

From Desolation to Diversity: The Community-Led Restoration of a Disturbed Forest (*A case study of Lapule Lamadada Community Forest, Chaurjahari Municipality, Rukum West, Karnali Province, Nepal.*)

Arbin Poudel, R&D Officer, GFN

Introduction:

The lungs of our planet, forests offer a variety of ecosystem services including the preservation of biodiversity, carbon sequestration, water management, and chances for subsistence. They occupy around 45.31% of Nepal's entire land area which is in increasing order as compared to past years (Wikipedia). However, uncontrolled human activity, careless infrastructure construction, and neglect have resulted in the abandonment, degradation, and deforestation of forests in many areas. Along with this, the condition of the forest is also harmed by the conversion of forest land to other land use systems such as agricultural land, settlement areas, and grasslands, etc. The nation's natural resources have previously been threatened by widespread deforestation and irresponsible logging methods. In order to address this problem, the idea of community forest management was established in the late 1970s, giving local people the authority to save and sustainably manage their forests.

Community Forest is a center of learning for democratic environmental governance that seeks to fulfill the twin goals of environmental protection and poverty alleviation. The forest is managed by those who frequent it and are responsible for keeping it safe. It is crucial for user-driven decisions on the management of forests and land use. In order to identify the best solution for a sustainable way of life and the health of the forest, as well as for cooperation in problem-solving, the CF program is being implemented with collaboration and coordination between and among all resource management stakeholders (Khadka & Vacik, 2008). building a legal and institutional framework is the first stage in establishing community forestry. This includes modernizing legislative norms and rules for forest management, creating National Forest Plans, and strengthening decentralization procedures at subnational levels of government.

Background:

This case study explores the inspiring journey of a community forest that faced a similar fate but was transformed into a thriving landscape through the relentless efforts of Lapule Lamadada

CFUG. Over the years, this CFUG succeeded in restoring the degraded forest, into a green forested area.

Lapule Lamadada Community Forest is one of the plantation forests situated in Chaurjahari-3. The total area of the forest was 24.17 ha. The forest was hand overed on 2053/02/25 with the support of local authorities and non-governmental organizations (NGOs), the proactive community members established the CFUG. The CFUG comprised dedicated individuals, including farmers, women, youth, and elders, who had a deep attachment to their ancestral land and were motivated to restore it to its former glory. A total of 71 (M:201, F: 162, T: 363) HHs reside within the vicinity as its users and have been participating in its conservation. The CFUG embarked on its restoration journey by conducting a comprehensive assessment of the forest's present condition.

Afforestation and Reforestation

Started from 2051 B.S., the plantation program in the Lapule Lamada CFUG's uses afforestation and reforestation as two crucial tactics in the rehabilitation of their abandoned and deforested community forest. By planting trees and restoring vegetation cover, these actions help to restore ecosystem services, preserve biodiversity, and provide sustainable livelihoods for the neighborhood. Here, we look at the importance of afforestation and reforestation in the process of restoring community forests.

Lapule Lamadada CFUG's chairperson Mr. Moti Prasad Dhakal, stated that the group meticulously selected a diverse range of indigenous tree species suitable for the local ecosystem viz., Sal (*Shorea robusta*), Sallo (*Pinus species*), Sissoo (*Dalbergia sisso*), Ipil Ipil (*Leucaena lucocephela*), Bakaino (*Melia azedarach*), etc. ensuring that the reforestation efforts were both ecologically sound and economically viable. Besides Sal trees, all other plants were provided by then District Forest Office, Rukum whereas, Sal trees were acquired from the local's self-originated plantings. Planting events were organized regularly, with enthusiastic participation from community members of all ages. Each sapling was planted with care and accompanied by a sense of ownership and responsibility towards nurturing the forest back to health. With 10- 12 years of continues efforts to grow these trees to align within the pole stage, only after 15-16 years of plantation, cultural operations such as weeding, cleaning and pruning were undertaken and have been operational ever since.

Challenges

While the community-led restoration of the abandoned and deforested forest was ultimately successful, the journey was not without its fair share of challenges. Overcoming these obstacles required determination, collaboration, and adaptive strategies from the local community. The following are some of the key challenges that hindered the restoration process:

- a) **Limited financial resources:** One of the major challenges faced by the restoration program was limitation in financial resources to run the program in large scale. Reforestation and afforestation efforts require significant funding for seedlings, equipment, training, and monitoring. Yearly weeding, and minimum wages to forest watcher has been a difficulty since the handover. Securing financial support from governmental and non-governmental sources proved to be a continuous struggle for the community members.
- b) **Coordination issues:** The challenge faced by the restoration program is coordination issues which is taken as one of the big challenge and issue for CFUGs. Coordination plays an important in the success of any community-led restoration project, including the transformation of an abandoned and deforested forest into a thriving green landscape. Lack of clear roles and responsibilities, ineffective communication between user groups, and other stakeholders, unwillingness of CFUGs to take on vital roles as well as ineffective communication among user group members, limited and passive participation and timings of user group members, etc. hindered the restoration program and took more time than it was scheduled.
- c) **Resistance from individuals who benefitted from illegal activities within the forest:** The degraded forest area attracted individuals engaged in illegal activities such as logging, grazing, and encroachment. Encroachment within their private forest extending to parts of CFUG was an observable challenge. These individuals resisted the restoration efforts, as they saw their illegal activities threatened by the conservation measures undertaken by the CFUG. Overcoming resistance and addressing conflicts between conservation goals and the interests of those benefiting from illegal activities required delicate negotiations and community engagement.
- d) **Institutional Support and Policies:** The success for the restoration project was also hindered by the level of support from local governmental authorities and the alignment of

policies with community-led conservation efforts. In some cases, bureaucratic hurdles or conflicting policies have somehow slowed down the implementation process.

- e) **Lack of Technical Expertise:** Lack of technical know-how in ecological restoration and sustainable forest management was a problem for the CFUG. This made it more difficult to organize and carry out repair work effectively. For technical advice, the community members had to rely on outside consultants and NGOs, which occasionally caused delays and dependence.

Results and Impact

Through unwavering dedication and persistent efforts, the CFUG achieved remarkable success. By 2023, the once-abandoned and deforested land had transformed into a lush and vibrant green forest spanning almost 25 hectares. The positive impacts of the restoration project were far-reaching:

a) Improved Biodiversity: The reforested area became a heaven for biodiversity, attracting a diverse array of native flora and fauna. Native trees, shrubs, and plants returned, providing habitat for various wildlife species, including birds, mammals, and insects. The restoration efforts helped protect and revive endangered and threatened species that had lost their natural habitat.

b) Soil Erosion and Water Quality: The rejuvenated forest significantly reduced soil erosion, stabilizing the land and preventing sediment from entering nearby water sources. The improvement in land cover also resulted in enhanced water infiltration, leading to improved water quality in streams and rivers.

c) Livelihood Opportunities: The restored forest offered numerous sustainable livelihood opportunities for the local community. Non-timber forest products, such as fruits, nuts, medicinal plants, and honey, became reliable sources of income for the villagers. The Mango Pickle Enterprise emerged as a successful venture, generating employment and income for women's self-help groups and contributing to local economic development.

d) Carbon Sequestration and Climate Resilience: The increased forest cover played a crucial role in carbon sequestration, mitigating the impacts of climate change. The restored forest acted as a carbon sink, absorbing greenhouse gases and helping the community adapt to the challenges of a changing climate.

e) Social Cohesion and Empowerment: The restoration project brought the community members together, fostering a sense of collective responsibility for their forest. It enhanced social cohesion,

strengthened community ties, and empowered individuals to actively participate in environmental conservation and decision-making processes.

f) Improved Soil Quality: One of the significant positive outcomes of the community-led restoration of the abandoned and deforested forest was the substantial improvement in soil quality. The restoration efforts implemented by the CFUG had a direct impact on the health and fertility of the soil, nutrient cycle and soil aeration, etc. which, in turn, had wide-ranging ecological and economic benefits for the local community.

Conclusion

The Lapule Lamadada CFUG's effective restoration of the abandoned, disturbed, damaged, and deforested forest led to considerable gains in soil quality, water quality, carbon sequestration, nutrient cycling, and biodiversity, among other things. Many difficulties, including budgetary restrictions and coordination problems, can be reduced by user groups managing community woods effectively in cooperation. The CFUG regenerated the soil through afforestation, replanting, and the adoption of sustainable management practices, which reduced erosion, improved water infiltration, and increased nutrient cycling. Improved soil fertility had a favorable effect on local community livelihoods as well as agricultural output and the health of the forest ecosystem. A more resilient and sustainable landscape was also promoted by the regenerated forest, which also played a significant role in carbon sequestration in the fight against climate change. This case study serves as an example of how community-led initiatives can revitalize the important life-support system in addition to repairing degraded landscapes.