

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

The Community Forestry Program (CFP) has achieved remarkable success in the restoration of evergreen forests in Nepal which was severely depleted due to overgrazing, firewood collection, livestock forage, and timber harvesting. Nepal nearly doubled its forest cover, reaching 46% of the country's land area in 2016, compared to 26% in 1992. The International Food Policy Research Institute indicated the dual objectives of CFP as forest conservation and poverty reduction in Nepal. While the program has made significant strides in forest conservation, it has fallen short in reducing poverty primarily due to the oversight of the potential economic benefits of community forests (CFs) during the implementation phase. Consequently, the full potential of CFs and their products has been underutilized. Furthermore, the dependence of Nepalese society on forests has shifted from traditional use to construction materials, furniture, and other home appliances. Data from the World Integrated Trade Solution reveals that Nepal imported wood worth approximately the United States (US) \$229,000 in 2019. The United Nations COMTRADE database further suggests that Nepal imported wood, wood articles, and wood charcoal amounting to US \$75.96 million in 2021. These figures could potentially rise if accounted for other wood-based products.

To address the economic shortfall of CFs and meet the market demand of wood and wood-based products, this article proposes a new policy. A newly proposed policy for CF management also holds a great potential for restoring forests, conserving biodiversity, and fostering resilience against climate change. It also aims to reduce Nepal's reliance on imported wood, wood 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, death, and decompose as soil organic matter. Forest management endeavors to accelerate the tree growth process, allowing for the early harvest of mature trees that

can produce high-quality timber. A recently published paper by the author of this article demonstrated that well-managed forests grown for approximately 40 years by selectively harvesting mature trees and leaving a few trees as seed sources can produce 3.5 times more marketable timber than naturally grown forests.

The success of the CFP in Nepal over the last four decades since its establishment in 1978 evidently suggests that community forests possess the potential to produce quality trees and supply timber to the domestic market. However, if mature trees are left unharvested, their growth slows down, and the quality of timber deteriorates. The signs of deterioration are already visible in Nepalese CFs as evidenced by the presence of decayed and hollow cores in harvested trees. The deterioration of timber can be prevented by harvesting mature trees while they are still growing, and using harvested timber as construction materials, furniture, and home appliances. Consequently, CF management policies should prioritize the harvesting of mature trees and the utilization of timber for various wood products, rather than allowing trees to decay.

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 in CF management. The CFP engaged over 1.6 million households through more than 14,000 community forest user groups (CFUGs). Concerns have also been raised about the long-term sustainability of CFs due to high capital and labor costs, inefficient management, and inadequate returns. Selling timber and wood products from CFs would help recoup these investments, compensate for the higher costs of management partially, if not fully, meet timber market demand, and contribute to poverty reduction. Poverty reduction through CF, one of the CFP's goals, 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 CO<sub>2</sub> from the atmosphere and convert it to woody biomass which can be harvested as they mature. The conversion of wood into wood products ensures the long-term capturing of atmospheric CO<sub>2</sub> thus, preventing its release into atmosphere. This perpetual cycle of opening space for new trees by harvesting and replanting facilitates rapid carbon sequestration, the transformation of

sequestered carbon into useable wood products, and repetition of new carbon sequestration cycle. These practices contribute to the establishment of sustainable and resilient forests in the face of climate change.

Effective CF management also plays a vital role in biodiversity conservation and the preservation of endangered biomes. Poor forest management can lead to the deterioration of biodiversity further endangering the fragile ecosystems. Forest management extends beyond tree planting, harvesting, and replanting; it encompasses systematic research, identification of endangered species, understanding their ecological niches and habitats, their role in ecosystem, 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 harvested area and protecting resources such as forests, land, water, air, biodiversity, and ecosystem balance.

It is important to clarify that this article proposes a policy perspective for CF management in Nepal. However, it is not intended as a one-fits-all solution for managing diverse forest ecosystem 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 and adaptation of research-based knowledge to meet needs of a country are commonly practiced worldwide.

Forest management policies implemented outside Nepal may not fully address the unique social, economic, environmental, and ecological needs of the country. However, Nepal can adapt transferable knowledge, learn from its experiences, and further research to meet its specific needs. Gradual implementation of liberal and sustainable forest management policies, based on research findings, can create opportunities for timber businesses in Nepal. Modern forest management practices in the US, Australia, and Canada were adapted from European practices. 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 its policy 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 practices of planting or naturally regenerating, managing, harvesting, and replanting forests are globally practiced meeting timber and wood product demands. Larger economies such as the US and Europe import wood products from Asia and Africa and harvest timber from their planted forests to fulfill market demand. For Nepal, harvesting trees from community forests and replanting them can be a viable strategy to fulfill its timber demand, reduce rural poverty, alleviate trade imbalances, and preserve foreign currency reserves by sustainably managing without exploiting CFs in Nepal.

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Figure 1: Headshot of Author.

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