

Regenerative Agriculture! A ray of hope for resource constraint farmers in drylands of Embu County

Overview

With climate change-induced risks becoming more evident across scales, in the beautiful region of drier parts of Embu County, nestled in the heart of the larger Mt. Kenya ecosystem, a group of determined resource constraint and small-scale farmers embarked on a journey to mitigate the adverse effects of climate change. Their home-grown strategy was to embrace regenerative agriculture practices with the aim of restoring sustainable landscape productivity, food and nutrition security as well as enhance farm level resilience and reduce greenhouse gas emissions. The group of farmers seem to have a clear vision on their contribution to four of the global sustainable development goals Nos. 1 (poverty eradication), 2 (zero hunger), 13 (climate action) and 17 (partnerships).

The story

For decades, the drier parts of Embu County had been experiencing the effects of unpredictable weather patterns, droughts, and soil degradation. Traditional farming methods were evidently failing, leaving farmers with meagre yields that would hardly support daily family dietary requirements, and uncertain livelihoods. Recognizing the urgent need for change, a passionate farmer named Munyi (not his real name) took the lead and rallied his fellow farmers to join him in piloting regenerative agriculture at their small farms. The farmers knew the risks they were plunging their families into in case the exercise failed. At hand were 2 researchers from the University of Embu (Department of Agricultural Economics and Extension) led by Dr. Mogaka Hezron and Ms. Elvin Otara to give confidence on the viability of regenerative agriculture as a climate change adaptation strategy.

Munyi and his determined group of handful farmers embarked on an

extensive experiential learning journey, attending workshops and training programs on regenerative farming techniques. They learned how to rebuild healthy, nutrient-rich soil and restore the delicate ecological balance that had been disrupted over time. Armed with this knowledge, they began implementing this method on their respective farms.

The first step was to shift from conventional, chemical-dependent farming to organic practices. They eliminated or reduced on the use of synthetic pesticides and fertilizers that had been degrading the soil and causing harm to the environment. Instead, they focused on utilizing natural methods, such as composting, crop rotation, and cover cropping to enhance soil fertility – in short they also embraced integrated soil fertility management (ISFM). It is important to note that the Vice Chancellor of the University of Embu together with other researchers from Kenyatta University have supported the farmers in demonstrating how a combination of regenerative agriculture practices and ISFM can greatly reduce the impacts of climate change in this region.

To combat the recurring droughts, the farmers employed *in situ* water conservation techniques. They built contour trenches and bunds to capture rainwater, preventing runoff and allowing it to infiltrate the soil. This simple yet effective measure ensured that precious water resources were retained and made available for crops during the dry spells. The farmers concluded that there were no bad or good seasons as far as rainfall is concerned, but the most important lesson learnt was that farmers should take full advantages of seasonal opportunities 'Joseph' offered during the old days of Pharaoh in Egypt.

Another crucial aspect of regenerative agriculture adopted by the farmers was agroforestry – intercropping tree crops with agricultural crops. They integrated trees and shrubs into their farming

systems, strategically planting them to provide shade, conserve moisture, and improve soil quality. The trees also acted as windbreaks, reducing the impact of strong winds that could damage their crops. At this point most probably by default, the farmers were building a carbon stock.

Over time, the transformative power of regenerative agriculture has become evident in drier parts of Embu County. The soil, once depleted and lifeless, has gradually regained its vitality/health. Its ability to retain moisture has improved, and the crops do flourish even during prolonged dry seasons. With healthier crops and increased biodiversity, the farmers have started reaping the benefits of their risky adventure.

Through the support of other organizations including AGRA, the good news has spread on the success of regenerative agriculture in Embu County, neighbouring farmers and communities who were at first risk averse have taken notice of this success story. Munyi and his fellow farmers have become local ambassadors for this sustainable approach, sharing their knowledge and experiences with others. They have organized a series of workshops and field demonstrations,

inspiring more people to adopt regenerative agriculture practices and work collectively to mitigate the effects of climate change.

The transformative journey of the drier parts of Embu County's farmers did not go unnoticed at a broader level. Their stories caught the attention of national and international organizations dedicated to sustainable agriculture. As a result, through the University of Embu, they received support, enabling them to further expand their regenerative farming practices. The region has become a beacon of hope and an exemplary example for other regions struggling with similar challenges.

Therefore

Through their determination, resilience, and the adoption of regenerative agriculture, the farmers residing in the drier parts of Embu County are gradually overcoming the effects of climate change. They not only intend to revitalize their lands and secure their own livelihoods, but also inspire a movement that would ripple far beyond their community. This story serves as a testament to the power of sustainable farming practices in creating a resilient and thriving future for all.

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*Two scientific papers have been published based on this inspirational story, i.e, (i) *Effects of Regenerative Agriculture Technologies on the Productivity of Cowpea in the Drylands of Embu County, Kenya* and (ii) *Socioeconomic Factors Influencing Uptake of Regenerative Agriculture Technologies in the Dry-lands of Embu County, Kenya**