



Title: Tiriki Tropical Garden and On-farm Bamboo Enterprise in Shamakhokho, Vihiga County

Target Audience: Crop and livestock farmers, extension agents, learning and research institutions

Introduction

Tiriki Tropical Garden was started in 2007 with the intention of planting different tree species to address the challenges of climate change. Although the garden was started in 2007, Mr. Victor Mwanga, the farm owner, started bamboo production in 2012 in Shamakhokho area, Vihiga County, to address the problem of soil erosion in his farm and to introduce short rotation plants. The farmer domesticated different bamboo species using both vegetative and seed propagation methods. The farmer is currently producing 8 species of Bamboo.

Objectives

Objectives of Tiriki Tropical Garden:

- Production and propagation of bamboo.
- Livelihood development and improvements through different bamboo products.
- Adaptation to climate change through integration and diversification of different trees and plant species.

Approach

Bamboo production had not been embraced in many places in Kenya as it is one of the challenging enterprises globally. Many farmers did not have knowledge on how to domesticate bamboo species. Bamboo was introduced on-farm by Mr. Victor Mwanga to address the problem of soil erosion in his farm through propagating bamboo seedlings from seeds. In this process, where bamboo seedlings are raised from seeds, seeds are broadcasted in seedbeds and later pricked out into polythene bags after emergence.

The seeds should be from a known source. The seeds should be sown within 60 days of harvesting, while sufficient shade and moisture should be provided in the nursery during the early days of growth. Seedlings should be hardened off before planting out. Ensure that bamboo plantation is kept clean to avoid rodents and snakes.

Impact

Bamboo seedlings production has improved the farmer's income through sale of seedlings and the ready market for bamboo products e.g. bamboo furniture.

Mature bamboo clusters on-farm have also greatly contributed to soil stabilization and water conservation as well as creating a good micro-climate around the homestead.

Innovations and Success Factors

Bamboo growing has been adopted by many farmers in Shamakhokho area. This has been enhanced through training of farmers and raising seedlings in their own nurseries. Domestication of different bamboo species using both vegetative and seed methods of propagation has been adopted by farmers.

Beekeeping and production of beehives using bamboo has also been adopted as additional enterprise for sustainable livelihood.

Constraints

Some of the constraints experienced by the farmer include:

- Short viability of bamboo seed i.e. high viability can only be achieved at 60 days or less after which mortality rate drastically increases.
- The steep farm terrain makes movement cumbersome, especially during planting and harvesting.
- Buying seed from the international market is strenuous as there are many logistical issues to be adhered to. Due to such lengthy processes, sometimes farmers fail to acquire seeds within set timeframe.
- Bamboo takes over 120 years to bear seed after which it dies. Seed propagation cannot therefore, be solely relied upon and there is need for different propagation methodologies to be devised.
- There is high mortality of bamboo seedlings propagated vegetatively, i.e. almost 80% mortality.

Lessons Learnt

Some lessons learnt include:

- Cross-boundary collaboration is important in the production of bamboo. The farmer managed to collaborate with other international organisations to improve his bamboo production.
- More money or revenue is accrued from adding value as opposed to trading in raw bamboo material.

- Bamboo production through seed propagation is better as it increases the survival rate of seedlings.
- Individual effort can be more significant than community initiatives on communal land.
- Networking of different institutions like KEFRI, KFS, Trade organisation, development partners can improve the livelihood of farmers both individually and collectively through encouraging growing bamboo on-farm.

Conclusion

Growing of bamboo is a viable enterprise and has potential to improve farmer's income, conserve environment, and enhance mitigation and adaptation to climate change.

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