Unlocking the Potential: A New Vision for Community Forest Management in Nepal

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The Community Forestry Program (CFP) has achieved remarkable success in the restoration of evergreen forests in Nepal. Previously, these forests had been severely depleted due to factors such as overgrazing, firewood collection, livestock forage, and timber harvesting for housing. The program engaged over 1.6 million households through more than 14,000 community forest user groups (CFUGs) in the restoration process. A NASA-funded research study published in 2021 revealed that Nepal had nearly doubled its forest cover, reaching 46% of the country's land area in 2016, compared to only 26% in 1992—more than a decade after the community forestry program was formally initiated. The International Food Policy Research Institute (IFPRI) published a discussion paper highlighting the dual objectives of forest conservation and poverty reduction in Nepal's community forestry.

While the program has made significant strides in forest conservation, it has fallen short of achieving the goal of poverty reduction. This is primarily due to the oversight of the economic benefits that community forestry can bring during the program's implementation phase. Consequently, the full potential of the forests and forest products generated by community forestry has been underutilized. Concerns have also been raised about the long-term sustainability of community forests due to high capital and labor costs, inefficient management, and inadequate returns. Furthermore, the dependence of Nepalese society on forests and forest products has shifted from firewood, grazing, and forage to construction materials, furniture, and home appliances in recent days. Data from the World Integrated Trade Solution reveals that Nepal imported wood worth approximately $229,000 in 2019. According to the United Nations COMTRADE database, Nepal imported wood, wood articles, and wood charcoal amounting to $75.96 million in 2021. These figures could potentially rise further when accounting for other wood-based products—a few to name such as paper, plywood, and wood pellets.

To address the lack of economic returns from well-established community forests and offset the higher management costs, this article proposes a new policy. By generating revenue, this policy aims to achieve partial compensation for investment costs and

contribute to poverty reduction. A newly proposed policy paradigm for community forest management holds great potential for restoring forests, conserving biodiversity, and fostering resilience against climate change. It also aims to reduce Nepal's reliance on imported wood and wood-based products, support local livelihoods, and strengthen the national economy. This can be achieved through a simple yet highly effective forest management policy intervention involving the perpetual cycle of tree planting or natural regeneration, management, harvesting, and replanting.

Although a tree cannot grow perpetually, its lifespan can span several hundred years. Trees experience rapid growth and accumulate timber volume during the early stages of their lifecycle. However, growth slows down as they age, ultimately leading to degradation and death, with the tree decomposing into soil organic matter. Forest management endeavors to accelerate the tree growth process, allowing for the early harvest of mature trees that can provide high-quality timber. A recent research paper by the author of this article demonstrated that by selectively harvesting mature forests and leaving a few trees as seed sources, new forests can naturally grow within approximately 40 years, producing marketable timber 3.5 times faster than natural forest growth. Nepal's doubling of community forest coverage over the past 30 years suggests that well managed Nepalese community forests possess the potential to cultivate quality trees rapidly that can supply the domestic timber market.

The success of the community forestry program in Nepal over the past four decades since its establishment in 1978 is evident. However, if mature trees are left unharvested, their growth slows down, and the quality of timber deteriorates. Signs of timber deterioration are already visible, as evidenced by the presence of decayed and hollow cores in harvested trees from community forests. This issue can be addressed by harvesting timber when trees have reached maturity but are still growing, allowing their timber to be utilized for construction materials, furniture, and home appliances. Consequently, community forest management policies should prioritize the harvesting of mature trees and the utilization of timber for various wood products, rather than allowing trees to reach a state of decay after reaching their natural lifespan.

From an economic perspective, timber harvesting would increase the availability of Nepalese timber in the domestic market, boost the revenue of CFUGs, reduce wood imports

and trade deficits, and bolster foreign currency reserves. Nepal has already invested over 40 years of time, land, capital, cash, and labor from more than 1.6 million households into community forestry management. Selling timber and wood products derived from community forests would help recoup these investments and contribute to poverty reduction, which is one of the program's key goals. Poverty reduction through community forestry can be particularly effective in hilly and mountainous regions where alternative income sources are limited.

Harvesting trees creates space for new trees to grow, leading to environmental benefits such as carbon sequestration. Newly grown trees capture carbon from the atmosphere as woody biomass. These trees can be harvested once they reach maturity, and their conversion into furniture and wood products ensures the long-term storage of atmospheric carbon. This perpetual cycle of opening space for new trees through harvesting and replanting facilitates rapid carbon sequestration, the transformation of sequestered carbon into household tools and construction supplies, and the creation of new cycles of carbon sequestration through effective management. These practices contribute to the establishment of sustainable and resilient forests in the face of climate change.

Effective community forest management also plays a vital role in biodiversity conservation and the preservation of endangered flora and fauna. Poor or inadequate forest management can lead to the deterioration of biodiversity, further endangering fragile ecosystems. Forest management extends beyond tree planting, harvesting, and replanting; it encompasses systematic research, identification of endangered flora and fauna, understanding their ecological niches and habitats, and safeguarding air, water, and wetlands. Sound forest management policies and practices provide opportunities for the systematic harvesting of mature trees while ensuring the growth of new trees in the newly harvested areas. These measures protect existing resources such as forests, land, water, air, biodiversity, and ecosystem balance.

It is important to clarify that this article proposes a policy perspective for community forest management in Nepal; however, it is not intended as a one-size-fits-all solution for managing all types of forests in the country. The author acknowledges the challenges in terms of forest research, policy formulation, legal frameworks, and regulations required to achieve the multifaceted objectives discussed in this article.

Nevertheless, globally published research on sustainable forest management for timber production, climate change mitigation, biodiversity conservation, and carbon sequestration can serve as a foundation for forest management research in Nepal. The transfer of research-based knowledge and the adaptation of such knowledge to meet specific country needs are common practices worldwide. Modern forest management practices in countries such as the United States, Australia, and Canada were largely derived from European forest management practices and adapted to their unique contexts.

Forest management policies implemented outside of Nepal may not fully address the unique social, economic, environmental, and ecological needs of the country. However, Nepal can learn from its experiences and research, adapting transferable knowledge to meet its own specific needs. Gradual implementation of liberal and sustainable forest management policies, based on research findings, can create opportunities for timber businesses in Nepal. India, for instance, established its national-level criteria and indicators for sustainable forest management policies in 1999 through a workshop involving national and international organizations. India piloted its sustainable forest management initiative in 2000 and has continuously modified it to meet its social, economic, environmental, and ecological needs. Chinese forest management policies have also undergone significant changes over the past five decades. More than 80% of community-owned collective forests in China have been transferred to individual households, while state-managed forests focus on conservation and discourage exploitation.

The common practice of planting or naturally regenerating, managing, harvesting, and replanting forests is widely employed globally to meet timber and wood product demands. Larger economies such as the United States and Europe often import wood products from Asia and Africa while also harvesting timber from their privately managed forests to meet their market demands. For Nepal, harvesting trees from community forests and replanting them can be a viable strategy to fulfill its timber requirements, reduce rural poverty, alleviate trade imbalances, and preserve foreign currency reserves. It is also essential to emphasize that this article promotes sustainable forest management practices and strongly opposes the over-exploitation of community forests in Nepal.

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Figure 1: Headshot of Author.

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