

EBA & Conservation Agriculture Case Studies: Embu County Kenya

Case of Ishiara Village

Vulnerability is defined by the Inter-governmental Panel of Experts in Climate Change as the degree to which something (e.g. a community) is susceptible to, or unable to cope with, the adverse effects of climate change including climate variabilities and extremes. For the communities in the semi-arid counties of Kitui, Embu and Meru, vulnerability analysis underpinning the ‘Community resilience and climate change adaptation in semi-arid lands’ project by Trocaire revealed families suffering high entrenched vulnerability to climate change while having low adaptive capacity, a situation the project tries to address.

This project aims to empower vulnerable groups by enhancing climate change adaptation as a driver of change alongside other developmental approaches in areas with a low development index. The salient characteristics of low development and vulnerability to climate change are well demonstrated by the case of a number of smallholder farmers in the project area coming from different communities but whose stories reveal an uncanny similarity of people sharing the same challenges and struggling to cope with them through various strategies.

Egoki Njiru, 34 from Ishiara, Embu County is a mother of two girls aged 10 and 7 years who attend primary school. In Kaigi village, she lives in a small rural household with scattered paw paw fruit trees surrounded with typical semi-arid vegetation beyond the modest compound. After separating with the husband, she now lives with her parents whom she takes care of besides her two children mainly through subsistence small-scale farming and charcoal trade. Describing her experience with the programme Egoki says ‘In the past, I did not practice digging of terraces and when the rains came, the top soil was largely washed away taking with it the manure I had applied . we have had little to eat over the years as our harvest from the farm, always about 6kg of Mawelo and Green grams, doesn’t last long. Some seasons I get nothing at all poor soils deprived of manure as well as poor rains.’ The foregoing situation has had significant impact on food security for her household particularly with their capacity to supplement their nutritional needs with food from the market challenged by low income. Egoki says “we eat one meal a day. I normally buy most of the green grams and Mawelo that we need from the market but its not sufficient. This farming season, I have decided to apply the knowledge gained from PACJA’s training about digging terraces to avoid soil erosion to see if we can improve our harvest”.

To improve the adaptive capacity of communities, Trocaire partner PACJA trained Egoki and other group members new farming techniques such as progressive terracing and planting in rows, water harvesting methodologies, cover cropping, mulching, tree planting amongst others

as part of the target Ecosystem-based Adaptation strategy which integrates priority areas enhancing ecosystem services for human well being. Examples of such priority areas the communities have been trained include soil management, water conservation techniques, inter-cropping, agro-forestry and crop diversification. As a result of the new techniques they have learnt, Egoki indicates that “now, we have started digging more trenches and planting a variety of localized trees as well as putting up a nursery bed. I aim to harvest about 20kg of greengrams and 20kg of Mawelo at the end of this season. I can then be able to sell part of the harvest to generate income which I will save for household needs and children’s school while remaining with enough food for the family unlike in previous years. These days a bundle of greens grams can sell for a lot of money in the dry season. I want to be able to eat good quality meals twice or thrice a day.”

In recent years, nature-based solutions have risen to prominence as the go to approaches for delivery of win-win solutions for sustainability, social change and empowerment of vulnerable communities. EBA is one such approach that provides strategies going beyond ecological sustainability to promote socio-economic benefits including long term improvement of income. Mis Egoki portrays a very hopeful disposition that the new techniques and approaches she has adopted from the training by PACJA promise a better income and with it an improved future economically. During a farm visit in 2017 Egoki expressed optimism on the new approach thus “I want to buy myself almost everything I need; a phone, a cow, some goats and a mattress that I can sleep on. Then maybe also afford better health care for my children. I trust the modern farming methods I have learned through this programme to improve my production to the extend that I can always have extra income to save for development”. A recent field visit by the project team reveals that through techniques such as terracing and application of manure she harvested 12 sacks of cowpeas up from a harvest of 7 sacks the previous season and was able to buy herself two bullocks for farmwork with the KES 24,000 she got from selling 8 sacks in the market. The outcome of this is that Ms. Egoki no longer needs to hire bulls for farmwork as she has got her own enabling her to save more money.

The broader strategy of the programme is that other community members can learn from the target group through the experiences and achievements of people like Mis Egoki. As evident, this is already taking place. Egoki displays her excitement about the programme and reveals that she would love others to learn about her new knowledge... “I also want to speak about the programme in public and make contributions during meetings. Already progress is evident at group level as they have now set up more tree nursery beds and managed to transplant some of the seedlings to their farms.



PACJA's M & E officer monitoring a farmer who is practicing Terraces for the first time.

Less than 10 Km away from Ms. Egoki's home, another farmer, Njeru Ileri aged 77 lives in a small homestead with his two wives and 4 children. Like Egoki, Mr. Njeru takes care of an extended family consisting of 8 dependants including 5 children and 3 adults. Njeru is also a beneficiary of the Trocaire programme implemented by PACJA. In his own words, Njeru reflects- "I joined the project after being informed by Ishara Parish about it and because of Trocaire reputation of minding people's welfare I didn't hesitate. At first we were not in groups but when I was included in the project we formed a group known as Asali Tamu comprising of 4 women and 5 men to work together and support each other".

Just like in the case of Ms. Egoki's group, Njeru and his group of 9 farmers were taken through training on the practical application of the principles of ecosystem-based adaptation and conservation farming as a socio-ecological resilience strategy. Slash and burn, human induced wild fires, uncontrolled tree cutting and other unsustainable land and resource management practices common practices in Ishiara. As part of a series of training conducted by PACJA, farmers were trained in sustainable land management including farmland preparation, multi-cropping and agro-forestry. Visits early in 2018 revealed that the group had retained the new knowledge and started putting it to practice. Mr. Njeru indicated that- "through the programme I received a lot of training. I had an opportunity to learn about effects of Climate Change and how it impacts farming apart from being advised on land preparation methods like how to dig terraces, planting trees together with crops and reducing burning of biomass." Mr.

Njeru explained that it was only after receiving the training that he started practicing stone terracing, safer burning of biomass and planting of trees. During an on-farm interview with the farmer, he highlighted that- “We established a nursery bed as a group, bought seeds, planted, and are now awaiting the rains to transplant the seedlings to our farms. I thank PACJA for the effort because it did change my mindset as I was almost giving up on this land” he said.



Mr. Njeru seen in his extensively slashed and burned farm before training

A follow up on the beneficiaries during the rain season in April after the training by PACJA’s team which proved that the farmers have faithfully implemented the land and crop management strategies. Njeru aspires to see the improvement he has made in farming practices and his achievements as follows: “before the training, I used to burn every biomass and vegetation to cultivate my farm; I didn’t practice stone terracing to prevent soil erosion. “I am now practicing stone terracing as an alternative to trench terracing because my farm is sloppy and at my age I cannot make trenches; stones are also easily available. I have also planted more tree including fruits trees like pawpaw utilizing the dryland trees planting skills I gained during PACJA’S training. I believe that it will help create a micro climate that will sustain my crops”.

Previous monitoring visits revealed that Njeru’s farm yield was low thus contributing to food insecurity for his family as the grains could not last the time between harvests. Interviews with the farmer revealed a frustration with the situation and desire to improve harvests to alleviate the poor nutritional situation at home- “Sometimes we eat only one meal a day, or go without food in worse times, which is so difficult for the children. I want to grow much more green grams, sorghum and millet to increase our harvest to cover our food needs and sell the surplus

to the market to cater for our other needs” said Mr. Njeru adding that he hoped the new techniques he had learnt would help his family achieve this goal. During the latest visit to his farm, it was evident that Mr. Njeru had put to practice skills from the training; cowpeas and green grams were thriving in a well intercropped and terraced farm while young pawpaw trees could be seen spread at the lower end of the farm.