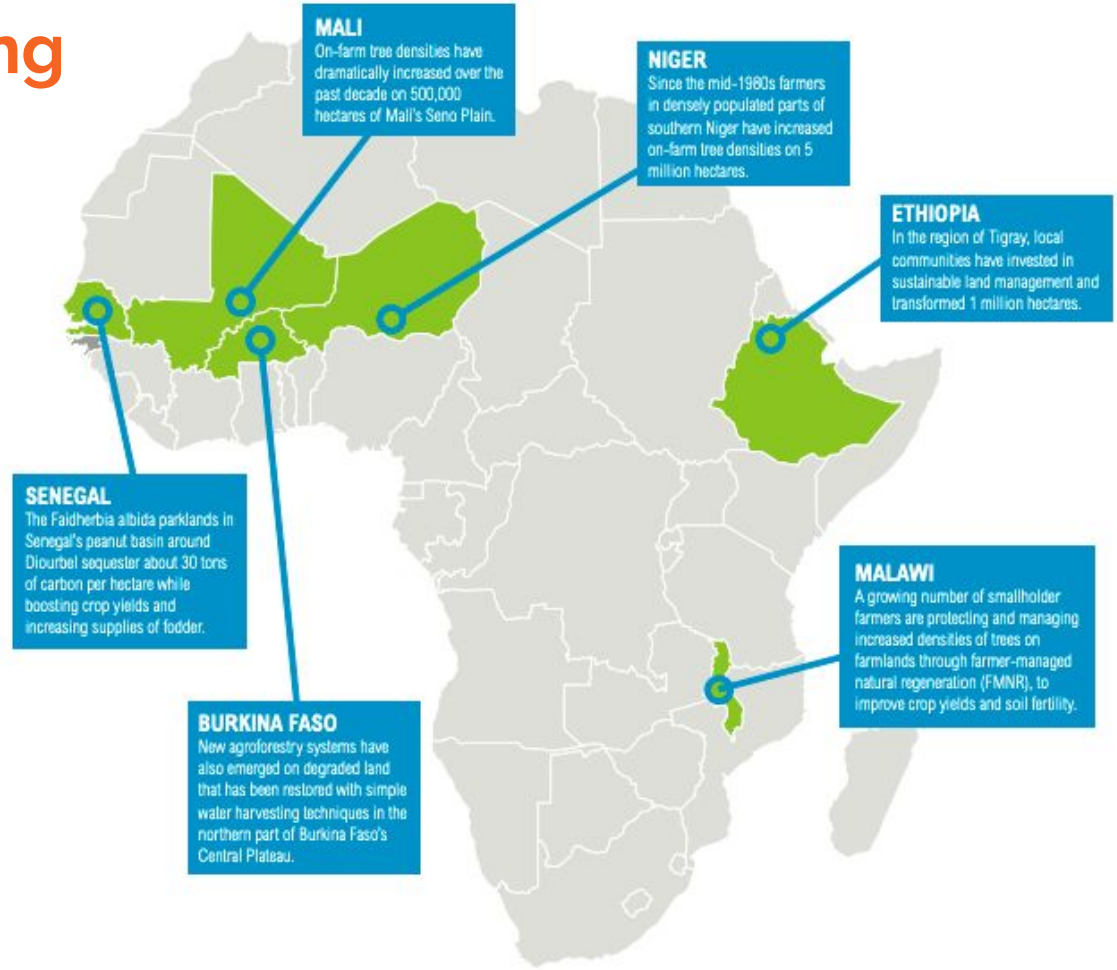
The restoration success in Ethiopia was clearly a product of collaboration between government, donors and local communities. It is an example of top-down and bottom-up meeting and working together to achieve large scale regeneration. Able-bodied community members were asked to contribute between 20 and 40 labour days per year to make it happen (Reij, 2014). Tefera Mengistu, adviser to the State Minister of Forest in the Ministry of Environment and Forest in Ethiopia, explains how it worked: “Communities, with the technical support from local government and development partners, identify communal areas that are severely degraded and require rehabilitation through a landscape approach. All village residents debate on, negotiate and finally decide on such areas either to be set aside as exclosures or get some sort of catchment management intervention. Then the area is socially demarcated and protected. The villagers develop bylaws for governing the area, including a structure through which the bylaws are enforced. The community based bylaws related to the protection and management of the exclosure, for example, are recognized by the judiciary to influence the implementation. The community owns the practice and even does the promotion by themselves ” (Mengistu, 2014).

Adviser to the State Minister of Forest in the Ministry of Environment, Tefera Mengistu

Other national greening successes in Africa

Besides Ethiopia and Rwanda, other countries have had similar successes: Niger, Senegal, Mali, Burkina Faso and Malawi each have lessons to teach about large scale restoration. **Not all were fueled by government policies; in fact, most were led by farmers who saw the benefits of agroforestry, and followed up by policy.** WRI distilled a 6 step model from these successes (see below):





Images on this page taken from WRI Report: Scaling up regreening: six steps to success. A Practical Approach to Forest and Landscape Restoration (Reij & Winterbottom, 2015)

The Researchers

The RA movement needs support from scientific evidence: what works, what does not? This chapter highlights the role of the World Resources Institute and World Agroforestry as two key players in this field. They do not stick to just research, but consult and support in implementation projects, too, such as the Regreening Africa project.

For a full list of actors in the research space, please consult the spreadsheet and apply the Research filter.

WORLD RESOURCES INSTITUTE

World Resources Institute

Global research and collaboration with leaders to turn big ideas into action

Vice President and Regional Director For Africa, Wanjira Mathai

The World Resources Institute (WRI) is a global research organization with over 1,000 experts and staff work closely with leaders to turn big ideas into action to sustain our natural resources—the foundation of economic opportunity and human well-being. WRI's work focuses on seven critical issues at the intersection of environment and development: climate, energy, food, forests, water, cities and the ocean (WRI, 2020). They publish many online articles that have been helpful in this research project. Researchers from WRI have also co-authored a handbook for assessing restoration opportunities and the likelihood of success (IUCN & WRI, 2014). In Africa, the WRI is led by Wanjira Mathai.

Another interesting person within WRI is Senior Fellow Chris Reij, a Sustainable Land Management specialist who has worked in Africa since 1978. He is the facilitator of African Re-greening Initiatives, which supports farmers in adapting to climate change and in developing more productive and sustainable farming systems. This initiative was launched to help scale up proven successes in re-greening by individual farmers and communities.

Senior Fellow, Chris Reij

World Agroforestry

World Agroforestry (ICRAF) is the main research organisation in the Regreening Africa project. World Agroforestry works in West and East Africa (see map) as well as in Asia, and is the largest repository of agroforestry science and information. Its primary aim is to ensure food security and environmental sustainability by helping smallholder farmers increase use of trees on their land. World Agroforestry contributes toward a better understanding of agroforestry at grassroots and policy level, and toward more productive, diversified, integrated, and intensified agroforestry systems to benefit smallholder households.

World Agroforestry has a track record in and lessons to share about culturally appropriate communication, engagement of youth and women in agroforestry, scaling methods, cross-sector collaborations and more. Their "Participatory Domestication of Indigenous Trees for the Delivery of Multifunctional Agriculture by Agroforestry, the name of World Agroforestry Cameroon's outstanding practice, helped resolve food insecurity, lower extreme poverty, decrease malnutrition and social inequity through building the capacity of smallholding and subsistence farming communities in using affordable and appropriate farming practices with low-end, agroecological technologies, particularly, agroforestry" (World Agroforestry, 2020).

Regional coordinator West & Central Africa, Christophe Kouame

Regional coordinator Eastern & Southern Africa, Catherine Muthuri

Regreening Africa

The Regreening Africa project

Image source: Regreening Africa, 2020

The Regreening Africa project aims to restore >1 million hectares of degraded land in eight Sub-Saharan countries using agroforestry. This consortium of research organisations and NGOs is scaling regreening by developing: land restoration approaches, agroforestry value chains, evidence based policy recommendations, trainings for implementers and policymakers, and cross-country learning (Regreening Africa, 2020). The next slide dives deeper into World Agroforestry, one of the key players in this consortium and an influential player in regeneration worldwide.

The Networkers

An immense number of individuals and organisations are working on RA and related fields. One of the main inhibiting factors for RA to grow to scale is the fragmentation of players in the field. Precious Phiri is working in South and East Africa and is part of many bottom-up network organisations attempting to link key players together to achieve breakthroughs in bringing RA to scale.

For a full list of actors in the networking space, please consult the spreadsheet and apply the Network filter.

The African Regenerative Agriculture space according to

Precious Phiri

Precious Phiri is active in several RA network organisations, both at grassroots and high level, and holds a great deal of knowledge and connections. The next slide presents the most important supranational networks she is active in, as those have the most scaling power. Besides these, Precious is also well connected to nationally active organisations in Zambia, Zimbabwe and Malawi amongst others. She believes in grassroots initiative more than large institutions: “Local organisations are the key drivers. If you partner with large international NGOs, the challenge of grants coming to an end, it is not very regenerative. Transformation is rarely measurable - iNGO indicators are not right. RA needs a transformation of heads, hearts, hands and feet. It all starts with strong relationships”.

ReSCOPE is “great”, according to Precious. “The Regional Schools and Colleges Permaculture (ReSCOPE) Programme has been established to promote the sharing of experiences by partners who are committed to assisting schools and colleges to demonstrate sustainable land use with a view of enhancing healthy environments in and out of school.” Their Seeding Schools are found throughout Kenya, Malawi, Uganda, Zambia and Zimbabwe “with more countries poised to join in” (ReSCOPE, 2020).

4p100: The international initiative "4 per 1000", launched by France at the COP 21, federates voluntary stakeholders of public and private sectors under the framework of the Lima-Paris Action Plan (LPAP) to demonstrate that agricultural soils can play a crucial role in food security and climate change (4p1000, 2020).

Regeneration International: Precious is the Africa Coordinator at Regeneration International, an NGO that engages with a network of over 250 international partners (40+ in Africa) and a growing number of Regeneration Alliances throughout the world, with the mission to “accelerate the global transition to regenerative food, farming and land management for the purpose of restoring climate stability, ending world hunger and rebuilding deteriorated social, ecological and economic systems”. They also have a partnership with the Global Ecovillage Network (Regeneration International, 2020).

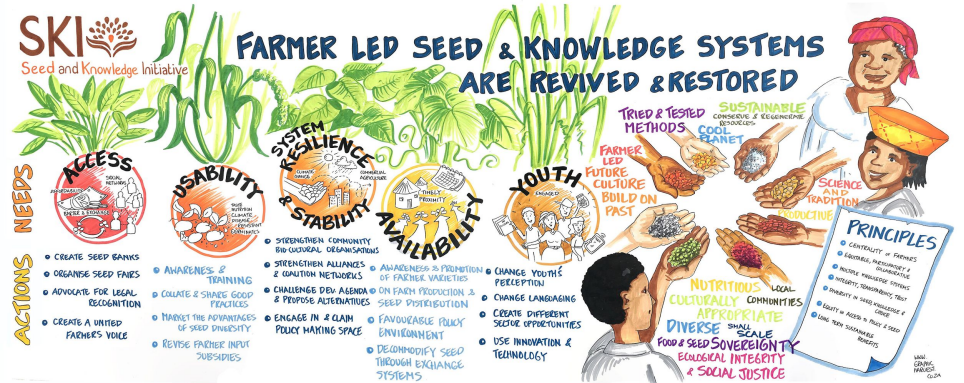
AFSA: AFSA is a broad alliance of civil society actors who are part of the struggle for food sovereignty and agroecology in Africa. These include African food producer networks, African CSO networks, indigenous people’s organizations, faith based organizations, women and youth groups, consumer movements, and international organizations that support the stance of AFSA.
It is a network of networks, currently with 40 active members in more than 50 African countries (AFSA, 2020).

SKI: Precious is a member of the Seed & Knowledge Initiative, “a dynamic partnership of diverse southern African organisations committed to securing food sovereignty in the region. We work with smallholder farmers to become more seed, food and nutritionally secure through farmer-led seed systems, improved crop diversity, and the revival of local knowledge systems. The initiative started in 2013 and has since grown to include 13 partner organisations across Malawi, South Africa, Zambia and Zimbabwe” (SKI, 2020). Read more about SKI here.

Global Landscapes Forum: The GLF is an important international knowledge & networking platform for sustainable landscapes. Regular conferences bring stakeholders from various sectors together to present their innovations and challenges or launch new initiatives (Global Landscapes Forum, 2020).

ACHM: Precious has worked with the Africa Centre for Holistic Management (ACHM), part of the Savory Network, for over nine years. “ACHM has been able to demonstrate the effectiveness of Holistic Management and Holistic Planned Grazing on its own land for over a decade and has developed a training of trainers program to extend the knowledge more rapidly” (ACHM, 2020).

PELUM: Precious spoke highly of the Participatory Ecological Land Use Management (PELUM) Association, operating in 10 countries of East, Central and Southern Africa. More about PELUM Association on this slide (PELUM, 2020).



More about SKI

The Seed & Knowledge Initiative brings together 13 partners in South Africa, Malawi, Zambia and Zimbabwe to work towards food sovereignty for farmer communities through resilient farmer-led seed systems. They focus on enabling each other through mentoring, collaboration, participatory research, mobilising resources, and lobbying and advocacy.

- **Malawi**: Soils, Food and Healthy Communities (SFHC), a participatory, farmer-led research organisation for food security & nutrition
- **South Africa**: four partners amongst which BioWatch, the SKI lead partner challenging industrial agriculture at policy and grassroots level.
- **Zambia:** four organisations amongst which ReSCOPE, teaching sustainable land use in schools throughout South-East Africa.
- **Zimbabwe**: four partners amongst which Zimbabwe Smallholder Organic Farmers' Forum (ZIMSOFF), which came recommended by multiple interviewees - one member, Nelson Mudzingwa, "an extremely wise human being" according to one interviewee, has been actively working to scale, including UN funded projects.

Top left: map representing the countries in which SKI has active partnerships (SKI, 2020)
Bottom left: SKI vision, actions and principles (SKI, 2020)

More about PELUM

Participatory Ecological Land Use Management (PELUM) Association is a network of CSOs / NGOs working with small-scale farmers in East, Central and Southern Africa. The Association membership has grown from 25 pioneer members (in 1995) to 283 members in 2018. Its activities are:

- Building capacity of members and partners to respond appropriately to community needs as they work to empower the communities they work with.
- Increasing the visibility of the small-scale farmers.
- Promoting sharing of information of development experiences, innovations, and best practices.
- Strengthening linkages and collaboration through action learning among partners and members.
- Lobbying (directly) for change and formulation of policies in favor of Small scale farmers.
- Promoting seed security and hence food security among small-scale farmers.
- Promoting the use of indigenous food programme
- Promoting the mainstreaming of Gender and HIV / AIDS in the Agriculture Development Programme.
- Consultancy services

(source: PELUM, 2020)

Though RA is not explicitly mentioned on their website, they are involved in the RA network around Precious Phiri and play an important role in networking and outreach in that regard.

The Three Engineers

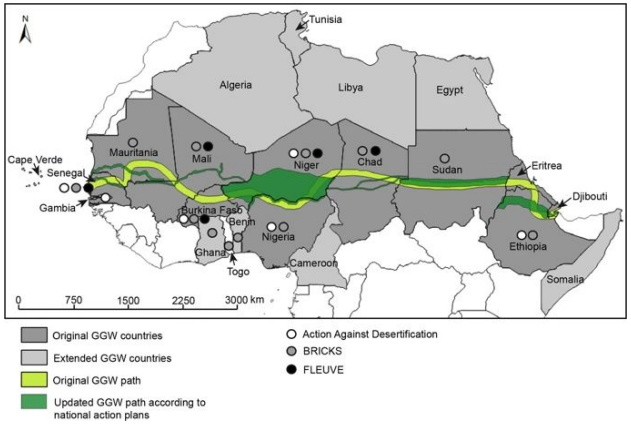
In the RA space, one meta-discussion that keeps coming back is one about “social vs technical” approaches. On the one hand are small initiatives that start with building relationships and organically, slowly grow, one community at a time. On the other, the ‘technical engineering approach’, with large-scale ambitions from the get-go and technical solutions as their method. In practice, a purely technical approach will always have to be complemented with sensitivity to local culture, something that the three ‘engineers’ in this chapter have learned along the way.

Author’s note: According to me the ‘social vs. technical’ debate is a false dichotomy - marrying both sides is the only way to scale RA.

For a full list of actors in the technological space, please consult the spreadsheet and apply the Technology filter.

The Great Green Wall

An evolving mosaic of sustainable land use to combat desertification and migration



The Great Green Wall is an African-led movement with an epic ambition: to create a multi-species belt of vegetation which will cross the African continent from Dakar to Djibouti, over 7,000 kilometres in length and 15 kilometres in width (UNESCO, 2020). A decade in and roughly 15% underway, the Wall promises to be a solution to climate change, drought, famine, conflict and migration (Great Green Wall, 2020). The potential scale is certainly inspiring, though the large, top-down project was criticised for being poorly embedded in social contexts (Goffner et al., 2019) and inflexible, with predetermined physical targets based on “arguable scientific basis” (Visser, pers. Comm., 2020). The project initially set out to stop desertification by planting trees, of which 80% died, partly because they were planted in uninhabited places with no one to take care of them. But by later adopting indigenous water harvesting techniques and FMNR, the project now seems to be succeeding (Morrison, 2016). The initial idea has evolved from being a 'wall of trees' to a mosaic of sustainable land use approaches, with wider reach and improved local stakeholder consultation & involvement (Goffner et al., 2019). The key, according to Chris Reij (Senior Fellow at World Resource Institute) is scaling up the effort in the drylands countries by building up grassroots efforts, addressing the legal issues (like tree ownership), and creating markets for the products of agroforestry (Bilski, 2018).

Left: The spatial evolution of the GGW path (Goffner et al., 2019).

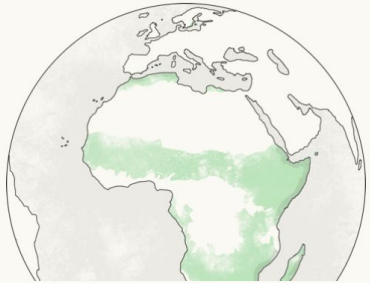
Justdiggit

Returning vegetation to large areas

Justdiggit has been included here for their clear scaling ambition and marketing prowess. Justdiggit uses FMNR and water retention structures throughout Africa. The organisation is known by other players in the field to prefer to focus on large areas for restoration (Oumlil, pers. comm., 2020). Initially, they came in with a simplistic methodology* and have in some cases been known to do more harm than good through their focus on physical interventions above social ones, leaving the ecosystems in poorer conditions and the local people more dependent and demotivated than before (Visser, pers. comm., 2020). However, they seem to be learning and improving. They do have local employees managing regional restoration projects, but their main office is in The Netherlands. As most of the staff come from outside of Africa, they need to be very attentive to the social aspects of their projects - cultural sensitivity and partnering with local organisations will be key to long-term success. Coupled with a stronger understanding of and partnerships with local grassroots organisations, they may be able to help scale regenerative practices to make their mission of creating 'a global social movement for cooling the planet' come true.

* See next slide: Justdiggit's "steps to success" (source: Justdiggit.com)

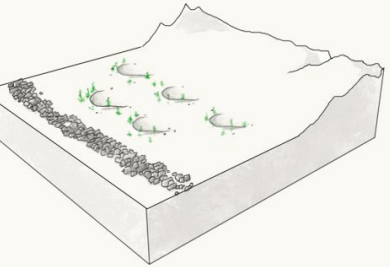
JUSTDIGGIT



Step 1 Landscape restoration

Degraded land is restorable

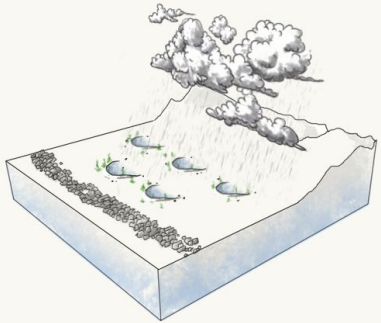
Justdiggit jumpstarts large scale landscape restoration projects by retaining rainwater for vegetation and preventing erosion, flooding and land degradation. This creates local benefits for communities and the environment.



Step 2 Dig and open up the soil

Prevent soil erosion

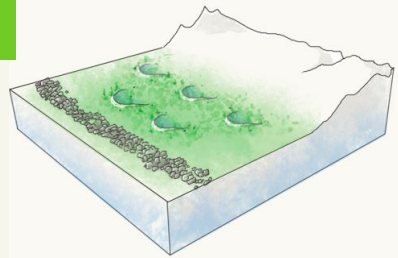
In dry areas where the soil is degraded, rainwater can no longer infiltrate into the ground. When it rains, water washes away unused. This causes erosion and washing away of the remaining fertile soil and seeds. This causes further land degradation and loss of vegetation cover. This negative vicious circle needs to be broken to restore and re-green the land by interventions.



Step 3 Harvesting the rains

Make best use of the water

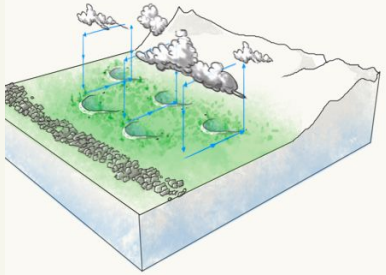
Almost everywhere on our planet it rains, even in dry areas. By using ancient water harvesting techniques combined with recent innovations, we enable rainwater to infiltrate the ground again. This makes it available for vegetation and seeds in the soil. It also stops further erosion and loss of fertile soil.



Step 4 Returning the natural vegetation

More vegetation means more rains

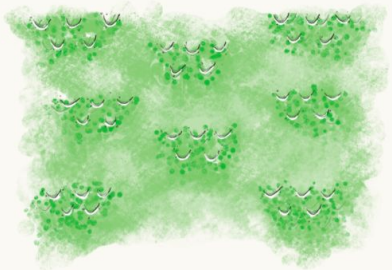
By allowing rainwater to infiltrate into the soil, seeds will sprout and vegetation returns. To increase biodiversity and improve the livelihood of communities we complement this with planting trees,



Step 5 Restoring the water cycle

An upward spiral

The restored vegetation brings more moisture into the air, which helps to create clouds and restores the water cycle.



Step 6 Creating more green with a little green

Green areas growing towards each other

Due to the renewed root system underneath, the soil becomes poreus and the water can easier infiltrate. This rises the aquafer and

Lentera Africa

Precision agriculture start-up

Lentera Africa is a Kenyan start-up (from 2016) in precision agriculture tools, climate-smart inputs and conservation agriculture training. They combine satellite and drone imaging with ground-based sensors to provide farmers with information such as when to plant, irrigate, scout for pests & diseases, and apply processed organic inputs (it should be noted that the use these inputs, that come from off-site, is debated in regenerative agriculture). They have a mobile app and online platform to record and organise data, working with thousands of farmers across East Africa to promote sustainable farming.

Lentera Africa was the winner of the WWF Panda Labs Moonshot Challenge Hackathon.

The Business Partners

One way to bridge the social vs. technical divide is to partner with farmers to create viable and scalable business models. This is what Grounded is doing in Southern and Eastern Africa, along with many other locally based organisations which can be found in the spreadsheet.

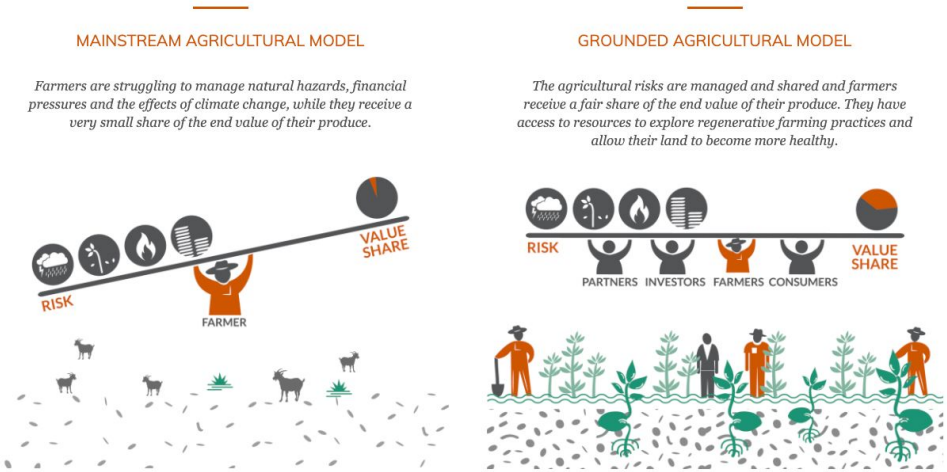
For a full list of actors in the business space, please consult the spreadsheet and apply the Business filter.

Grounded

A social enterprise for regenerative agriculture

Director Thekla Teunis and co-director Gijs Boers

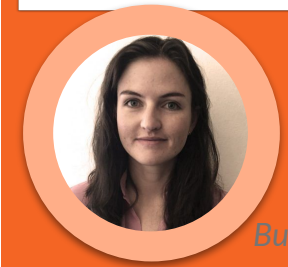
"Grounded partners with farmers to address their most pressing problems head-on. We work with them to explore and develop sustainable agricultural models that are markedly more sustainable and profitable. Through a thoroughly holistic approach we systematically develop landscape-scale businesses that produce higher yields while simultaneously having a positive impact on the environment. In so doing we support and foster the mass restoration of nature and degraded farmland across sub-Saharan Africa." (Grounded, 2020). Although founded by foreigners, they hire mostly African staff based on the ground, and have a strong focus on listening to and partnering with farmers, increasing the organisation's chance for its work to take root locally.



Above: The mainstream vs. Grounded agricultural models (source: Grounded, 2020)

Superpower

- Creating viable business models for RA farmers



Business developer, Stephie Mendelsohn

More about Grounded

Grounded is a social enterprise partnering with farmers to create profitable regenerative agriculture models. This sets them apart from non-profits and makes them likely to sustain themselves without overly depending on funding; they have a blended finance model where an NGO covers their preliminary work, setting up the business case and attracting investment - after 3-4 years, their projects start generating returns. Another unique aspect is that based on their lessons learned, they have decided to focus on proficient farmers who have the capacity to implement and scale regenerative methods more quickly than struggling smallholders, who cannot afford the higher labour intensity that RA demands. This has led Grounded to recently shifting their focus from South Africa, where they have had success in setting up a regenerative essential oil company, but which is a challenging agro-ecological context of arid lands and sandy soils. They are currently putting energy in developing new opportunities in East Africa where conditions have been conducive to competition and development among farmers.

Their focus is on high value crops to compensate for the higher inputs and transition time, which can take up to 10 years. Grounded partners with Commonland (founding partner) and Living Lands (partner with a track record in large-scale rehabilitation in South Africa).

The Big Permaculturists

Permaculture provides a holistic framework for regenerative agriculture. RA is sometimes reduced to the implementation of a few practices, but without integrated and systemic thinking it risks improving little with regards to our global crises. Where permaculture can be applied in one's own backyard, Natalie Topa has taken it to the watershed level - and not only is she scaling it in that sense, she also has immense ambitions, already working in 10 countries with the aim of building resilience in the context of displacement. She is part of a network of 'Big Permaculturists' and is highlighted here because of her scaling potential and innovation in bringing permaculture into the displaced people's NGO sphere.

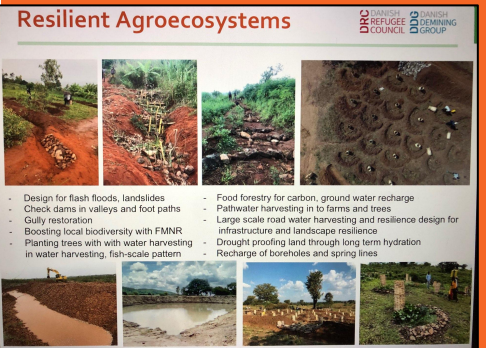
For a full list of actors in the Permaculture space, please consult the spreadsheet and apply the Permaculture filter.

Above: Turning hand-washing stations from cesspool to resource for abundance (drawings by Natalie Topa)

Natalie Topa and friends

A global ecosystem of large-scale restorers

Natalie Topa works for the Danish Refugee Council where she breaks gender divides applying Big Permaculture. “There is a spectrum in permaculture: on the one hand, the small, what I call the ‘yoga ladies with their gardens and home composting’. Then the medium: farms, landscapes - there are more men there, with large equipments and designs. I’m in that space too. And then the big, which is about how we transition to an ecological civilization. Women and men are leading that space together.”



Superpowers

- Holistic permaculture
- Resilient systems in displacement contexts
- Sky-high scaling ambitions
- Intercultural capabilities
- (Eco)-feminism

Left: screenshots from a presentation by Natalie Topa highlight the three levels of resilience she builds: from household through farm to agroecosystem

More about Natalie

Natalie brought Big Permaculture to the refugee NGO sector, which is innovative because it addresses the root causes of forced migration (collapsed ecologies) rather than alleviating the symptoms. In her work for the Danish Refugee Council, Natalie promotes resilience among internally displaced people (IDPs), refugees and host communities in 10 countries in East Africa, Great Lakes and Yemen, by applying permaculture on a large scale to buffer against extreme weather and water events; focusing on native species; teaching regenerative agriculture (permaculture gardens) and linking seeds & products to markets. Her market approach is innovative as most NGOs link farmers to (chemical) inputs; she focuses on marketing native natural seeds as inputs, and creating bioregional economies instead. She connects to communities via their culture, for example by referring to agroecological principles laid out in the Qur'an ("it is a permaculture guide, it tells you what plants work here"). She works in multi-million dollar projects and trains multitudes of people in the communities themselves, offering cash for work (which unfortunately can limit long-term commitment and uptake through intrinsic motivation), as well as government and other NGO partners, and seeks out 'champions' who will take the vision forward when she leaves. She has learned from and collaborated with influential permaculture actors such as Warren Brush, Rhamis Kent (active throughout much of Africa as well as globally), Vandana Shiva, and Geoff Lawton - the latter is regreening the desert in Jordan through Permaculture.

The Mainstream Attractors

To regenerate the vast swathes of land needed to solve our climate, soil and food crises, “we need everybody,” is something you’ll often hear John D. Liu, founding father of Ecosystem Restoration Camps say. And ‘everybody’ includes a large number of people who might be labeled ‘consumers’ (a term John despises) - or rather, citizens. But how do you activate them? Ecosystem Restoration Camps can give us a clue.

For a full list of actors in the Education space, please consult the spreadsheet and use ctrl+F to search for Education.

Ecosystem Restoration Camps

A global movement of citizen-led ecosystem restoration

Ecosystem Restoration Camps was founded by John D. Liu as a way to involve large amounts of people in ecosystem restoration. After documenting the large-scale restoration of the Loess Plateau in China, he thought the best way to roll it out on a larger scale would be to make it fun. “Join us in the great work of our time. Let’s go camping!”. Besides acting as an ambassador for Ecosystem Restoration Camps and Commonland, he continues to study and document ecosystem restoration in practice.

ecosystem restoration camps

Ecosystem Restoration Camps is a fast-growing NGO scaling RA by:

- ★ Attracting a global audience to the cause: over 25,000 members on Ecosystem Restoration Camps Community Facebook group and over 1000 volunteers active per year (ERC Annual Report, 2018)
- ★ Backing from 30+ influential experts in advisory council (eg. John D. Liu, Rhamis Kent, Mark Shepard)
- ★ Knowledge sharing through practical volunteer experiences, toolkits, webinars and online courses
- ★ Connecting and supporting existing practitioners under one recognisable umbrella (grown from 1 camp in 2017 to 23 in 2020, of which 6 in Africa)

A recent African addition is Sekem, a long-standing and well-established regenerative agriculture initiative in Egypt that includes community education, healthcare and economic empowerment - a match that should lead to innovation for both parties, seen Sekem's RA track record on one hand and ERC's connecting & communicating powers on the other. Other African Camps are Camp Mombasa; Camp Terra Blossom in South Africa; Camp Dryland Solutions in Somalia; and Camp Habiba in Egypt. All camps combine restoration with regenerative entrepreneurialism and attention to community context. Over the years the movement has decided to focus on camps being set up by local people to improve the social sustainability and cultural embeddedness of the camps.

Superpowers

- Awareness raising
- Attracting new restorers
- Linking established & seedling restoration projects
- Communication & ambassadorship
- Education, knowledge sharing

Left: screenshots from the Ecosystem Restoration Camps website highlighting the activities undertaken at one of the camps

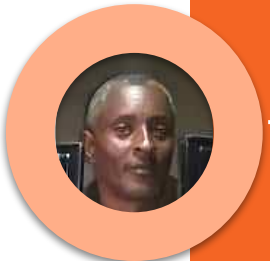
The Grassroot Growers

The following three initiatives are small grassroots organisations, whose scaling strategy is to grow by example: one farmer, one community at a time starts applying regenerative agriculture, and slowly, slowly their neighbours start copying. There are innumerable such initiatives throughout Africa and the world, and that is in itself worth celebrating.

This is the largest category of actors found; in the spreadsheet they are not categorised as 'grassroots' because some of them are NGOs, others are CBOs, yet others are networking organisations.

Mangwende Orphan Care Trust

A Permaculture Chief in Zimbabwe

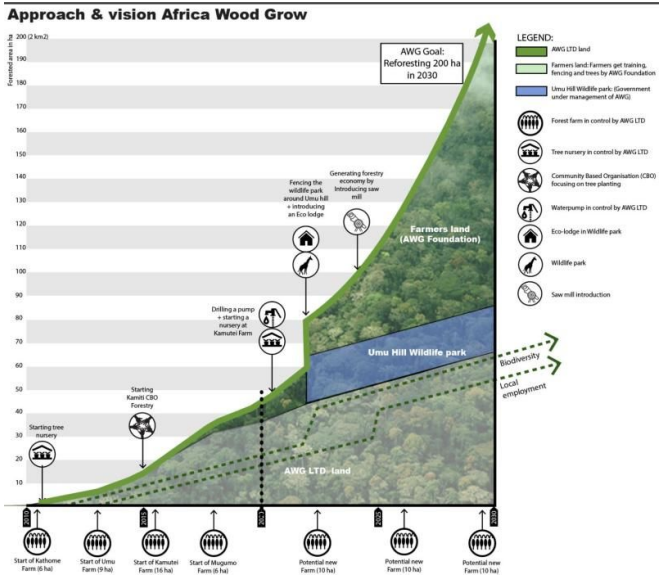


Chief Evans Mangwende

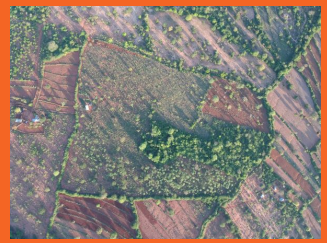
Mangwende Orphan Care Trust (MOCT) is a project with the vision “to facilitate the socio-economic transformation of Zimbabwe and Africa as a whole, by educating, assisting and advocating for widows, orphans, vulnerable and under-privileged”, and to achieve this, they have “come to the conclusion that sustainable farming is the backbone of our project” (MOCT, 2020). Chief Evans Mangwende has learned about Permaculture and partnered with Gaia Education to help developing their vision of uplifting communities through Permaculture education and -practices. This project is innovative in that it rooted from social issues and has adopted sustainable (regenerative) agriculture as its model, and that it relies on the existing structure and local authority of the chiefdom to achieve change from the bottom up. To do this, it revives the ancient practice of Zunde RaMambo: “a method of growing and storing grain for use during the time when food supplies are either high or low. It is an informal, according to the contemporary government laws, in-built social, economic and political mechanism. The Zunde raMambo was largely intended to cater for the disadvantaged people in the community; namely those with disabilities, poor people, strangers, widows and [orphans and vulnerable children]” (Ringson, 2017). This work starts with the 16 closest villages and will eventually grow to include all 336 villages in Mangwende’s family’s district, with a clear ambition being to spread to the rest of the continent (Woolner, 2020).

Africa Wood Grow

Scaling agroforestry, farm by farm



"Africa Wood Grow is quite well-known. Looking at the current scale, it seems insignificant, but it is one of the few commercial RA farms in Africa and a good example of the fact that successful RA takes more than 4-year projects." (Reinier Visser, pers. comm. 2020). Roeland Lelieveld, an urban greener from The Hague, and Kenyan Daniel Muvali co-founded AWG in 2010. Roeland is a firm believer in starting small: "Selling a big story without understanding the social complexity on the ground - I have seen that fail too often." Daniel manages the day-to-day work for the local CBO Kamiti that AWG is the fundraiser for, and encounters difficulties such as exclusion of certain religious groups; the search for renewed pride in local identities; and traditional belief systems that protect certain areas being overruled by Western influences. Many of the regenerative farmers are women. Kamiti farmers are integrating trees into their croplands and seeing the benefits - this practice is now spreading across the area and they are aiming to restore 200 hectares by 2030 through their growth strategy (see image on the left: Approach & vision Africa Wood Grow).



Satellite images of the farms, courtesy of Africa Wood Grow

Better World Cameroon

A model ecovillage and permaculture site

Founder Joshua Konkankoh

Public Relations Manager, Crystel Koh

Founded in 1966, Better World Cameroon is a permaculture NGO with the aim of creating food sovereignty, promoting landscape restoration through permaculture practices, and rebuilding the local economy and values. Although it currently has a strong local focus, it has been included here because it closely ties into the care economy principles of Mustardseed Trust, is linked to the Global Ecovillage Network through which it participates in international knowledge exchange, and has an explicit ambition to be a model site that will be relevant to the whole African continent.

Better World Cameroon currently has a permaculture site (Ndanifor), where it is developing high value agricultural products teaches ecodesign, natural building and crafting rocket stoves. It also conducts research and education on policy directions and practices for sustainable agriculture and displaced peoples.

Better World Cameroon was founded by Joshua Konkankoh and represented at the Global Landscapes Forum Bonn Digital conference by their Public Relations Manager Crystel Koh, who is also the Africa president for NextGEN (the youth wing of the Global Ecovillage Network).

The Global Buyers

For RA to scale, it needs to have good market outlets. There is a misconception that African farmers would get a better price for their products on the international market, since buyers there are wealthier. In fact, due to the long value chains with numerous 'middle men' to reach international buyers, farmers often get a better price locally (Mendelsohn; Koehorst; Phiri; pers. comm. 2020), as global prices for coffee and cocoa are below production costs and there is a growing market for sustainable produce in producing countries (KPMG, 2019). Nonetheless, international buyers are active in Africa and some have shown they can play a positive role in regenerative farming. Meet LUSH, Danone and Woolworths.

For a full list of actors in the buyer space, please consult the spreadsheet and apply the Market filter.

LUSH Cosmetics is a cosmetics retailer with a strong climate action agenda. In 2014, LUSH began investing in regenerative farms around the world. In Uganda, they purchased 34 hectares of deforested land, turned it into a moringa and sesame agroforestry system, where they employ 100 local people and process the oilseed on site (LUSH, 2020). 34 hectares is not yet a large scale operation, but LUSH has a total of 5 farms worldwide and the intention to pave the way for more regenerative products (Shatzman, 2010). According to Precious, Lush Cosmetics is doing a lot of the pioneering work from the buyers' side, not only in their work with farmers but also through the Lush Spring Prize, a yearly award for regenerative initiatives with categories such as International Projects, Young Projects, Established Projects and the Influence Award. Precious is a judge panelist for the LUSH Spring Prize. As a judge for the awards, Precious also brought the shortlisted people together in a meeting to accelerate cross-pollination, as they did not know each other before (Phiri, pers. Comm., 2020).

Danone leads a coalition to transition dairy farmers to regenerative models, initially starting with farms in the US, EU and Russia, but with the intention of reaching all its dairy farms (Connecterra, 2019). It has also partnered with the FAO to foster regenerative agriculture in line with its 'One Health. One Planet' vision (FAO, 2019). With large corporates, the suspicion of greenwashing is never far away, but due to its active engagement with the 4p1000 community, "we should give them the benefit of the doubt" (Phiri, pers. comm. 2020).

The role of certification

Rodale Institute has developed an RA certification model, Regenerative Organic Certified. It is not yet clear whether this label will validate buyers' efforts and help farmers transition, or be seen as 'yet another label' (Reguzzoni, 2018). Relevance of certification for the African context could be a subject for further research.

Woolworths, a South-African based retail chain, runs the Farming for the Future programme which includes funds for small producers to transition to more regenerative farming models. In 2018, 196 farmers in South Africa were part of this programme (Sishuba, 2018). "The program[me] is helping build a resilient supply chain within a water scarce country and helping farmers to adapt to climate change and extreme weather patterns. Key success factors include strong partnerships with suppliers and WWF-SA, annual farm assessments, and affordability of produce. There is opportunity to extend the program further within Woolworths own foods business as well as with the rest of the country and Africa" (King & Tobela, 2014). Read more about the results of this partnership here.

The Impact Investors

The field of impact investing is relatively young, emerging around 2007, compared to the also young term ‘regenerative agriculture’ (coined in 1980 by the Rodale Institute). Investors in regenerative agriculture do not always call themselves impact investors, but when they invest in RA projects they could be seen as such. It was challenging to find many investors that explicitly invest in RA in Africa, as not all investors make their investments public and many of them have mixed portfolios, or have other activities besides investing (for example, buyers, NGOs or governments that also play a role in other aspects of RA). Therefore there are no case studies of investors here, but a list of them can be found in the spreadsheet.

For a full list of actors in the Investor space, please consult the spreadsheet and apply the Investor filter.

The Social Architects

We have now reviewed many types of actors, with an even larger number of types of contributions they offer to the scaling of RA. It seems they all hold a piece of the puzzle, but how do we bring the right people together? The Southern Africa Food Lab might be able to help in this regard, as they have developed or adopted methodologies for ‘getting the right people in the room’ to create breakthroughs.

SOUTHERN AFRICA FOOD LAB

Southern Africa Food Lab

Another interesting group is the Southern Africa Food Lab. They are attempting to integrate top-down and bottom-up initiatives for sustainable food systems, using, amongst others, Theory U as a method for action-oriented dialogue (Drimie et al., 2018). SAFL has grassroots partners like the Mopani Farmers Union, high level NGO partners (WWF, Solidaridad and Oxfam), funders like GIZ, as well as buyers (Woolworths and Spar) and is housed under the umbrella of the Food Security Initiative at Stellenbosch University. "It is very process intensive, they need to have a lot of meetings, empower people... But from the very beginning they're already tying it towards a supply chain through UNESCO - the supply chain is already sending them money," said Robin Woolner in our interview. The Lab "was established in 2009 to promote creative responses to the problem of hunger through multi stakeholder dialogue and action. The Lab team is one of unprecedented diversity in the region, comprising stakeholders from corporate, grassroots, NGO, academic, and government sectors, all working together to transform the food system from farm to table. Over the past decade the Lab has successfully facilitated collaboration and dialogue, not just raising awareness, but effectively catalysing action to foster innovations and experimental action towards a thriving, just and sustainable food system" (SAFL, 2020).

Image source: SAFL, 2020

4

Reflection, recommendations and future research

Reflection and recommendations

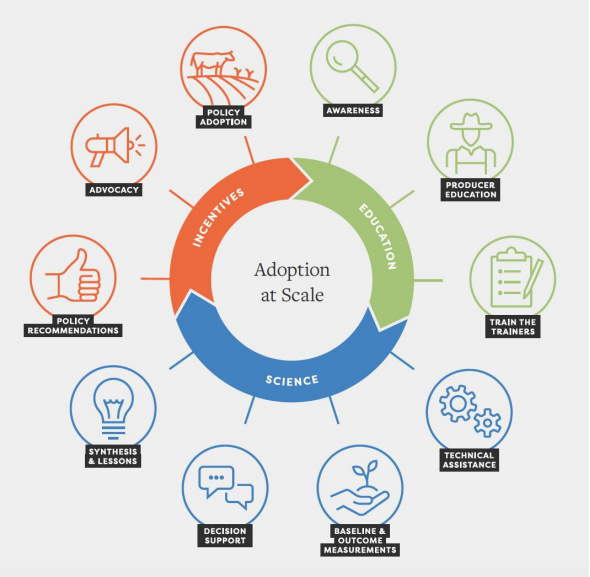
This report has attempted to give an overview of the (f)actors enhancing or inhibiting the scaling of Regenerative Agriculture on the African continent. Most of the regenerative agriculture scaling work, based on this research, seems to be happening in the South and East of Africa, with some pockets of action in West, Central and North Africa. **Key work is being done on the grassroots level by many individual farmers - this report does not mean to underrepresent the key role farmers have in setting the example, providing lessons learned and evidence for the benefits of RA, and proving or building the business case. Rather it has focused on the actors attempting to scale RA beyond individual practitioners.** Various areas seem essential there: the networking organisations, the policy-making space, and the connections to knowledge, inputs and markets. All of those are addressed in the networks around **Precious Phiri,** who if a recommendation may be made, seems to the author as one of the two key persons to talk to about regenerative agriculture in South and East Africa, as she knows a vast amount of organisations and people making change; and the organisations she referred to in turn link to a large number of other organisations in this field, suggesting we might cover a large share of the relevant organisations by starting with her network. The second person to recommend contacting to further find focus partners for RA in Africa might be **Wanjari Muthui** or **Chris Reij** of the World Resources Institute, as they have extensive knowledge of regreening efforts all across Africa, though those regreening efforts may not all strictly be regenerative agriculture.

Scores of initiatives and people found in the course of the desk study have not been included in this report to limit its size. The selection was made based on the author's estimate of their scaling ambition and capacity, and based on the wish to show a diversity of approaches and roles actors can play. A recommended next step for Mustardseed Trust would be to formulate the areas in which they are interested in becoming active: is it in the area of supporting practitioners, of fostering impact investment (a yet understudied niche in this report), of influencing policy? Based on that, and onthe leads given in this report and the longlist of actors in the spreadsheet, steps could be taken to approach the relevant stakeholders and conduct further research about the workings and potential of that space.

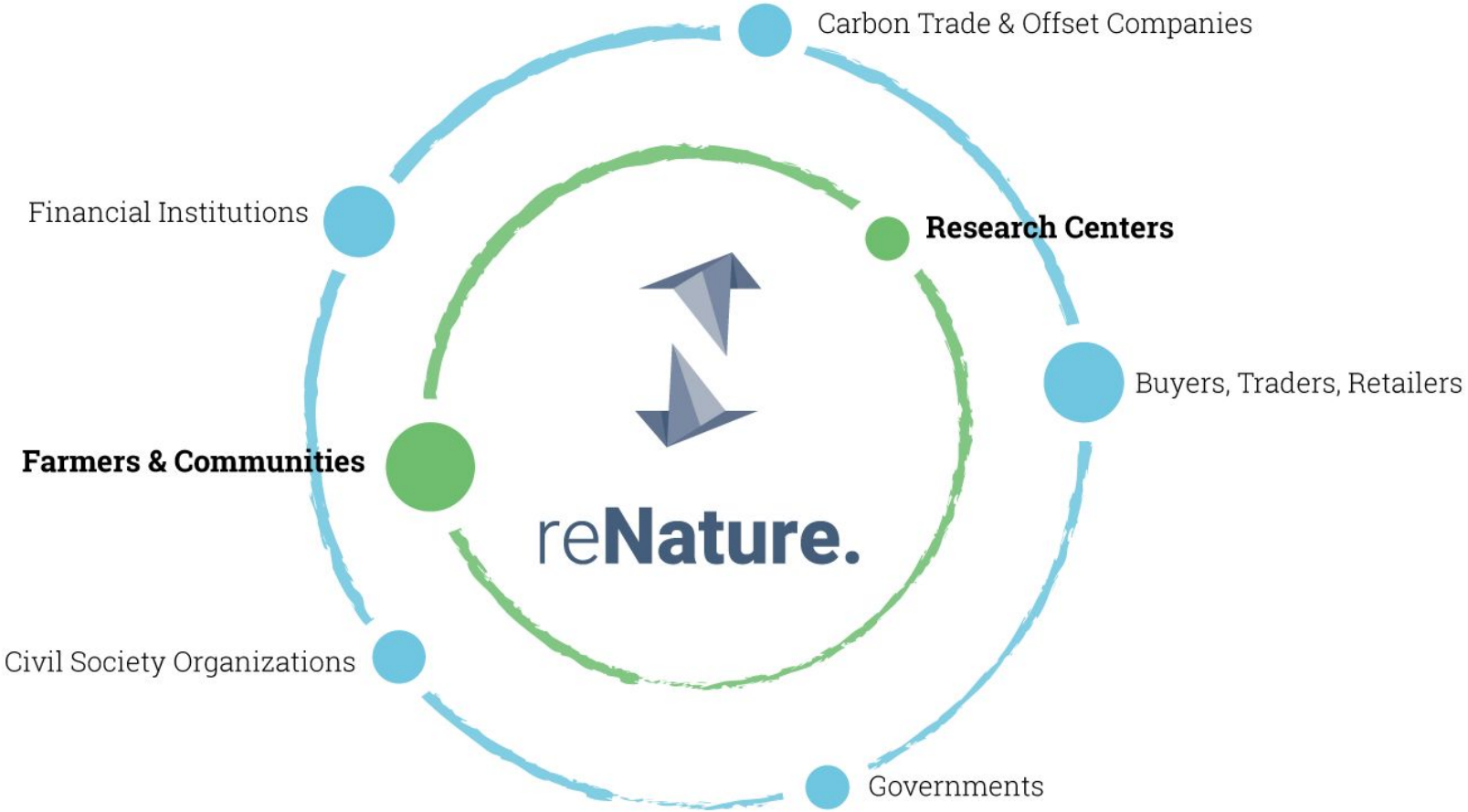
The role of Mustardseed Trust

In order to help Mustardseed Trust analyse its desired role in helping to scale regenerative agriculture, the diagram on the top right could help: it outlines the various tasks to be taken up to create adoption at scale. **Missing from the diagram are, according to the author: investment, business case development, marketing and market access.** Those are also 'ecological niches' to be filled in the transition to wide-scale adoption of Regenerative Agriculture.

For further inspiration about Mustardseed Trust's possible role, we could look at the position reNature takes in between the various actors (see next slide). reNature is an NGO focused on restoration; it has been focused on South America, and is not yet very established in Africa, but does have plans to and is quickly rising to fame. Its founder has recently been appointed lead author for the UNEP project titled "The changing role of business in transforming agricultural systems". reNature sees itself as the linking pin between the various actors, most closely linked to research centers and farmers & communities. An exercise might be to map out which 'groups' of actors outlined in this report Mustardseed Trust feels closest to, and what role it can play to create the links necessary to scale Regenerative Agriculture, not just in Africa specifically but also in each of the other continents and intercontinentally.



Above: Driving a system of change.
Source: Leading with Soil report (2020)



Above: reNature's position in the ecosystem
Source: Daniel, A. (2020).

Further research and next steps

There are a great deal of people working to study, promote and practice regenerative agriculture in Africa, all filling different niches required to populate the transition ecosystem. This report only covered several of them, and undeniably has the author's fingerprints all over it: it cannot be a coincidence that both the author as well as so many of the case studies are somehow linked to The Netherlands - beside the fact that some have been included mostly because they were available to be interviewed, it must be a combination of the key informants and network of the author coupled with the algorithms in the search engine used for the desk study. Follow-up research could be conducted with a different search engine configuration and building on the indigenous people reached (eg. Evans Mangwende, Precious Phiri, Stephie Mendelsohn and Tefera Mengistu) or another African RA expert.

It would be interesting to conduct further research focused on deepening:

- The **PESTELI** analysis, for example: Political: Do RA farmers need the subsidy system to benefit them, or is it a broken system that needs to be changed? Economic: how do international trade & economic trends influence RA? International: What will be the role of the COVID-19 pandemic on international trade and the possible further localisation of the economy, in relation to RA? What can the engineering projects learn from others about the social aspects of growing RA?
- Our understanding of the **impact** that the various actors are having (going from the aspirational stories presented here to a more in-depth study of success factors and lessons learned)
- The **relations** between the actors in the various roles in the transition: to what extent and for which reasons do they know each other or collaborate? What might happen if they were brought together to exchange lessons learned?
- The understanding of **Mustardseed Trust's best possible contribution** to the field of RA

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Interviewees

John D. Liu, Filmmaker and Ecologist
Matthew Koehorst, Founder at Six Kingdoms
Misha Teasdale, Founder at Greenpop
Roeland Lelieveld, Co-founder at Africa Wood Grow
Stephie Mendelsohn, Business Developer at Grounded
Robin Woolner, Contributor at Permaculture Magazine
Natalie Topa, Regional Resilience and Livelihoods Coordinator at Danish Refugee Council
Precious Phiri, Africa Coordinator at Regeneration International (amongst others)
Latifa Oumlil, Founder at Perma Atlas

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