



EARN 2020 Annual Report

Introduction

The East African Regenerative Network (EARN) is an initiative that has grown out of a long-time partnership between the Reed Jules Oppenheimer Foundation (RJOF), Mainsprings, the Permaculture Institute of Tanzania (PIT), and the Valley Foundation. EARN aims to spread the practice of regenerative agriculture methods throughout East Africa. We believe that by using more sustainable forms of agriculture, people can improve food security and nutrition; improve environmental health and ecological viability; and improve economic viability and livelihoods.

In 2020, EARN launched a formal grant program called the Regenerative Agriculture Program (RAP) to support organizations in East Africa to learn and implement permaculture practices¹. Ten organizations across four countries (Tanzania, Malawi, Rwanda, and Uganda) were awarded grants in the first round based on a number of criteria, including organization type, country location, target population reached, capacity to implement Permaculture, and annual operating budget. The selected grantees reach a diverse population of beneficiaries including youth farmers, people living with HIV/AIDS, women and children, people with disabilities, and many others. As part of the grant, each organization received:

- Full coverage of course fees to the annual Permaculture Design Course (PDC) for two staff members;
- Paid travel to the Mainsprings campus for the PDC;
- Free lodging and food at the PDC;
- Site visits to support initial implementation²;
- \$3,000 to implement regenerative agriculture practices at their organizations;
- Access to an online community of PDC graduates; and
- Ongoing technical assistance, as needed.

Consistent with the core principles of regenerative agriculture, RAP is a five-year grant program focused on slow and steady growth. Permaculture partners are encouraged to plan, act, seek feedback, and adjust. In the spirit of observation, learning, and improvement, the following report shares success and challenges partners experienced in the first year of implementation. It

¹We use the terms “regenerative agriculture” and “permaculture” interchangeably, though the official definitions vary. See our website for more information: <https://earnafrica.org/>

²Due to COVID travel restrictions, we were only able to conduct a site visit with one organization in 2020.

is important to note that this initiative began in February 2020 with the PDC course and was therefore rolling out just as the COVID-19 pandemic was unfolding. As a result, organizations faced additional challenges with implementation, as discussed below.

COVID-19

The global COVID-19 pandemic affected the grant rollout in several ways. First, Valley Foundation and Mainsprings staff members were unable to conduct planned site visits to support organizations in initial installation of regenerative agriculture fields³. EARN adapted to provide virtual technical assistance opportunities, such as learning videos and phone calls. Additionally, a portion of grant dollars were redirected to support COVID emergency relief. Permaculture partners requested a variety of supports to help their communities, including annual crop seeds, handwashing stations, and sewing machines to make masks.

The pandemic also interrupted installation of regenerative agriculture fields, as well as normal operations for every organization. Permaculture partners shared how COVID has impacted their organization and any residual challenges they are facing because of the pandemic. Social distancing policies and protocols meant that staff members had to work in shifts, which meant fewer working hours overall and reduced productivity. In some cases, organizations were closed and staff members were unable to visit fields at all. This impacted implementation in several ways. For example, one organization could not finish installation of berms and swales in a timely manner, which led to failure of having a productive dry season. Another organization had many trees die because their school closed and no one was there to take care of the plants. COVID restrictions often affected more than regenerative agriculture projects and extended to all organizational programs that required in-person gathering. Organizations adapted by working remotely and continuing to work as much as they could.

Organizations also faced additional financial constraints because of the pandemic. Many experienced unplanned costs related directly to COVID, such as protective clothing for employees and beneficiaries, installing hand-washing stations at impact sites, and increased number of people who needed support, such as food and other inputs. Additionally, the pandemic caused market price fluctuations that raised the costs of seeds and manure and prevented the hiring of cheap farm labor, which ultimately led to high production costs. Lastly, organizations experienced barriers to resource mobilization, as many funders stopped developing new partnerships and local revenue sources were interrupted. For some organizations, this caused a reduction of staff and their benefits, as well as an overall drop in annual budget.

At the community level, many of the organizations' beneficiaries faced additional hardships. These included the loss of businesses, increased anxiety, lack of peer contact, reduced opportunities for survival, broken marriages and relationships, teenage pregnancies, increased school dropout rates, increased mental illness, increased domestic violence and child maltreatment (especially for children and adolescents that have trauma experiences and low socioeconomic status).

³ One organization (Pastoral Women's Council (PWC)) did receive a site visit because they were located in Tanzania; Mainsprings and Valley Foundation staff helped PWC staff layout berms and swales, as well as tree-planting activities.

Despite these incredibly difficult circumstances and setbacks, all Permaculture partners were able to make considerable progress on installing their regenerative agriculture sites. Most had additional success in teaching regenerative agriculture practices to community members. The following section highlights successes and challenges with regenerative agriculture projects specifically.

PDC Course 2020

Each grant partner had the opportunity to send two staff members to the annual Permaculture Design Course (PDC) hosted by Mainsprings and Valley Foundation. The PDC was taught by a world-renowned permaculture teacher and farmer, Mark Shepard (New Forest Farm and Forest Agriculture Enterprises), with teaching and facilitation support from Max Bugari (Mainsprings and PIT) and EJ Oppenheimer (RJOE and Valley Foundation). The course met the standards for an official PDC and all participants earned a certificate in permaculture design. There were 33 participants from 6 different countries, 19 of which were EARN grant recipients. Toward the end of the course, participants designed plans for their regenerative agriculture fields with feedback from course instructors. Participants had the opportunity to present their designs to the class and receive peer feedback. These plans became the guiding design document for many organizations once they returned to their respective organizations and prepared for field installation. s

As a result of participating in the Permaculture Design Course (PDC), EARN partners learned a diverse set of skills and concepts that they could apply to their permaculture projects. The concepts that stood out the most to participants as they began to practice on their own include:

- ***Permaculture has a set of ethics that guide the practice: Planet, People, and Profit.*** In permaculture, we start small and go slow. There is environmental sustainability with the permaculture system, making it possible to produce food and income on the farm throughout the year.
- ***Plan, Act, Seek, and Adjust (PASA)*** – PASA is a cycle that involves planning what you want to do, implementing the plan, seeking feedback and observing the outcome, and making adjustments based on the feedback and observations.
- ***Observe and replicate nature*** – Focusing on natural ways to practice agricultural that preserve the environment and teach people to live in the moment and be patient. As in nature, everything produced by the system can be used within the system. For example, animals feed on the crops, produce manure which fertilizes the soil, and that helps crops grow that can feed humans. This reduces the need to buy expensive modern inputs, which is helpful for households with lower income. Additionally, working with nature (instead of against it) helps reduce the work and energy required to maintain the farm.
- ***Land and water management*** – Using berms and swales to catch rain water, prevent soil erosion, and speed up the rate of growth on the farm. The construction of berms and swales improves soil fertility because it arrests water and top soil runoff. The practical

“In permaculture, you feed the soil first and then the soil feeds you.”
– Permaculture Partner

learning about land planning and designing by using an “A” frame⁴ helped participants to know how to trap water and the size of the land. Permaculture practice allows for resources, such as water and soil nutrients, to replenish themselves.

- **Maximize the use of available land** – Permaculture enables high yields on a small piece of land using locally available inputs. Permaculture design and zoning allow for planning based on all resources available. Integrating new crops and agroforestry improves farm productivity, including use of medicinal plants. Land that once seems unproductive can become productive.

EARN Partner Highlights

Implementation

To support initial installation, Permaculture partners spent grant dollars on a wide variety of inputs, including farm tools, materials for A-frames, labor to install berms and swales, tree seedlings, transportation, manure and compost, trainings for staff and community members, staff to manage the farm, fences, and water infrastructure. Additionally, a portion of grant dollars were redirected for COVID emergency response purposes. Permaculture partners used this portion of the grant for a variety of emergency supports including vegetable seeds, food supplies, handwashing facilities, soap, hand sanitizer, masks, sewing machines to make masks, virtual communication support, and COVID-19 awareness and education efforts.

All Permaculture partners were able to start their regenerative agriculture fields. As shown in Table 1, Permaculture partners planted a total of 10,196 perennial crops, including 79 different fruit, nut, medicinal, and indigenous tree species. Organizations installed a total of 82 berms and swales on contour to capture water, measuring a total of 6,556 meters in length. These berms and swales prevent and slow overland water flow, capturing tens of thousands of gallons of water every rain event.

Table 1. Field Data (n=10)

	Average per Organization	Total
Fields (#)	1.4	14
Berms (#)	8.2	82
Length of Berms (Meters)	655.61	6,556
Trees Planted (#)	1019.6	10,196
Types of Trees (#)	12.9	79

Key Successes

EARN partners shared a number of challenges and successes as a result of implementing permaculture within their organization, including:

⁴ An “A” frame is a simple handmade tool used to help people figure out the slope of the land and how water flows across it. In our Permaculture approach, it is used to install berms and swales along the contours of the land.

Improved water management. The installation of berms and swales helped minimize water loss and increase water conservation by catching rainwater more effectively. The decreased water runoff prevented soil erosion and supported soil conservation on the farms. This approach to land and water management, in conjunction with planting trees, helped to keep the environments greener for some partners. Some partners also mentioned that this approach to design helped in the proper planning and usage of their land.

Decreased reliance on purchasing farm inputs. Since regenerative agriculture techniques were introduced, some organizations have switched from spending money on fertilizer to using manure/compost from locally available materials. One organization mentioned that they have been successful in feeding the soil in their garden plot. Additionally, some started using organic pesticides as a result of increased availability of natural ingredients like neem and peppers from their farms.

Increased crop diversity. Many partners mentioned transitioning from a focus on mono-cropping (only growing maize and soy) to a more diverse system with fruit trees. The overall crop diversity of the farms increased with the introduction of new tree varieties. As mentioned above, organizations collectively planted 79 different species of trees in their fields, averaging 13 different tree species per organization. One organization mentioned that the trees planted are growing fast and contributes to improving the beauty of the farm. Another mentioned that they now have healthy trees thriving at 99%.

Increased crop yield. Some partners experienced an increase in crop yield in the first year. This included increased yield of coffee and bananas, as well as increased vegetable production. For one organization, this provided a regular vegetable supply and important nutrients for the children in their school.

Outreach and education among community members. Some organizations held permaculture trainings for community members, staff, and beneficiaries. For example, one organization trained 438 farmers on basic concepts of permaculture and some of those farmers have started to adopt some permaculture concepts. Another organization observed changes in attitudes toward permaculture among staff. Another organization trained the heads of 20 community cluster groups.

Beginning to see positive environmental impacts. One organization mentioned that they have noticed an improvement in their bird population as a result of increased vegetative cover, food for the birds, and shelter in trees. The same organization mentioned noticing a greener environment and an improvement in microclimate around the area of the farm.

Unintended positive impacts. One organization noted that their regenerative agriculture project is helping beneficiaries in unique ways. Specifically, support groups for beneficiaries (people living with HIV) are more united now since they have a common goal worth achieving. As they implement permaculture, they remind each other about their clinic appointments and medical treatments “Out of 75 people living with HIV, it is only 2 people who missed their clinic

appointment once and this is attributable to the fact that support group members now meet frequently as they implement permaculture.”

Community Involvement

Permaculture partners shared various ways they were able to integrate staff members and community members into their regenerative agriculture programs. Here are quotes from the Permaculture partners about how they involved staff and community members in their work.

“All staff were involved and the community members around our garden – some have started implementing what we taught them and they are doing well.”

“After the PDC course, we organized an orientation for all staff to share basic concepts of permaculture; the same was done to all farming clubs in our programming. The staff and beneficiaries close to the field have also been involved in the process of setting up the field (for hands-on learning).”

“Other staff were trained on the principles of permaculture; they were taken through practical sessions of the farm. Staff are involved in farm maintenance and provided a chance of buying food items from the farm at lower costs. Distributed seedlings from the farm to community members for growing at their households. Hired labor from neighboring communities are trained on the key permaculture principles and involved in the practical sessions such as planting, and maintenance of trees.”

“Through staff training – we held a training during this March to all staff and students.”

“We have carried out awareness and trainings and some families have started adopting to the permaculture model.”

“Launched our permaculture initiative by engaging 32 community leaders in order to have buy-in from them but also as a way of making sure that permaculture is embraced by people who matter in our program areas. They were trained in permaculture and they realize that permaculture is a missed opportunity. Through this engagement, we received a lot of proposals from community leaders to also have permaculture demonstration sites established in their areas of jurisdiction. It was challenging for us to scale up like that because we felt it was important for us to start with one community and then spread to other communities. As a new player in permaculture, we also needed that experience before scaling up. As it stands now, community members come to our demonstration site to learn.”

“We have influenced our 20 cluster heads to do the same. The cluster heads are change agents who manage on average 20 households in a community. So, if well managed, the concept of permaculture can have a multiplier effect.”

Lessons Learned

As part of their annual reports, Permaculture partners shared challenges or setbacks they have faced as they have started to implement permaculture.

Animals and pests. Some organizations struggled with keeping goats and other animals out of their plots due to lack of fencing. As a result, some organizations lost many of their young trees. Another organization mentioned that they had trouble with pests attacking their vegetables.

Seasonal challenges; lack of rain. Some organizations mentioned that relying solely on rain contributed to insufficient water supply during the dry seasons. Additionally, delay of seasonal rains affected the germination rate of some crop varieties.

Water management issues. One organization mentioned that their land is hilly and they experience a high rate of flowing water. As a result, their swales were getting too full until they dug them deeper.

Financial challenges. Organizations faced a variety of barriers related to finances, including high maintenance costs to maintain young trees and to maintain swales after heavy rains; high costs of some seedlings (macadamia) resulted in planting only a few of those types of trees; high costs of inputs, such as manure and seeds; and inadequate financing for the organization overall caused downsizing of many activities;

Other. Other challenges mentioned by organizations included low understanding of the permaculture approach among some staff members; clay soil that makes it difficult for some types of trees to grow; and lack of availability of some desired tree varieties (like pomegranate).

Looking Forward

Hope in Permaculture

Organizations were asked to rank (on a scale of 1-10, with 10 being the most hopeful), how hopeful they are about what their permaculture design will bring to their organizations. Organizations responded with an average of 8.6, indicating that most organizations are very hopeful for what permaculture will bring to their organization. (The range of responses was 4 to 10, with a median of 9 and a mode of 10).

Partners gave detailed explanations about why they chose the numbers they did. There were no significant qualitative differences between people who chose an 8, 9, or 10. The following reasons were given for why they chose the numbers they did:

- **Food security and nutrition:** Participants explained they anticipated that proper planning of their land will help them continue to have food at all times; another mentioned that they are very hopeful to become food independent through the permaculture approach and that they believe their organization will be a source of fruits and other crops in a few years. They believe that this approach will ultimately increase the number of people supported by their farm, will increase crop diversity and improve nutrition while also conserving the environment.
- **Biodiversity:** One organization noted that they now have healthy trees which they hope will improve biodiversity. Others mentioned that permaculture has already changed the biodiversity of their campus.

- **Income generation:** One organization mentioned that most of their group members have agricultural lands and that through permaculture, those that lost their businesses due to COVID will be able to grow crops primarily for food and will be able to sell the excess to help support their businesses.
- **Environmental and economic sustainability:** One organization explained that they are looking at permaculture as a way of increasing production and sustainability of the farm productivity; and they anticipate reduced farm labor costs after trees and crops grow. Another organization mentioned that increasing the greening of the environment and soil health will contribute to improving the microclimate when they roll it out to the communities, which will ultimately improve the climate of the region. They have noticed that the berms reduce soil and water runoff, which conserves the environment and improves soil fertility. Because of this, they believe there will be improved soil productivity, increased agricultural production, and, as a result, improved food security and household incomes for the community.

For the organization that chose a ranking of 4, they still have hope that they will succeed considering that permaculture involves planning, implementing, seeking feedback, and adjusting. They struggled in their first year because they overlooked their ground water level and experienced significant water logging of their field. As a result, they will need to adjust the water flow once water harvesting structures are full.

Supports Needed

Permaculture partners shared what areas they feel they need the most help as they continue to develop their permaculture farms. Several organizations would like technical assistance around land and water management. This included creating a fishpond in the permaculture field, creating berms on flat land, and continued management of berms and swales. This also included help in establishing a water supply system and irrigation equipment (such as a borehole and solar powered irrigation). Several organizations also mentioned wanting support for integrating livestock into their permaculture projects. This included purchasing livestock and building shelters for livestock. Other organizations would like support in improving security on their farms. This included constructing a small structure for a watchmen and storage of farm inputs to prevent vandalism, as well as erecting a fence around the field to prevent animals from eating trees and crops. Several organizations mentioned wanting support in increasing biodiversity on their farms by purchasing additional tree seedlings and vegetable seeds.

A couple organizations mentioned needing support to purchase more farm implements and infrastructure, including building a simple classroom where people can come to learn permaculture. One organization mentioned that they would like to learn more about how to make farm inputs, including compost manure and organic pesticides. One organization mentioned wanting to organize seasonal planning sessions at the beginning of the season. One organization mentioned wanting additional acreage to increase production.

Next Steps

Looking forward, Permaculture partners shared the immediate next steps they would like to take next year as they continue to develop their permaculture farms.

Land and Water Management. All organizations would like to focus on improving their land and water management practices. This includes maintaining established berms and swales; improving contour design for more effective water control; and establishing permanent irrigation systems on the farm.

Integrating Animals. Several organizations plan to integrate animals into their permaculture farms so that they have manure to use on crops. Types of livestock that organizations would like to integrate include rabbits, goats, and pigs. One organization would like to start a fishpond and another would like to introduce bee hives.

Community Outreach. Several organizations plan to extend the program to community members. Methods include continued education of staff, students, and beneficiaries; construction of a classroom where people can come to learn permaculture; and rolling out permaculture education through their established community networks.

Increasing Biodiversity. Several organizations mentioned continuing to increase crop diversity on the farm, including increasing the number and types of fruit trees and other crops on the farm; and starting a nursery to help maintain a regular supply of trees for their farm.

Other. Other activities organizations plan to implement include conducting soil sample testing, building a fence to prevent goats from eating young trees, continue swamp reclamation efforts, and expanding their work by establishing a permaculture model farm in Plot 2 of recently acquired land.

Quotes

“We are thankful for the knowledge provided to our technical staff. We also appreciated the \$3,000 provided for rollout of the permaculture principles on the farm and hope to continue this partnership flourishing. We promise to have a great impact by standing as role models of permaculture in Rwanda, training other farmers and partner families on permaculture, and advocating permaculture to be included in the national agriculture policies of the country.”

“Our 2-acre permaculture demonstration site is thriving and the program is owned by all the community leaders. Through this program we also managed to respond to COVID through disease awareness, placement of 6 handwashing facilities in 5 primary schools, and distribution of reusable face masks to 600 school learners and 200 community members including people living with HIV. The 8 sewing machines we procured made our life simple because we are able to sew masks using our sewing machines and thereby reducing the production cost. Most of the permaculture resources are in English and it will be crucial for us to translate the materials in a language best understood by community members.”

PDC Grant 2022 (& Beyond!)

EARN is excited for the progress that’s been made so far and is looking forward to welcoming another class of Permaculture partners in 2022. After receiving feedback from our partners and reflecting on lessons learned in Year One, we have adjusted the grant process to be more efficient and streamlined moving forward. True to the spirit of Permaculture, we believe in continually

observing and adapting to improve. In 2022, we will begin hosting monthly virtual “Berside Chats” so that partners will have the opportunity to learn from and share with each other. We will also be conducting site visits so that we can help partners with initial installation of berms and swales, or offer additional technical assistance for those that are further along in the process. Further in the future, we plan to offer a Permaculture Training for Trainers so that we may build capacity and continue to expand the EARN movement.

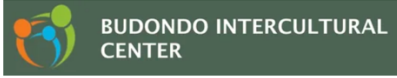
Thanks to Our Partners!

EARN would like to formally thank all the organizations and people that have supported the movement so far. This includes the following groups of partners.

Supporting Partners



Permaculture Partners



Managing Partners

