



### **The full report on Stage 3, including:**

- o Lessons learned.
- o Lead farmer activities, including how their farm designs are working in practice.
- o Extent to which each lead farmer has grown their community of practice and examples of their farmer-to-farmer extension activities

A review of the plan for Stage 4 to ensure that we learn all the important lessons from this project, and that we have all the documentation in place by the end of the project to demonstrate what has been achieved.

### **Field visits conducted in Kisa West between 29th & 30th of May 2023**

#### **Summary**

<b>Project</b>	PermEzone - Kisa West, Kakamega County
<b>Subtitle and summary</b>	Farmer to Farmer Permaculture Pilot and Extension Project
<b>Duration</b>	18 months
<b>Region and Implementing partner</b>	C-MRA, Western Kenya
<b>Funding Partner</b>	permEzone



This Evaluation Report is carried out by **Sheena Shah**, who is a member of the pEz Project Board, and leads the MEL team's work to document the impact of the program, and build the project knowledge base, as well as leading on curriculum development.

### **Context of this project (taken from permEzone website)**

In the developing world, many farmers are still taught conventional farming techniques by governments or the private sector. These techniques, such as mono-cropping or reliance on toxic pesticides, have well-documented problems, including:

- Widespread degradation of soil and water resources.
- Fragmentation of communities and increasing poverty and inequality.
- A growing crisis due the combined impact of unsustainable farming practices on the natural systems on which all life depends.

### **Why Permaculture?**

Yields from agro-ecological farming can exceed those from conventional farming, without the associated problems. The UN Special Rapporteur on the Right to Food has stated, *"Agroecology... is an approach that will help to address the challenge of ending hunger and malnutrition in all its forms, in the context of the climate change adaptation needed."* (1)

Permaculture combines the regenerative practice of agroecology with design skills, including techniques such as water catchment and passive solar. Students learn an accessible conceptual framework to guide the application of systems



thinking to problem-solving for each unique situation a farmer faces. Permaculture can empower farmers to create their own solutions to local problems - solutions that make the most of local knowledge to build eco-social resilience and work for the long-term benefit of the community. We surveyed 50 permaculture training centers, in countries defined by the World Bank as ‘less-developed’, to gauge their interest in participating in a permEzone pilot. 27 centers expressed an interest in participating.



### **This is how we get it done:**

This pilot is a multi-year, independently monitored experiment to test and document the permEzone program, in particular:

- Working with the existing network of regional permaculture training centres to help rural communities build their own efficient sustainable food systems.
- Finding effective ways to share knowledge and information in isolated and resource-poor communities.

As the pilot progresses, we are starting to build on these experiences in preparation for expanding the program and building capacity to facilitate the much-needed transition to more resilient farming communities and healthy local economies.

### **The *permEzone* pilot program is well underway, training and supporting farmers in East Africa.**

**Phase 1** in Asumbi village, Homa Bay County, Kenya, was successfully completed in April 2020. This was delivered by [Community Mobilisation for Regenerative Agriculture \(C-MRA\)](#) and you can read their final report [here](#).



**Phase 2** with the farmers in Sanje Village, in the Central Region of Uganda, was delivered by **Broadfield Enterprises Uganda (BEU)**, successfully completed in April 2021.

**Phase 3** (present) with farmers in Kisa West, Kakamega County, Kenya, also being delivered by C-MRA, started in February 2021 and is due to complete in July 2023.



### **Theory of Change:**

*How can the global permaculture community organize around the idea of putting permaculture at the heart of rural development, displacing the business-as-usual development programs that promote unsustainable farming systems, by making better use of resources that already exist – resources like the world-wide network of permaculture training centers?*





**Phase 3 (present) with farmers in Kisa West, Kakamega County, Kenya:**

The Kisa, also known as *Abakisa* or *Abashisa*, are one of the sixteen tribes of the [Luhya nation](#) of Kenya. They occupy the Kisa area within the Khwisero division of Butere-Mumias district. The Kisa are sandwiched between the [Marama](#) of Butere, the [Idakho](#) of Kakamega and the [Nyore](#) of Vihiga district.



**Paul Omolo**, from [C-MRA](#) identified the **30** lead farmers in **Kisa West** to be included into the permEzone program. [Permaculture workshops](#) were held over a three month period in May 2021, using the previous curriculum from phase 1. The training sessions were held weekly with the aim of them establishing their model farms with the knowledge and skills acquired during the training delivery stage. The next stage of the program involved extension work, where lead farmers were further assisted in establishing their own model farms and linked this with other service providers where they could get materials and inputs to use in their farms. During this extension stage, the lead farmers engaged in [farmer to farmer extension](#)

[work](#). This was then adopted by both the lead farmers as the direct beneficiaries and their neighbours as the indirect beneficiaries.

With a region dominated by monocrop maize and volatile markets, the project couldn't have felt more important than now to get this farming community involved in these trainings and see how they could transform their farms to become more diverse and earn a better livelihood as whole, using permaculture and biointensive farming methods.

### **Day 1 Farmers Visited May 29th**

1. STEPHEN BOAZ OKECH
2. NEREAH OBENDE & CAROLINE
3. CALEB INAGA & JUDITH ADHIAMBO
4. GEOFFREY ABWUOR



## **1. STEPHEN**

*Family of 5, wife is also involved in farming with him*

- Diversity of crops; arrow roots, neem, lemon grass, maize, beans, sweet potato, chilli, cassava, banana, mango, guava, avocado, sugarcane, mulberry, rice, pumpkin, sukuma, cowpeas, beans
- Use of bio pesticide using lemon grass, chilli, neem, ash (grinded beans and banana)
- Water catchment - use of swales, key hole for grey water, borehole
- Uses solar for lighting his home and power his radio & tv
- Land is well utilised
- Is practising agroforestry as use of microclimate
- Has understood permaculture
- Mushroom cultivation as an income generating activity and latest project in action
- Uses cover crops
- Keep poultry
- Potential to be a good lead farmer and extension aid to the rest of the farmers as has the most knowledge and has demonstrated a lot of the strategies and more learned on the course.

### **To improve:**

- Needs to improve on marking raised rows and having pathways
- Needs to be encouraged on use of mulching in new areas

## **2. NEREAH OBENDE & CAROLINE**

*Family of 9*

- Use of intercrop of maize, beans, and indigenous veggies; cowpeas, pumpkin





- Rearns chicken for manure and additional income
- Has introduced keyhole compost pit with pumpkin cover crop
- Has cultivated around the house and had a main crop field where she has used crop rotation methods and plants maize, beans, sukuma wiki and indigenous crops
- Likes to use chicken manure and has seen a huge difference in soil quality

**To improve:**

- Land is not well utilised around the main house
- Needs to improve on having raised rows and pathways for water drainage
- Needs to use more companion planting and IPM methods as corn had some fungal issues
- Does not have any water capture features / design in place to conserve water

### **3. CALEB & JUDITH**

*Family of 6*

- Main crops grown are sukuma wiki, tomatoes, water melon, cowpeas, lemon grass, sugar cane and a couple medicinal plants
- Use of mulch in most areas
- Practices IPM
- Has improved diet and sells surplus
- Has used most areas around the home and use of edge

**To improve:**

- Does not have any water capture features / design in place to conserve water and can use the existing roof for water capture
- Needs to improve garden beds with raised rows and have pathways to avoid compaction of soil
- Could add more companion planting, IPM and diversify crop
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#### **4. GEOFFREY**

##### **Family of**

- Joined the group after being inspired by Stephen's (farmer 1) farm
- Learned some of the techniques such as companion planting, three sister guild and diversified his existing land with additional crops
- Grows Maize, beans, sweet potato, cassava, sukuma wiki, nitrogen fixing trees, local vegetables
- Has used space very well and has improved the entire system
- Included some swales around the farm
- Is still learning more techniques through the rest of the group
- Has a borehole and it is also used by the community
- Has managed to continue to irrigate his land with the borehole even during the dry periods and grows drought resilient crops
- Does crop rotation

##### **To improve:**

- Needs well raised rows and pathways to access the farms better
- Needs to be encouraged to start composting
- Needs to be encouraged to use more companion planting and IPM

The farmers we visited all live within close proximity within one another and were also within walking distance when conducting these visits. The farmers are much younger compared to the past phases, making this context unique because they are also closer to the main city centre of Kisumu.



The farmers are open to learning new strategies and a few of the individuals were also new to farming when they first started the workshops. Permaculture is/was a completely new topic for a lot of them to dive into, but they dove into this with open eyes and hearts to ensure that they could transform their land and build livelihoods from this venture. Some of the farmers had already been practising farming, but used all conventional practices like monoculture and growing maize mostly as their main crop, relying on markets to earn a livelihood. With markets being so competitive and volatile in the region, farmers are not able to retain any significant profit and succumb to crop loss. Now, having gone through 4 months of permaculture training, the farmers have completely changed their monocrop farms to polyculture farms that boast a variety of different crops and it is completely evident as you walk through their farms and listen to their stories pre-project. The farmers are proud to walk through their farms and show us around and the diversity.

Farmer Caleb says “Before this training, *I had no idea how to farm successfully. Now with this type of small-scale, yet productive way of farming using the techniques learned from the course, I am able to organically grow food for our home, feed my family and sell the excess to the market. I am also able to send my children to school and ensure that small bills are paid. I am grateful to the trainers and training received.*”

They all have their own fenced farms, ranging from ½ and 1 acre plots. We visited 8 out of 30 farmers, one of them being completely new to the programme just by chance, or was it! **This is a wonderful case study of the programme that we have been long envisioning.**



*Geoffrey with Farmer Stephen and his wife who have inspired him to join the group*







Geoffrey was inspired by one of the farmers in the group, Stephen, whose farm inspired him to improve his own farm. Geoffrey visited Stephen's farm frequently after seeing positive changes and learned some important techniques on soil building, use of mix and cover crop techniques and combating pest challenges on his farm using IPM. He revamped their entire farm. He plants his maize with beans and groundnuts as a three sisters guild and has seen his main maize crop boost in yield and quality tenfold. The bean of course, providing that much needed nitrogen fixing element and the groundnut providing the cover crop. He has tested the crops with sweet potato and has added more indigenous crops to his field. He has also utilised his entire land very well and ensured use of the edge as well. He also adds mulch around his plants and realises how important this is.







He adds that before using these techniques he only planted maize on the property for many years! He says in Swahili- *“I didn’t know the potential of what my land could offer to me and the rest of my family. I didn’t know that I could plant other crops with maize and have so much food on this land. I am inspired by Stephen and the rest of the Kisa West farming group and have learned so much, even though I was not part of the group’s workshops initially. I still have so much to learn but I am getting there and you can see it. I appreciate your visit because I am getting to learn more through your feedback and can make those changes instantly to*

*improve my farm even further”* He noted down a lot of the feedback received right away.



He also has a borehole installed that provides sufficient water not only to them but has opened it to the community to use the water as well. He says to me *“Even during the dry period, I was able to still retain water from the borehole which never dries up and I also planted drought resilient crops so that I can still have some successful crops. The only challenge I have is that I lack a water pump and if I had one, it would be much easier to irrigate my fields and assist others as well.”*



**Farmer Stephen and wife** have been practising farming for a long time and it is evident on his farm, however he only farmed maize prior to the training. After the training, he completely changed the layout of his existing design of mono crop rows and has now turned his land into multiple productive gardens. He has also created multiple swales around the property, and each of the bioswales channels water into a garden or the food forest and has mastered the importance of water runoff on slope. He has grown arrowroot which are giants, bananas and pawpaw along the swales and has multiple banana circles.





His property is also much cooler than the rest of the farms because of the variety of fruit trees ranging from, mango, banana, guava, avocado and some nitrogen



fixers, and not to mention mulberry trees that act as a guild. He uses living mulch such as ground nuts and ensures he is making biopesticides from the plants weekly. He demonstrated how he makes his bio pesticide using lemongrass, chilies, neem and ash (made from rice and corn husks).

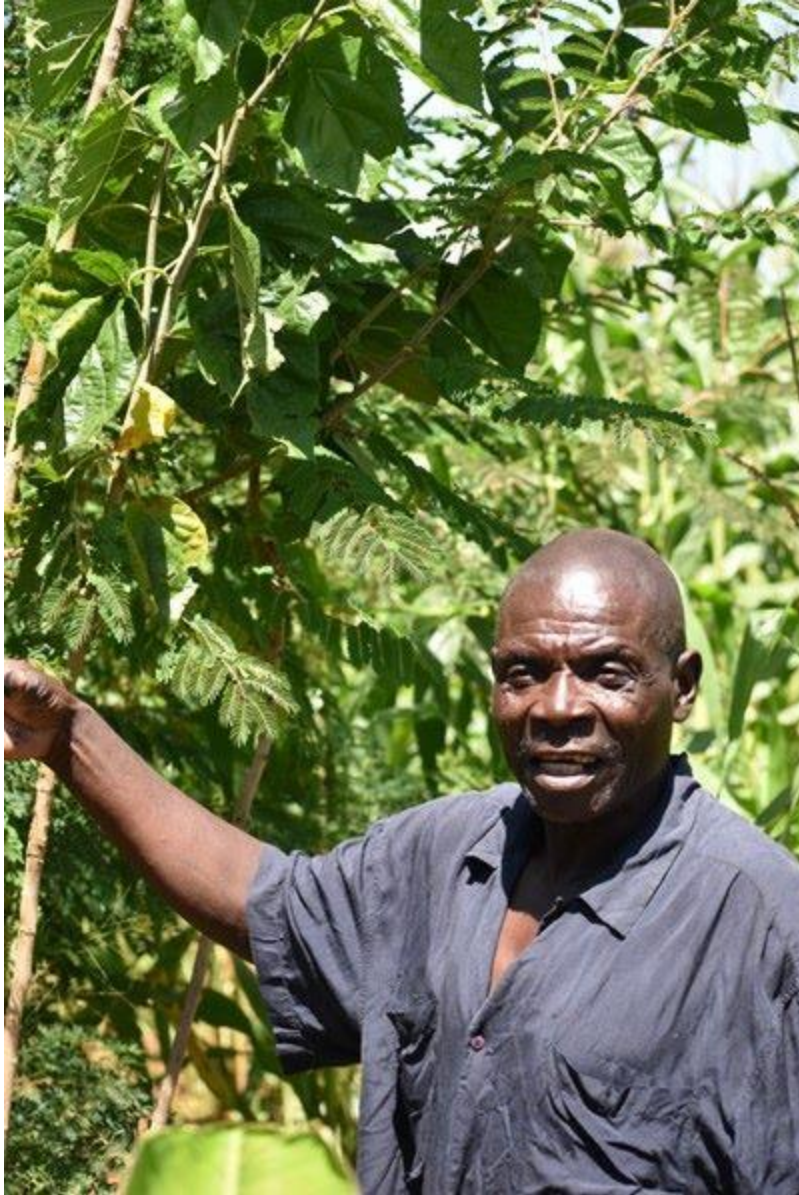


He also showed us his latest mushroom house that he is currently building and longs to cultivate mushrooms. He is definitely creating a niche!

It was impressive how much work has been put into it and what he envisions!

Extension aid, Isack says when asked how Stephen learned this technique *“Just as we are learning about permaculture with permEzone, we make sure that we are also learning other techniques from other groups while sharing about permaculture too, and Stephen learned the cultivation of mushrooms and wanted to build his own unit and have the rest of the farmers be part of it.”*

This is evident from citizen science that the farmers are engaging with one another and other farming communities, and transferring their knowledge, whilst learning other techniques that can benefit them.



Farmer Stephen adds that *“Gaining this knowledge has brought much more interest in understanding design practices better and ensuring that we are utilising our efforts in getting more out of our land. I like using biopesticides on my land and have a much better understanding now that the use of chemicals and fertilisers was harming our land and health more than we thought. I only grew maize before, but now I have a variety of different crops as you can see and I am also trying to grow new types of plants like a new variety of rice which is a success. I also have medicinal plants on my land which I can use as biopesticides*

*and for my own health. Having the team here again, I am learning more techniques through the feedback and I like the support to keep on improving.”*



Stephen also has a borehole which provides him with an abundance of water and lives on solar power which powers his home, and is slowly paying it off in instalments.. He has fenced off areas to ensure that the chickens don't get to some of the produce and has demonstrated a lot of different techniques that remain functional.





There was also a spot where Stephen has created a kitchen garden and has created a barrier to protect this small patch from livestock that are around his site. This patch, however, lacks diversity and mulching. This gave us an opportunity to demonstrate to him and the rest of the farmers that were there, how Stephen could improve this area and use more companion planting to his existing kale crop and add onion and marigold to further deter the pests.





Farmers Nereah and her daughter Caroline have introduced poultry to their farm as extra income and have seen how chicken manure along with compost has boosted their farms. They have created a mulch key hole pit where compost and manure is stored. Along the berm, they have added squash as a ground cover.







Caroline says to us *“There is now a growing interest in this topic and we are growing a lot of indigenous varieties alongside our maize so that we have more surplus. Chicken manure has added a lot of value to our small farm and our soil is alive and healthy. We are also controlling pests using bio herbicides made directly from our farm which we are grateful to know about. We make our concoction from aloe, neem and tithonia and it has been effective on our farm.*



Nereah and Caroline have yet a long way to go to ensure that they're maximising on their space and growing more variety of crops. A refresher and support from the extension aid and farmers is needed for them to feel more encouraged to utilise their land better and use more permaculture techniques to ensure long term sustenance. They appreciated our visit.



Farmer Caleb and his wife are utilising their land very well and are using a lot of the basic techniques from mulching, composting, companion planting and IPM so far. Because he is on flat land, there are no bioswales here, but we offered him some feedback to ensure that he has raised rows to prevent any water logging.





Caleb adds that, *“Without this knowledge and skill, we would not have such a diverse farm. I have enjoyed seeing the fruit of my labour and I enjoy farming again. Even on such a small piece of land, I now realise that we can have a variety of crops and go away from maize fields only. The compost adds nutrition back in the soil and by adding a variety of crops like how I have planted*



*tomatoes, watermelon, kale and onion together, I can see how green that area is versus just planting kale on its own. Mulching has also helped the soil and the quality of the crop and we are enjoying seeing this. We also like using medicinal plants to deter pests that are local to here. With more feedback, we will continue to improve our farming techniques, thank you.”*

## **Day 2 Farmers Visited May 30th**

1. Samuel Wenga
2. Maurine Adhiambo
3. Meshack Okoko
4. Hezbon Obunga

### **1. SAMUEL WENGA**



- He used synthetic inputs before training inorganic fertilisers and pesticides but after permaculture training now uses organic inputs like biopesticides and manure.
- He eats healthy and grows his own food for his household (local vegetables and fruits)
- Diversified production i.e. Kales, Black Nightshade, Sweet potatoes, Bananas, Mangoes, Neem tree, Cassava, Maize
- Has 5 vertical herb spirals (conical gardens) for Kales, Local Vegetables and Onions.

### **To Improve**

- Need to make well raised beds with pathways
- Need to improve on mulch. Make them dense
- Need to introduce more companions, especially repellants for pest control i.e. onions, chillies and coriander

### **2. MAURINE ADHIAMBO**

- Crop diversity i.e. pumpkin, cowpeas, black nightshade, kales, sweet potatoes
- Has raised beds, though needs to be improved

### **To Improve**

- Improve on the raised beds and pathways due to damage from recent rains
- Needs to add mulch and cover crop
- Garden beds to be re-designed for better design

### **3. MESHACK OKOKO**

- Diversified crops i.e. spider plant, blacknight shade, cowpea, napier grass, pigeon pea, tomatoes and kales, arrow roots, bananas, sugarcane, paw paw

### **To improve**

- Need to introduce more agroforestry trees
- Need to establish raised beds and pathways for better access and less soil compaction





- Next training on raised beds and pathways need to be carried out in his farm

### **HEZBON OBUNGA**

- Established and well maintained vertical spiral (conical garden)
- Crop well mulched
- Diversified crops i.e. Kales, Black NightShade, Amaranthus
- Demonstrated how to establish a vertical garden using locally available resources
- Raised beds with pathways, but can still improve further
- Also keeps cattle for milk and manure
- **Has the ability of becoming a lead trainer in the area**

### **To Improve**

- Needs water harvesting facility or sinking bore hole for availing water farm and domestick use

**Day two** of our visits were very productive, we visited four more farmers. The four sites were very different from one another.



Samuel, the first farmer had neglected his farm due to other responsibilities but had still grown a lot of kale and some indigenous crops.



Due to a lack of proper garden beds, there were a lot of weeds coming up in some areas, but he did have a patch of kale coming up as seen in the image above and a maize field, but still practising monocrop. We encouraged him to have proper garden beds and raised rows, going forward and also have



pathways to ensure that he can get around his farms, otherwise you could see a lot of soil compaction.



Samuel also has some vertical spiral gardens (they call them conical gardens) which he uses as a nursery and a growing space for more vegetables. He learned this technique in 2021 and incorporated this on his site. We talked about the advantage of having these vertical spirals as they can be a lot more productive than the other spaces.





He is only growing two types of vegetables so far in these spirals, and now we have encouraged him to add more plant varieties and to use companion planting and IPM to deter pests. There is also a lack of mulch that we have encouraged him to use as the soil looked compacted and dry in some areas.





His maize field also needs some companion plants.. He is aware of the three sisters' crops (maize, beans, squash/ sweet potato) and has been encouraged to work on this and visit other farmers to gain inspiration from.



Farmer 2, Maurine had been demonstrating much success on her farm for the last two years but due to the recent rains, her farm was destroyed and much of her crop washed away. She says to us *“I had been implementing a lot of the techniques taught during the course and diversified my crop. I managed to create a fair market and was selling a variety of vegetables from my small kitchen garden which was doing really well, but with the recent rain, I had a lot of crop loss. A lot of my crops washed away, leaving me to start again. This dampened my ego, but I know I can improve the design again. I still have my bigger farm where I am growing maize and other indigenous crops and have been incorporating ground cover.”*





*Maurine's crop and garden beds washed away*





*Her larger lot with Maize and other crops*

As we walked through her damaged kitchen garden, we gave her a few tips about having her garden beds redesigned and having them dug up much higher, allowing the pathways to slow down the water acting as bio swales on her property since her land is slightly sloped. This would reduce the impact of any disruption. She says *“I am grateful for your visit and the ideas shared. I know I will be able to revive this kitchen garden and even more crops growing if I can redo the garden beds. I also realise the importance of mulching and having those pathways dug a little deeper to slow down the water.”*

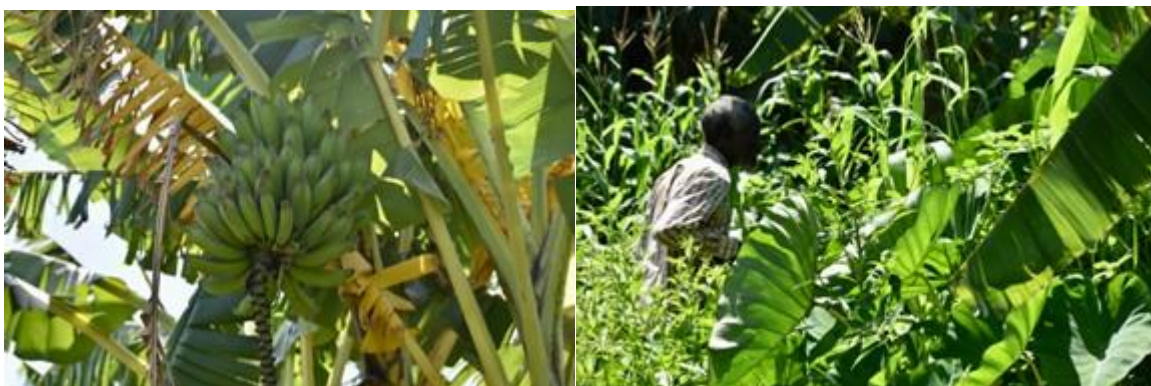


As we walked through Farmer 3, Meshak's site, we walked through maize fields to get to his actual kitchen garde, where he has started. Meshak is elderly and has battled with illness on and off for a few months, which has slowed him down. He says *"Even though I am sick, I love farming, it keeps me active and I love seeing my crops come up."* His words touched us.





We realised that his farm / land is not fenced and has a challenge with cows/livestock coming on to his land, hence why he has an entire maize field walk through to ensure his main kitchen garden is interior of the maize patch.



He was proud to show us giant arrow roots, bananas and tomatoes, although his tomatoes needed some transplanting and he was aware of this, he said he needed some assistance with managing some of his crop. He has a water source adjacent to his enormous banana trees which is a permanent source of a small stream which provides him with the advantage of intensifying his growing process right there. We noticed another part of the land that had been dug up for



a brand new kitchen garden and that land was ideal for a practical session for the rest of the group to join in and help Meshak.

Since we had already been talking about most farms needing better garden bed design, we thought that this site had the potential of becoming a demo for the farmers to not only come and learn, but to help Meshak, since he was elderly and sick.



Extension aid, Isack saw this as an opportunity to put this idea and what he has also taken away during our visit here into action. He also realised the importance of good garden design to ensure maximum productivity and land utilisation. Isaac says *“Now that I have walked around with you, I have understood better about the raised rows and it is starting to make sense, how we could benefit from this design. Seeing the pictures of your own work and how the farm sites look, we can also start to mimic this and see the results expand!. The farmers can definitely utilise their land better and organise their kitchen gardens to have more food for themselves and the market. Your idea about*





*having a group training here would be a great exercise to showcase to the rest of the farmers how they can achieve this if we show it.”*

Extension aids to the programme, **Isack and Caroline** are very enthusiastic and know that a lot more can be achieved if they continue to encourage the farmers. They are very helpful and supportive to the farmers and it is evident the rapport they have with the farmers. Paul has been instrumental in building a great field team, who reside closeby to the farmers and are themselves part of the community which is very important.



Hezbon, who is an IT engineer by profession, unfortunately lost his job and found himself part of the group that got trained in permaculture. He was completely new to farming and had never attempted it, he tells us. He is young, energetic and absolutely vibrant. He was excited to show off his farm and all that he has been implementing. He had utilised his space very well, incorporating multiple gardens around his home.



He says to us *“Before the training, I had no idea how to farm, and now I have this new and deep found passion and excitement! I have enjoyed creating these garden spaces and eating from the land. Before this, I had no idea how much we are harming our bodies, eating foods where we didn’t know where they were coming from. Going away from chemicals and learning to make our own compost and bio-herbicides is rewarding!”*

He took us around his farm and talked to us about the various techniques that he was using like, raised row beds, crop diversity, mulching and the use of his own compost. Hezbon has also included the herb spiral which he made from old banners and string. It was impressive to see how productive this vertical spiral was compared to the land itself and he said he is able to sell off the excess and make a solid income, and that sometimes he has to chase buyers away because he doesn’t have enough surplus of veggies to sell some days. He says *“I learned this technique and thought I could try it out. I found these old banners that were used in rallying in the recent presidential elections and they just tossed out this material, so I found good use for it! I just used some string, stones and material to line the entire conical shape which uses a lot of calculation to get it right, but once it was up, I put in the seeds and seedlings and watched what would happen. I can see how this approach is more beneficial for some small households to get food faster and ensure that we can have surplus to sell.*



*I also keep cows now which provide us with manure and milk, decreasing my visits to the shops.”*

*He also says “As a young person, I feel like I have an important role to play to get more youth connected to the land and get started on farming. The permaculture sessions are very different from conventional agriculture which sets our work apart and it can open doors to more youth to join us and expand the groups in Kisa West.”*

Hesbon’s story and work was really impressive and he has tried to implement most of the important techniques and continues to learn more from our field visits to incorporate more of. He also showed us how he composts and how he makes liquid manure from cow manure, tithonia, dried up bean stocks and other waste from the garden. Using this liquid fertiliser has improved his soil and production tenfold.



Hesbon has demonstrated to us a very modern approach to the typical conventional farms you will see around him, which provides the opportunity to really increase the interest of other farmers in the community to mimic and also inspire young people to implement. It was truly inspiring to see his site. We encouraged him to increase more plant diversity and use IPM.









We were also in for a treat as Hesbon included an exciting and engaging practical session on making a sack garden out of material he had saved up. Extension aid, Isaac had encouraged this type of gardening previously. This encouraged the other farmers that were with us to get involved in this activity and the many hands helped building the sack garden from scratch and planting a variety of different crops in there to showcase diversity. Each person had a role to play which was exciting to watch, from laying down the foundation, adding stone, sowing up the edges with string and then adding the compost, manure and soil. Hesbon did a fantastic job of having all of the items and materials ready beforehand. In an hour, he had himself a brand new sack garden! With such a collective coming together to help out this together, it was evident that each of the farmers were connected with one another and could support one another going forward.



## Conclusion

It has been exciting to see this phase in action and to see how far the farmers have come and of course, how each farm varies from one another. This group is the most unique as they are young, vibrant and are closest to the city. Their youthful energy is what shapes the project and we can see this becoming a very successful phase. The farmers meet every Sunday and continue to share the latest with one another. Paul, Isack and Caroline have a great rapport with the group and with Carol and Isaac residing so close to the farmers and being part of the community, they're able to check in on the farmers and encourage them. The farmers have a very positive outlook and have been very enthusiastic about the process so far. Each site varies, providing the opportunity for more learning and seeing what each farmer is applying to his/her farm. There is no sense of competition but cohesion amongst all farmers. With one final training/ refresher on proper garden bed design, going through basic fundamentals of





using their land to the maximum and composting/waste management, we feel that they will keep improving their existing farms and gain more productivity on their land. They're moving away from conventional farming techniques and are seeing the benefits of permaculture and mixed crop systems. They feel the wider community is seeing this already and are also coming to the group to learn about what they're doing to improve their lots. Given the long dry periods that shook communities around the Country as a whole, the farmers here learned that they could continue growing drought resistant crops and still obtain a yield. Some farmers still need to be encouraged but a majority of them were still able to grow some food. Some farmers have seen how mini earthworks such as swales and pathways are slowing down water run off with the onset of rainy periods and are able to harness this. Access to water for some continues to be a big challenge, but they're thinking of ways to continue to tap into water harvesting techniques that they can implement. There is no doubt that this collective will be actively changing their communities.

Their new vibrant energy is changing the game of farming here in Kisa West, by applying new vertical gardening techniques that could be encouraged, especially during dry periods. Some farmers are already actively leading the way and are spreading the knowledge, whilst learning from other groups outside of theirs.

The field extension team are very encouraging and are eager to engage with other farmers and stir the changes. My suggestion though, is that the field team requires leadership training to continue supporting the farmers and frequently picking up necessary indicators to keep on improving the extension work and overall programme. Isack and Caroline should take a full PDC [permaculture design certification course] to keep them up to date on the content and gain



an understanding in the fundamental principles of permaculture to continue their work.



### **KEY TAKEAWAYS FOR NEXT STAGE**

- Sheena, Paul, Isack and Carol met and have been talking about the next steps
- We all feel a **two day training** should be conducted for the whole group in both locations of Kisa West to attend and learn about proper garden beds, raised rows, sack gardening from scratch, composting and some of the farmers demonstrating how to make bio herbicides that they are already making at their site and encourage the rest of the group to do the same. We feel that this is crucial so that they can start to implement these practices right away and improve their existing lots.





*Isack and Caroline* would take lead on these two trainings (15 farmers on one day and the other 15 farmers on a separate day). We will also have lead farmers **Stephen** demonstrate making bio herbicides for group 1 **Hesbon** to demonstrate the sack gardening and making bio herbicides for group 2.

[Approx Budget for this would be approximately KES 43,000 to conduct / USD 310]

- A challenge that remains is **access to seed** to increase diversity that we are talking about with the farmers. The team discussed if we are able to select a variety of different indigenous and organic seeds from Seed Savers Network that Sheena sources from and provide each farmer with varieties of seeds which they can then save. It is the only organic seed available. Some seeds would then be given to Isaac and Caroline to start a nursery which will be beneficial to the farmers and community around there.
- Strengthen storytelling and evaluation of farms
- **Next & Final Evaluation** of this stage to occur at the **beginning of August**, giving the farmers enough time to practise what they've learned from the next training that they will attend. August is a good time to conduct the final evaluation to see how they are doing and see how they have further improved their farms.
- The photo voice gallery would be a wonderful initiative to showcase these stories captured.

## **FINAL REMARKS / COMMENTS FROM FIELD EXTENSION STAFF**

### **Paul Omolo**



*“The program has played a big role in ensuring food and nutrition security in this community as a result of diversity in their production and in addition to that, generating household income and information sharing between farmer groups. Sheena’s visit over the years and her most recent visit and physical interaction with the team and farmers was great and I am sure it will impact them positively as they practise.”*

### **Caroline Atieno**



*“The pemEzone program through Paul had introduced me to permaculture and am happy about it as it is a good concept to teach farmers and see them put*





*these important techniques into practice. It really motivates me having met Sheena during her most recent visit and seeing how passionate she was on matters of permaculture. Her visit has really encouraged me to learn more new ideas on permaculture, teach and practice more.”*

### **Isack Oshaw**



*“The program enabled me to know what permaculture is and I have learnt that the more you practice and interact with people, the more you learn more and more. Thanks to Paul for bringing us on board. Thank you, Sheena for your visit, I got to learn more when you visited and we will adjust as per your advice. Your visit was helpful.”*