

Farmer Managed Natural Regeneration

“From stumps to trees”



Advocacy Brief

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What is Farmer Managed Natural Regeneration?

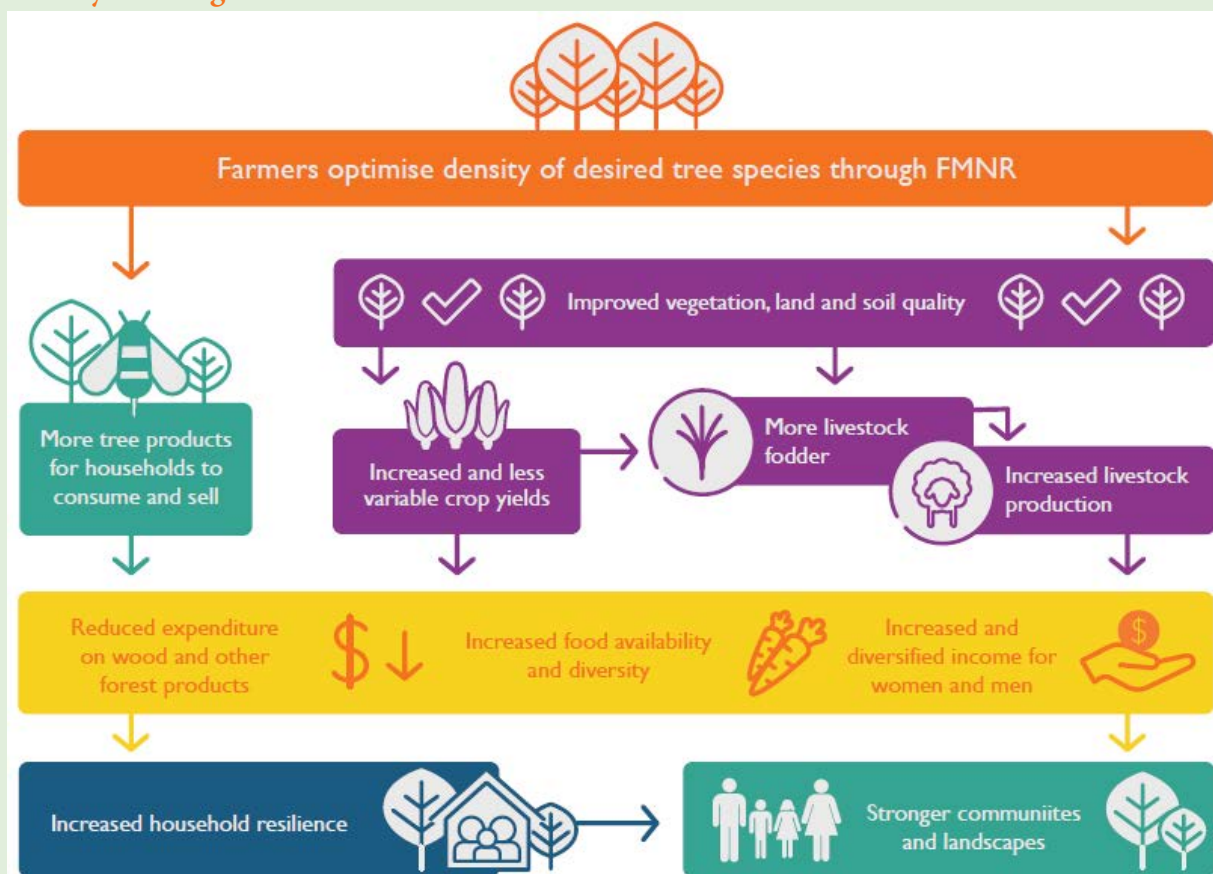
FMNR is the systematic regeneration of trees from living tree stumps, roots and seedlings. It is a low-cost restoration technique used to combat deforestation, poverty and hunger amongst poor subsistence farmers by increasing food and forests/tree products, and resilience to climate extremes. Looking at the deforestation rate of 2% per annum (MWE, 2018), the remaining trees are few compared to the perceived environmental functions that they perform; for food production regimes, amelioration of micro-climate, provisioning for hunger and aesthetic beauty of the environment. It can be promoted in most parts of Uganda and is complementary to other restoration efforts.

When is FMNR appropriate?

FMNR is appealing in communities where:

1. Community members are able to recognize that their environment is deteriorating, trees are disappearing and they are interested in restoring land productivity. Communities are faced with shortage of fuelwood, building materials, forage for animals (including bees) and a decline in productivity of agricultural lands.
2. Community members have a vested interest and stand to benefit from improved agro-ecological conditions that they create over many years.
3. Community leaders have an interest in conserving and managing natural resources for community survival and command FMNR acceptability, propel its spread and sustainability in the community for diversification of household incomes.

FMNR theory of change



Courtesy of World Vision

The practice of FMNR

All tree species that have the ability to coppice can be managed under the FMNR systems. However, the common tree species include *Combretum mole*, *Combretum collinum*, *Balanites aegyptiaca*, *Markhamia lutea*, *Albizia coriaria*, *Annona senegalensis*, *Artocarpus heterophyllus*, *Erythrina abyssinica*, *Eucalyptus grandis*, *Mangifera indica*, *Ficus natalensis*, *Milicia excelsa* and many more others identified according to needs of the farmers.

FMNR involves weeding trees, pruning, thinning, pollarding and coppicing. Research done by the World Agroforestry Centre (2000) shows that weeding accounts for 55%, pruning 22%, thinning 12%, pollarding 8% and minimal 3% for coppicing. However, these proportions vary with the age of the FMNR plot.

Given its low cost and “farmer managed” aspect, FMNR is spreading widely and rapidly in Uganda. It can be adapted to suit the unique needs and goals of local communities. The practice involves simple steps:

1. Surveying the farm noting how many and which tree species exist.
2. Selecting desired tree stumps and for each stump choose a number of the tallest and straightest stems to leave.
3. Removing the unwanted stems and side branches. Manage any threats to the remaining branches. These could be roaming animals such as livestock and goats, fires and competing vegetation (weeds).
4. Discarding the emerging new stems and prune side branches from time to time.

The benefits

FMNR addresses multiple problems simultaneously, including: land degradation, soil infertility and erosion, biodiversity loss, food insecurity, scarcity of fuel wood, unsustainable charcoal production, shortages of building timber and fodder and dysfunctional hydrological cycles caused by exacerbated flood and drought events, reduced ground water recharge, drying of springs, wells and streams.

The practice is both an effective climate mitigation and adaptation intervention. It has the ability to offset global carbon emissions through carbon sequestration, but can also contribute to social adaptation and reduce vulnerability of the local communities

through provision of ecosystem products and services. Through these impacts, FMNR can reduce conflicts over the scarce tree resources, thus an effective means of reducing poverty. FMNR is key in contributing to reforestation, improving local governance structures, enhancing positive community-local government engagement and conserving diversity; of plant and animal communities.

Challenges FMNR proponents face

Despite its enormous benefits, there are a number of challenges facing the model.

- 1) Unclear land and tree tenure, which allows the population to exploit trees resources. In areas like Nakasongola and Kibaale districts, trees are owned by absentee land owners, which gives chance to the local communities to cut them down.
- 2) Unregulated harvesting of forest products like firewood and charcoal. The licensing of charcoal trade in local governments and the cutting down of trees for firewood and charcoal, does not regulate the regeneration potential of stumps.
- 3) Poor enforcement of forest laws and regulations. For example, there is no specific law and regulations that guide the sprouting of trees from stumps. Often times, they are managed out of experience by the person managing coppices.
- 4) Wildfires especially during the dry season. Whereas there is a law that manages uncontrolled wildfires, fires continue to damage stumps, reducing their ability for regeneration through coppices. Fires damage coppicing trees, saplings and reduce their ability to grow into mature trees.
- 5) Uncontrolled livestock movement and browsing especially during the early stages of FMNR. Stray animals are often left roaming in open spaces, killing sprouting trees, browsing on trees regenerating from stumps and reducing the ability of seed and seedlings germination potential.
- 6) Poor conversion methods for forest products (poles, timbers, charcoal) as the stumps left behind are often not viable for regeneration. Stumps would require a fresh re-shaping to allow for coppicing. The use of power saws in cutting down trees has taken a great share in losing the viability of the stump.
- 7) Low market prices and value attached to FMNR products that regenerate. Often times, the prices of coppiced products, other than fruits and resin, are generally low.



Success factors for FMNR

Strong coordination: Currently, the FMNR practice around the country is organized as a network and coordinated by Tree Talk Plus as the host institution. It has over 50 subscribed members. It has a rejuvenated leadership role, with ability to undertake capacity building for members to see that the network takes root and moves on to the next chapter.

Change agents: there are FMNR champions who are agents of change at farmer level, and the network has established demonstration sites in Kapchorwa, Bugiri, Mayuge, Mpigi, Sembabule, Nakasongola, Arua, Koboko, Yumbe, Sembabule, Albetong, Otuke and Gulu among others. In years to come, it will cover the entire country. The practice is integrated with other short-term socio-economic activities such as livestock rearing, bee keeping and fruit trees. In

Koboko, Yumbe and Arua, trees are integrated with goat rearing, there are apiary projects in various FMNR plots in Sembabule, Mpigi and Mayuge, and fruits like passion fruits and pine apple are grown everywhere in the country. These are enabling factors to the success of FMNR.

FMNR is now embraced as a strategic option: for Reducing Emissions from Deforestation and forest Degradation (REDD+), as an adaptation and mitigation action and it is a key agroforestry practice that aims to improve trees on farm. FMNR is in the work programs of the Ministry of Water and Environment, various government departments (forestry, animal husbandry, agriculture) and several NGOs working in the Environment and Natural Resources, Climate Change, Land and Water Management program.



Among other factors for the FMNR success, is:

1. Integration of FMNR with other short-term socio-economic activities such as livestock, bee keeping and fruit trees,
2. Enabling policies, laws and institutions, that address specific local contexts,
3. Cohesive communities willing to learn from FMNR champions and from each other,
4. Increased awareness on the link between FMNR, environmental resilience and improved rural livelihoods,
5. A shared vision of collective action and landscape-level restoration and natural resource management,
6. Clear and coherent knowledge management mechanisms including farmer training.

FMNR enabling factors

There are enabling factors to the adoption of FMNR. First, there is confidence and synergy building in partnerships and collaborations, close and regular follow up and support visits, short, mid and long-term significant benefits and increased income in FMNR. There is improved access to markets for the forestry products though the prices are still low. There are benefits (economic and others) from FMNR that are cheaper than alternatives. Some FMNR farmers have access to land and security of tenure which gives confidence in being able to control risk, such as fire, pests, theft.

The FMNR network is currently financed by Vi Agroforestry to strengthen the FMNR Network to increase adoption of the FMNR model in Uganda. With this funding, the network has been able to build capacity and increase an understanding of the model in the country.

Recommendation

It is recommended that:

1. Conduct more FMNR participatory sensitisation meetings and trainings bringing together traditional and government leaders, forestry and agriculture department staff, other NGOs/CBOs and community members. This enlightens them on what FMNR is and how it connects in to their livelihoods.
2. District Local Governments should streamline FMNR into the district development plans for agriculture and forestry.
4. District Local Governments should formulate and enforce ordinances and by-laws taking care of FMNR practices.
5. District Local Governments should establish and empower community-based institutions to oversee and coordinate implementation of FMNR activities.
6. DLGs and CBOs should integrate FMNR with other livelihood options enabling communities to let the trees grow so that they have diversified income sources to meet immediate needs.
7. There is need for a conducive policy environment to secure the land and tree tenure of the farmers practicing FMNR.
8. Peer to peer learning through field exchange visits among FMNR champions and successful FMNR practitioners. Most farmers believe by seeing and hearing from peers, triggering adoption.
9. Ministry of Water and Environment should streamline the licensing procedure for forest products harvesting especially charcoal and timber to ensure sustainability of FMNR plots.
10. Strengthen monitoring procedures through well-established monitoring tools and frameworks, follow ups and support visits to provide technical back stopping to the farmers and problem solving through technical advice.
11. Promote value addition for products like honey into wine, proven herbal medical supplement to enhance Uganda's FMNR Network.

Tree Talk Plus is the host of the FMNR network in Uganda, currently funded by Vi-Agroforestry. Tree Talk Plus works towards shaping the minds and attitudes of communities for improved land-use practices, building resilience towards climate change improving the lives of ordinary people.

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