

# Achieving scalable and equitable resource governance in farmer-managed natural regeneration in northern Ghana

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*“Regreening landscapes is as much a social enterprise as it is a biophysical and technical one.”*

## Introduction

One of the most successful and cost-effective approaches to landscape restoration in African drylands is farmer managed natural regeneration (FMNR). This involves pruning and thinning to manage the regrowth of tree stumps, roots and seeds (Reij and Winterbottom 2015), and leads to improvements in crop yields, carbon sequestration, biodiversity and household income (Binam et al. 2015). FMNR is especially suitable for drylands, where survival rates from tree planting are frequently low. But despite the successes of FMNR, there are challenges in upscaling.

Who determines who should benefit from certain tree products? And which local institutions play a role in managing the resource demands of livestock grazing, household energy supply and crop farming? Such questions are important for ensuring that dryland landscape restoration in Africa is scalable and socially equitable. They also underscore the importance of empowering stakeholders – local land users in particular – in the governance of landscape restoration initiatives. Resource governance and tenure are increasingly recognised as integral components of landscape restoration. This is especially so for Africa’s drylands, where customary institutions mediate access and control over trees and land in different ways. Research suggests that assessing tenure rights in practice, rather than rights in law, should be prioritized when planning forest and landscape restoration interventions (McLain et al. 2018).

This article uses experiences from FMNR interventions in northern Ghana to answer these questions.

1. Why do resource governance and tenure matter for FMNR interventions, and why have they so far not received the attention they deserve?

2. What are the constraints to achieving scalable and equitable resource governance in FMNR interventions?
3. How can FMNR projects better engage with resource governance and tenure, with the aim of improving scalable and equitable project outcomes?

This article integrates practitioner perspectives with insights from research in 2019–20 that used qualitative and participatory data collection tools to explore FMNR uptake in three communities in Talensi District, Upper East Region (Kandel et al. 2021). This leads to four recommendations for enhancing scalable and equitable resource governance in FMNR interventions in Africa’s drylands.

## Resource governance and tenure in FMNR: Why such little attention?

Resource governance and tenure matter for restoration. Governance approaches should address key equity concerns that include how benefits, costs and risks are distributed; who participates in decision making and how; and whether the voices, rights and values of all stakeholders are recognized and respected (Nunan et al. 2018).

Why do governance and tenure not receive enough attention when it comes to FMNR?

Two main reasons were seen for this in Ghana.

First, the biophysical and technical aspects of restoration still attract more attention than the social and political dimensions. (Elias et al. 2021). Second, FMNR is not about planting trees. Instead, by supporting the regrowth of native trees, FMNR recognizes the value of local knowledge and traditional agroforestry practices. This may have led to an assumption that resource governance and equity issues are less likely to arise in FMNR since seemingly nothing ‘new’ is being brought to these landscapes.





Stone bunding in one of the study communities. Photo: Matt Kandel

This calls for shifting attention to how existing social differences in access to and control over natural resources influence who wins and who loses from the regeneration of native trees (Kandel et al. 2021). Rights to benefits from trees in African drylands depend on factors such as kinship, gender, residence status, seniority and social class, with implications for which trees are retained and how they are managed.

### **FMNR in northern Ghana**

Northern Ghana lies within the Guinean and Sudanian savanna agro-ecological zones, which contain the parkland agroforestry system, with scattered trees on permanently cultivated village fields and long-term fallows (Boffa 1999). In 2009, World Vision Ghana piloted FMNR in nine communities in Talensi District. By 2012, 161 ha of forest and 336 ha of cropland had been restored (Weston et al. 2013). Of the farmers who adopted FMNR, 94% reported increases in soil fertility and 66% reported improvements in soil erosion (Weston et al. 2013).

World Vision Ghana has since implemented FMNR in 48 more communities in Talensi, and scaled it up to the districts of Bawku West, Garu-Tempene, Jirapa, Mion and Kassena-Nankana. Using an integrative approach, FMNR is implemented alongside livelihood diversification and sustainable land management activities such as crop residue management and stone bunding. Training in agronomic practices enhances on-farm resource availability and reduces the need for resource extraction from dry forests.

### **Strengthening governance in community FMNR**

World Vision Ghana supports existing institutions in identifying degraded areas to be restored. These areas — which can reach up to 50 hectares in size — also serve as community FMNR ‘learning centres.’ Site selection is led by the chief, traditional leaders, district assembly person and household heads; the latter must agree to allocate customary land (over which they hold usufruct rights) to the community. Community FMNR groups have 20 members who are selected with gender equality and inclusion of vulnerable



A community FMNR site, with shrubs in the foreground and mature shea trees (*Vitellaria paradoxa*) in the background. Photo: Matt Kandel

groups in mind. These groups also play key roles in farmer-to-farmer extension, with a focus on sharing knowledge of tree and shrub management. World Vision Ghana also supports communities in formulating bylaws, which become codified according to customary norms and practices. Bylaws promote tree and shrub regeneration on community FMNR sites and prohibit cutting – only branches pruned during FMNR may be removed for firewood.

Along with the FMNR groups, World Vision Ghana also supports the establishment of 20-member fire volunteer groups in each community. With training from the Ghana National Fire Service, volunteers are responsible for preventing and controlling fires, especially in the dry season, and are mandated to report any transgressions to the chief. As with the community FMNR groups, gender equality and the involvement of vulnerable groups are key criteria for selecting members of the fire groups.

## Key findings

- Community sites are important for regenerating trees on a scale larger than plot level and for improving biodiversity (Weston et al. 2013).
- Emphasising gender equality and the involvement of vulnerable groups in selecting members of FMNR and fire volunteer groups demonstrates social inclusion.
- The governance model used in community FMNR sites is important for supporting equitable resource access and is consistent with how local communities customarily govern communal land.
- Farmer-to-farmer knowledge sharing on FMNR has led to enhanced capabilities in sustainable land management. During on-farm transect walks, for example, farmers explained their decisions to keep young trees in their fields, especially *Faidherbia albida*, and many indicated that they used to remove all thorny trees during land preparation, whereas now they retain them.



A farmer pointing towards a community FMNR site, with a small firebreak also visible. Photo: Matt Kandel

- Supporting governance structures that facilitate the prevention and control of bush fires is important for FMNR. During interviews on the benefits of FMNR, many ranked “reduced bush fire” highly, with one person stating that this is a fundamental benefit, providing the basis for people to realise other positive outcomes such as improved soil fertility, shade and windbreak.

### Constraints to scalability and equity

Notwithstanding resource governance successes, other factors constrain the equitable upscaling of FMNR in northern Ghana.

**Tree and land tenure.** Who can benefit from which trees, where, when and how, is socially differentiated and affects how benefits are distributed. In some areas, for example, chiefs and sub-chiefs reserve harvesting rights to the valuable pods of the African locust bean (*Parkia biglobosa*), which disincentivises other farmers from retaining parkia seedlings on their farms and potentially hastens their decline in the landscape (Poudyal 2011). Also, the household that leases the land often prohibits

the tenant farmer from harvesting fruit from any shea trees there.

**Pastoralists and FMNR.** Supporting the participation of pastoralists in FMNR has been a challenge in Talensi. Called “Fulani” by many people (though not all pastoralists are Fulani), they are socially and politically marginalized, which complicates efforts to include them.

**Cross-scale governance.** Communities that didn’t receive technical support in resource governance from the project did not always adopt the land management practices necessary for upscaling greening. A key reason was the inability to prevent and control large bush fires due to a lack of inter-community resource governance.

**Weak government enforcement.** Lack of government enforcement against deforestation, particularly of shea for charcoal and African rosewood (*Dalbergia* spp.) for timber exports, works against efforts to upscale tree regeneration. Cutting shea trees also produces inequitable outcomes, since women are the main processors and beneficiaries of products from the fruit. Commercial and

small-scale surface mining also pose regulatory challenges.

**Chieftaincy conflict.** Chiefs and sub-chiefs make important contributions to upscaling resource governance, but chieftaincy conflicts, which at times turn violent, have made it difficult to scale up inter-community resource governance structures.

## Recommendations

Achieving scalable and socially equitable resource governance in FMNR requires overcoming constraints and coalescing around a shared vision for regenerating landscapes. Lessons learned from this experience led to four recommendations.

**1: Assess local tree and land tenure systems when planning FMNR interventions.** Mapping local-level resource power dynamics help to mitigate potentially inequitable outcomes, especially with communally managed forests and pastures. Statutory laws and policies often exert little influence on local-scale natural resource management in rural Africa. This is because in practice local land users' rights – which often diverge from statutory law – most influence how they invest in and manage natural resources (McLain et al. 2018). Alternative tenure models such as that proposed by McLain et al. (2018) can help answer the question of who is likely to win and lose from the regeneration of indigenous trees. If FMNR is paired with enrichment planting, as demonstrated in Ethiopia (Hagazi et al. 2019), extra attention needs to be paid to the tenure-specific aspects of each tree species.

**2: Ensure that all land user groups, including pastoralists, participate in decision-making processes to achieve the socially equitable upscaling of FMNR.** As a restoration approach that is specially tailored to drylands, FMNR should avoid a model that focuses only on farmers. Ensuring that vulnerable and marginalized social groups such as women, migrants and pastoralists are included in resource governance is a key part of socially equitable restoration. The commons governance model supports social inclusion and equity when FMNR is used to restore degraded

and deforested areas. Although supporting pastoralist participation in FMNR in Ghana has proven challenging, evidence from Niger shows it is possible, but only if governance structures are inclusive (Tougiani et al. 2009). Addressing the political marginalization of pastoralists in Ghana is outside the scope of an FMNR intervention, but excluding pastoralists from resource governance will have consequences, particularly when it comes to regreening important grazing areas such as pastures and woodland fallows.

**3: Asking “by whom and for whom?” is an important framing device for strengthening social equity in FMNR (or any restoration intervention), but so is asking “where?,” as this affects upscaling efforts as well as who can participate in FMNR.** One response from farmers in Talensi was that they could not practise FMNR on village fields due to the absence of living rootstocks; this mirrors other research findings (Binam et al. 2015). To upscale socially inclusive FMNR the following four questions are important. (a) Are there other locations within the landscape such as fallows, pastures or riparian areas where FMNR technically might have more potential? (b) In what areas are land users and social groups most likely to benefit from FMNR? (c) How will tenure arrangements affect who benefits from FMNR in these areas? (d) Are there adequate incentives for land users to practise FMNR in these contexts? Ultimately, supporting local land users in deciding where in the landscape FMNR is most viable is key to scaling up this approach, and communities must also feel incentivized to invest their time and resources.

**4: Strengthen resource governance for regreening by supporting community-led, inter-community collaboration, with cross-jurisdictional and cross-sectoral support from government, traditional institutions and non-governmental organisations.** This is essential to achieving sustainable outcomes. Governance structures may also need to include conflict management and conflict reconciliation mechanisms. In Talensi, for example, farmer-herder dispute resolution initiatives offer a potential platform for socially inclusive land use planning and resource governance. It is



Communally managed pasture in Talensi in January when the harmattan wind blows in from the Sahara Desert.  
Photo: Matt Kandel

important that governance structures recognise and respect all land users within the landscape.

## Conclusions

Regreening landscapes is as much a social enterprise as it is a biophysical and technical one. The recommendations in this article draw on the experiences presented here and reflect the importance of resource governance and tenure within the context of FMNR. They aim to support ongoing efforts at achieving scalable and socially equitable resource governance in related interventions in Africa's drylands. Making the case for FMNR requires tailoring the message to local needs, expectations and aspirations, and acknowledging that different social groups and land users maintain different visions for dryland landscapes. This plays to the strengths of FMNR, as it is based on recognizing the value of local agroforestry knowledge and practices. This socially equitable premise sets FMNR apart from many other restoration approaches that are still too often top-down in design and implementation. It therefore should continue to guide FMNR interventions in African drylands.

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## References

- Binam, J.N., F. Place, A. Kalinganire, S. Hamade, M. Boureïuma, A. Tougiani, J. Dakouo, B. Mounkoro, S. Diaminatou, M. Badji, M. Diop, A.B. Babou and E. Haglund. 2015. "Effects of farmer-managed natural regeneration on livelihoods in semi-arid West Africa." *Environmental Economics and Policy Studies* 17: 543–575.
- Boffa, J.M. 1999. *Agroforestry parklands in sub-Saharan Africa*. FAO Conservation Guide No. 34. FAO, Rome.
- Elias, M., D. Joshi and R. Meinzen-Dick. 2021. Restoration for whom, by whom? Exploring the socio-political dimensions of restoration. *Ecological Restoration*. [in press].
- Hagazi, N., E. Birhane and T. Rinaudo. 2019. Restoring degraded landscapes with farmer's managed natural regeneration approach. In: K.M. Hadgu, B. Bishaw, M. Liyama, E. Birhane, A. Negussie, C.M. Davis and B. Bernart (eds.), *Climate-smart Agriculture: enhancing resilience*

*agricultural systems, landscapes, and livelihoods in Ethiopia and beyond*. ICRAF, Nairobi. pp. 81–91.

Kandel, M., R.S. Alare, G. Agaba, T. Addoah and K. Schreckenber. 2021. "Assessing social equity in farmer-managed natural regeneration (FMNR): Findings from Ghana." *Ecological Restoration*. [in press].

McLain, R., S. Lawry, M.R. Guariguata and J. Reed. 2018. "Toward a tenure-responsive approach to forest landscape restoration: A proposed tenure diagnostic for assessing restoration opportunities." *Land Use Policy*. doi.org/10.1016/j.landusepol.2018.11.053.

Nunan, F., M. Menton, C. McDermott, K. Schreckenber and M. Huxham. 2018. *Governing natural resources for effectiveness, equity and sustainability: what matters?* ESPA Policy and practice briefing.

Poudyal, M. 2011. "Chiefs and trees: tenures and incentives in the management and use of two multipurpose tree species in agroforestry parklands in northern Ghana." *Society and Natural Resources* 24(10):1063–1077.

Reij, C. and R. Winterbottom. 2015. *Scaling Up Regreening: six steps to success: a practical approach to forest and landscape restoration*. World Resources Institute, Washington D.C.

Tougiani, A., C. Guero and T. Rinaudo. 2009. "Community mobilisation for improved livelihoods through tree crop management in Niger." *GeoJournal* 74:377–389.

Weston, P., R. Hong and V. Morrison. 2013. *End-of-phase evaluation report*. World Vision Australia/Ghana, Accra, Ghana.

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Cover photo: A woodland bush farm during the dry season in Talensi, with crop residue remaining in the field. Near this farm are long-term fallows, an important land use within parklands. Photo: Matt Kandel



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