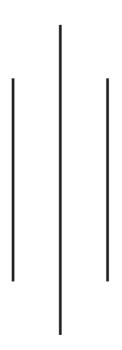




National Bamboo and Rattan Development Strategy, 2025 (2081 B.S.)



Government of Nepal

Ministry of Forests and Environment

Forest Research and Training Centre

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National Bamboo and Rattan Development Strategy, 2025 (2081)

1. Background

Since ancient times, bamboo and rattan have played a significant role in the Nepali community. Primarily, bamboo has been used for constructing homes and structures, making household items, crafting handicrafts and furniture, producing food items, commercial purposes, animal fodder, religious and cultural activities, as well as for controlling soil erosion, floods, and landslides. It is especially planted in agricultural lands, along riverbanks, empty and barren lands, slopes, and erosion-prone areas, as well as in forests. Bamboo and rattan are also conserved and managed naturally in forest areas. In Nepal, bamboo and rattan are not only an important source of income for rural farmers and marginalized communities but have also served as raw materials for small and medium-sized industries. In addition to the direct benefits derived from bamboo and rattan, they play a crucial role in controlling soil erosion and floods, carbon sequestration, and serving as key habitats for various wildlife, thereby maintaining ecological balance and climate adaptation. They have also played a direct and effective role in the rehabilitation and relief efforts of human communities displaced by various natural disasters. Overall, bamboo and rattan are used in various forms from birth to death in human life.

In Nepal, bamboo is found in natural forest areas as well as in private plantations and public lands such as community forests, while rattan is primarily found in natural forest areas. Nepal is home to over 53 species of bamboo under 12 genera, including seven species that are endemic and not found anywhere else in the world. Similarly, Nepal has 10 species of rattan under two genera. Bamboo is found in all provinces and geographical regions of Nepal, ranging from the flatlands of the Terai to high-altitude areas up to approximately 4,000 meters. Rattan, on the other hand, is found from the flatlands

of the Terai to mid-hilly regions up to around 2,000 meters. Among the rattan species found in Nepal, *Calamus tenuis* (Pani Bet) is the most common. A detailed study, research, and survey on the various bamboo and rattan species found in the country and their current status have not yet been conducted. Due to the lack of comprehensive studies, there is currently no accurate assessment or detailed documentation of the actual status of bamboo and rattan species in Nepal.

Although the demand for bamboo-based handicrafts, furniture, and household items is increasing both domestically and internationally, significant benefits have not been realized due to the lack of adequate knowledge and skills, commercial farming systems, advanced technology, investment, entrepreneurship, industries, and markets. Bamboo can be used as a campaign tool for post-earthquake reconstruction and rehabilitation in Nepal, as well as for the repair and upliftment of landslide-affected areas. In recent years, bamboo planting and expansion activities have been ongoing for the conservation and development of riverbanks. While Nepal is self-sufficient in raw bamboo materials for domestic consumption, rattan product is imported from India and Bangladesh. Nepal imports more bamboo-based materials than it exports, resulting in a trade deficit.

Compared to tree species, bamboo grows extremely fast, is easy to manage, does not decay when harvested systematically, starts producing within a few years of planting, and allows for enterprise development even with minimal investment, making it highly significant. Given these characteristics, bamboo and rattan resources have been recognized as important non-timber forest products. This strategy has been formulated to conserve, manage, and sustainably utilize bamboo and rattan resources, contributing to the protection of the natural environment, creation of local employment, and the development of a climate-resilient green national economy.

2. Past Efforts

In the past, the Master Plan for Forestry Development, 2045 (1988), identified bamboo and rattan as major non-timber species and recommended their management. The Nepal Environmental Policy and Action Plan, 2050 (1993), the Nepal Biodiversity Strategy and Action Plan, 2071-2080 (2014-2023), the Herbal and Non-Timber Forest Products Development Policy, 2061 (2004), the Forestry Sector Strategy, 2072 (2015), and the National Forest Policy, 2075 (2018), include some provisions related to the conservation, management, utilization, and commercialization of non-timber forest products. However, the National Parks and Wildlife Conservation Act, 2029 (1972), the Soil and Watershed Conservation Act, 2039 (1982), the Environment Protection Act, 2076 (2019), and the Forest Act, 2076 (2019), along with their related regulations, do not specifically mention the promotion and development of bamboo and rattan. The Chure Conservation and Management Master Plan, 2074 (2017), identified bamboo and rattan as important species for soil conservation and income generation in the Chure and Terai-Madhesh regions.

In the past, activities such as operating bamboo nurseries, producing saplings, and conducting plantations were carried out regularly. Bamboo has also been conserved as a habitat for wildlife. Studies and research on bamboo and rattan nurseries, planting techniques, and management have been ongoing. In this context, activities such as establishing bamboo research centres (Bambusetums), conserving and developing local and exotic species, setting up demonstration sites for Nepali and foreign bamboo and rattan species, and conducting capacity-building programs have been carried out. Nepal has been an active member of the International Network for Bamboo and Rattan (INBAR) since 1997. The Forest Research and Training Center (FRTC) has been functioning as the focal agency for the overall development of the bamboo and rattan sector in Nepal, implementing various programs and coordinating with national and international organizations.

3. Issue and Challenge

The development of bamboo and rattan resources is challenging due to increasing population, deforestation and degradation, encroachment, insufficient study and research on bamboo and rattan resources, inability to achieve commercial production, failure to establish industries, poor quality of produced materials, excessively high costs, lack of appropriate and advanced technology, shortage of skilled manpower, and the absence of sustainable management. Despite having immense potential, significant progress in the development and expansion of bamboo and rattan has not been achieved due to reasons such as lack of public awareness and inadequate investment from government, nongovernmental, and private entrepreneurs in this sector. In the absence of appropriate technology and sufficient investment, it has not been possible to produce various materials and promote exports. Although there are opportunities to process bamboo and rattan to create employment, increase local community income, and boost revenue, it is primarily exported in its raw form. The import of bamboo and rattan-based materials is on the rise. Annual forest fires, open grazing, and illegal logging have created challenges in the conservation and management of these resources. Due to the lack of extensive study and research, scientific management of these resources has not been possible.

A clear and comprehensive policy, program, and management plan for the overall conservation, development, and sustainable management of specific bamboo and rattan species has not yet been prepared and implemented. The main challenges in this sector include developing bamboo and rattan resources, ensuring their sustainable management, promoting local and national enterprises, improving the quality of produced goods, securing markets, increasing income and employment opportunities for local communities, and making a significant contribution to the overall economy of the nation.

4. Rationale of Strategy

The bamboo and rattan sector has lagged despite its immense potential due to the lack of scientific management, insufficient knowledge of the necessary technology for expansion and optimal utilization, the failure of private, government, and nongovernmental organizations working in this field to prioritize research and development, the lack of capital and proper market development discouraging small and large entrepreneurs, and the absence of appropriate technology and skilled technicians for commercialization and processing. It is essential to create an environment that increases access for the underprivileged, women, and marginalized groups in the production, processing, value chain promotion, and market management of bamboo and rattan, thereby contributing significantly to overall poverty reduction. It is also necessary to support efforts to mitigate environmental destruction and climate change impacts while fostering entrepreneurship and commercialization. To provide clear direction for activities aimed at conserving, managing, and sustainably utilizing bamboo and rattan to maintain the country's environmental balance and contribute to economic development, the need for a bamboo and rattan development strategy has been recognized. This strategy has been prepared as a guiding document for the formulation and implementation of plans, programs, and projects related to bamboo and rattan development carried out by various entities.

5. Vision

The vision of this strategy is "sustainable management of bamboo and rattan, increased productivity, and enterprise development to contribute significantly to environmental conservation, climate resilience, and the local and national economy."

6. Goals and Objectives

6.1 Goal:

The goal of this strategy is "to ensure the conservation, management, and sustainable use of bamboo and rattan, while enhancing the livelihood, employment, and income generation of local communities, and building a robust green economy."

6.2 Objectives:

The objectives of this strategy are as follows:

- 1) To conduct studies, research, capacity development, technology development, and institutional strengthening for the conservation, management, productivity enhancement, and sustainable utilization of bamboo and rattan;
- To develop bamboo and rattan farming systems, material production, and enterprises in a commercial and competitive manner;
- 3) To preserve, promote, and expand local and traditional knowledge, skills, and arts in the processing, manufacturing, and production processes of bamboo and rattan materials;
- 4) To develop local and national-level enterprises and industries for bamboo and rattan-based materials, ensuring quality production, diversification of products, and value addition, thereby promoting trade in national and international markets;
- 5) To attract private and cooperative sectors for the development and expansion of bamboo and rattan farming, processing and production of materials, quality enhancement, use of advanced technology, enterprise development, and trade promotion.

7. Strategies

Following strategies will be adopted to achieve the vision, goals, and objectives of this [bamboo and rattan] strategy.

Strategy 1: Conduct surveys, studies, and research on bamboo and rattan to ensure sustainable management.

Working Strategies:

- 1. Comprehensive surveys and documentation of bamboo and rattan resources will be conducted.
- 2. Endemic, endangered, and critically endangered bamboo and rattan species shall be identified, and their conservation and management through participatory approaches shall be ensured.
- 3. Ecological studies and research on bamboo and rattan found in Nepal's natural forests and protected areas shall be conducted.
- 4. Conservation of bamboo and rattan species shall be ensured while managing wildlife habitats within protected areas.
- Study and research shall be conducted to identify, promote, and diversify the production of commercially significant bamboo and rattan species as alternatives to plastic-based materials.
- 6. Studies and research related to the conservation, sustainable management, utilization, and commercialization of bamboo and rattan shall be focused.
- 7. Introduction of sustainable, modern, and appropriate technologies adopted in various countries shall be arranged.
- 8. Investment in research on natural propagation methods, resource development, valuable material design and production, and creating an investment-friendly environment for bamboo and rattan shall be increased.
- 9. Feasibility studies, provenance trials, and progeny tests before expanding the cultivation of exotic bamboo and rattan species shall be mandated.

Program and Activities:

- 1. Comprehensive survey of bamboo and rattan resources using modern and scientific techniques will be conducted.
- 2. Study and research will be carried out on the potential of bamboo and rattan in agroforestry systems, their medicinal uses, chemical properties, and their role in climate change adaptation and mitigation.
- 3. Study and research will be carried out on diseases and pests affecting bamboo and rattan and implement measures for their protection.
- 4. Participation of government (federal, provincial, and local), non-governmental, cooperative, and private organizations in studies, research, and programs related to the conservation, management, productivity enhancement, production of various materials, and marketing of bamboo and rattan will be enhanced.
- 5. Conducive environment will be created for the commercial implementation of research findings and promote the use of bamboo and rattan as alternatives to plastic-based materials.
- 6. Study on the necessary qualities and efficiencies of local bamboo species for house construction and the production of valuable materials will be carried out.
- 7. Use of bamboo for housing and building construction will be encouraged.
- 8. The results and technologies obtained from bamboo and rattan studies and research to create an environment for their implementation will be widely disseminated.
- 9. Study, research, and documentation of the population of wildlife species like the red panda, whose primary habitats are bamboo and *nigalo* forests, and abundance and quality of bamboo and nigalo on those area will be carried out and improvement and management of such habitat will be conducted with priority.

- 10. Study and research on the status of bamboo in Nepal's Himalayan national parks will be conducted and sustainably managed.
- 11. Study and research on the interrelationships and mutual dependencies of wildlife species like the red panda, which use bamboo as their primary habitat will be promoted.
- 12. Gene banks and seed banks for the genetic conservation of various endemic bamboo and rattan species will be established and operated.
- 13. A system will be established to allow the import of bamboo seeds, saplings, and other propagation materials from abroad for afforestation and propagation only after conducting a detailed study of their silvicultural and phenological characteristics.
- 14. Nurseries for producing high-quality bamboo saplings [seedlings] and community-based Bambusetums for study and research will be established and managed.
- 15. Bamboo-related curricula will be developed, and higher-level academic studies and research on bamboo will be promoted.

Strategy 2: Strengthen the economy by creating local employment opportunities through the conservation, management, sustainable use, and commercial farming of bamboo and rattan.

Working Strategies:

- 1. In-situ and ex-situ conservation and management of bamboo and rattan species shall be carried out.
- 2. Emphasis shall be placed on enhancing the productivity and commercial production of bamboo and rattan.
- 3. Conservation of endemic bamboo and rattan species in natural forests shall be prioritized to strengthen biodiversity conservation.

- 4. The use of bamboo and rattan in biological techniques for controlling natural disasters, soil erosion, and riverbank erosion shall be prioritized.
- 5. Provision for inclusion of the cultivation, conservation, management, and utilization of bamboo and rattan in forest management plans shall be arranged.
- 6. Cultivation of bamboo and rattan shall be encouraged in vacant, barren, abandoned, degraded, steep, and sensitive areas.
- 7. The participation of community forest user groups and other key stakeholders shall be enhanced for the conservation, sustainable management, and optimal use of bamboo and rattan resources.
- 8. Government offices shall be required to procure bamboo and rattan materials produced locally.
- 9. The sale, distribution, and export of locally produced bamboo and rattan materials shall be promoted.

Program and Activities:

- 1. Arrangements will be made to ensure the easy supply of high-quality seeds, saplings, cuttings, and other materials required for bamboo and rattan cultivation.
- 2. Local residents will be encouraged to form groups and cultivate bamboo and rattan on community lands, barren lands, abandoned lands, roadside areas, and river and stream banks.
- 3. Bamboo plantation activities will be expanded based on species-specific characteristics.
- 4. Suitable areas within the Chure region will be identified for large-scale bamboo plantation campaigns, as bamboo plays a crucial role in Chure conservation and management.
- 5. Sustainable management of bamboo and rattan within protected areas will be ensured, maintaining them as wildlife habitats.

- 6. Farmers interested in commercial bamboo and rattan cultivation in the private sector will be provided with easy access to seeds, saplings, cuttings, and technical services.
- 7. Management plans will be developed and implemented for the conservation, sustainable management, and utilization of bamboo forests in the Chure and hilly regions.
- 8. Individuals, institutions, or groups making significant contributions to bamboo and rattan development will be recognized and rewarded.
- 9. Bamboo will be prioritized for use in environmental restoration and physical infrastructure reconstruction following natural disasters such as earthquakes, floods, and landslides.
- 10. Capacity-building programs related to bamboo and rattan cultivation, management, and utilization will be coordinated with relevant training institutions.
- 11. Awareness programs will be conducted to highlight the importance of bamboo and rattan, their cultivation, conservation, management, utilization, and their significance for human health and the environment.
- 12. The transportation and movement of raw bamboo materials and products within the country will be simplified and facilitated.

Strategy 3: Preserve, promote, and expand indigenous and traditional knowledge, skills, and arts in the processing and production of bamboo and rattan materials.

Working Strategies:

1. Indigenous and traditional knowledge, skills, and arts related to bamboo and rattan plantation, conservation, and the production and use of various handicraft materials shall be identified and documented.

- 2. Investment in the proper use and preservation of traditional knowledge, skills, and arts shall be increased.
- 3. The rights of local individuals or communities over traditional knowledge, skills, and arts shall be established, along with the establishment of intellectual property rights.
- 4. Local knowledge, skills, and arts shall be linked with the tourism industry to ensure their conservation and promotion.
- 5. Targeted programs shall be implemented to utilize the knowledge and skills of indigenous tribes, women, Dalits, Madhesi communities, and other socially or culturally marginalized groups in bamboo and rattan-based income generation activities.

Program and Activities:

- 1. A survey will be conducted to identify individuals with local community-based knowledge, skills, techniques, and resources related to bamboo and rattan, and their indigenous knowledge, skills, and arts will be documented.
- 2. Investment in the conservation and promotion of local, indigenous, and traditional knowledge, skills, and arts related to bamboo and rattan will be increased.
- 3. Local resource persons will be developed and their capacities enhanced to promote local, indigenous, and traditional knowledge related to bamboo and rattan.
- 4. Indigenous and traditional skills and knowledge related to bamboo and rattan will be documented, published, and protected as community intellectual property.
- 5. The establishment and operation of local and national museums to promote traditional bamboo and rattan products will be encouraged.
- 6. Pocket areas will be identified, and income generation programs based on bamboo and rattan will be implemented

- for socially or culturally marginalized groups, including women and Dalits.
- 7. Training and technical services required for processing and production will be provided to socially or culturally marginalized groups, including women and Dalits, in identified pocket areas.
- 8. Efforts will be made to diversify the use and market of bamboo and rattan to improve local livelihoods.
- 9. Suitable bamboo and rattan exhibition sites will be established and operated in various parts of the country.

Strategy 4: Develop the necessary technology, infrastructure, technical knowledge, and skilled human resources to make bamboo and rattan-based materials commercial and competitive.

Working Strategies:

- 1. Promotion of both traditional and modern handicrafts made from bamboo and rattan shall be carried out.
- 2. Support shall be provided for the expansion of bamboo and rattan-based technologies and industrial development.
- 3. Arrangements shall be made for the development and transfer of knowledge, skills, and technologies for the processing, manufacturing, and production of bamboo and rattan-based materials.
- 4. Studies, research, and technological development shall be conducted to enhance the production and productivity of bamboo and rattan, add value, diversify processing and production, and promote marketability.

Program and Activities:

1. Traditional and modern bamboo and rattan-based handicrafts and industrial materials will be promoted and manufactured.

- 2. Closed or struggling bamboo and rattan-based industries will be identified and arrangements will be made to restart their operations.
- 3. The import of tools, machinery, and skilled manpower for the production and technological development of bamboo and rattan-based materials will be facilitated.
- 4. Skilled manpower will be developed at the local level through training and technology transfer, and institutional capacity will be strengthened.
- In areas with high bamboo production, arrangements will be made to allow exports only after establishing at least initialstage processing industries.
- 6. Identification, production, technological development, skill and entrepreneurship development, and capacity building of stakeholders involved in bamboo and rattan-based products will be enhanced.
- 7. The establishment and operation of small, medium, and large-scale local and national bamboo and rattan-based industries will be facilitated by ensuring access to grants and concessional loans from national and international financial sectors.
- 8. Coordination and collaboration with training institutions will be ensured for technical capacity building, development of new products, technology testing, standardization, and skill-based training programs.
- 9. Support will be provided to develop school-level curricula that highlight the importance and utility of bamboo and rattan.
- 10. Coordination and collaboration will be established with technical education and vocational training councils, research-related organizations, the private sector, and universities for skill enhancement training related to bamboo and rattan.

11. Agreements and understandings will be made with various nations and organizations to introduce technology for the development of bamboo and rattan-based enterprises.

Strategy 5: Enhance the quality of bamboo and rattan-based materials, making them competitive in national and international markets.

Working Strategies:

- 1. The market expansion and commercialization process of bamboo and rattan-based materials shall be strengthened.
- 2. Arrangements shall be made to certify bamboo and rattan resources and materials for international marketing.
- 3. Legal, structural, and procedural reforms shall be implemented to enhance access to national and international markets.
- 4. Techniques such as treatment methods, seasoning, and curing, which are necessary for producing high-quality bamboo and rattan products, shall be promoted.

Program and Activities:

- 1. Intellectual property rights related to traditional and innovative bamboo and rattan technologies, arts, skills, and designs will be protected.
- 2. Common Facility Centers will be established in various locations across the country for designers and stakeholders to collectively produce high-quality bamboo and rattan materials.
- 3. Traditional handicrafts, household items, and exportable handicrafts will be identified, upgraded, and promoted through value addition.
- 4. Entrepreneurs will be encouraged to mix bamboo and rattan with other construction materials to create composite materials, diversifying their production and use.

- 5. The development and expansion of earthquake-resistant and fire-resistant bamboo house construction technologies will be promoted.
- 6. Encouragement will be given to conduct initial processing of bamboo and rattan materials at the local level to make them competitive in domestic and international markets.
- 7. Certification of bamboo and rattan production areas and products will be facilitated to simplify international marketing.
- 8. Exhibitions and trade fairs for bamboo and rattan-based products will be organized, and participation in international-level exhibitions and trade fairs will be facilitated.
- 9. A system will be established to release and exchange information on bamboo and rattan production, markets, and prices.
- 10. The commercialization process of bamboo and rattan-based materials will be simplified.
- 11. Communities involved in bamboo and rattan production and cultivation expansion will be organized through cooperatives and encouraged to promote trade.
- 12. Organized markets for bamboo and rattan products will be established, with dedicated markets in suitable locations in various cities.
- 13. Training programs will be provided on a large scale by relevant institutions to produce high-quality and time-relevant designs for both domestic and international markets.
- 14. Export of bamboo and rattan-based products will be facilitated by providing subsidies and making the process efficient and effective.
- 15. Necessary arrangements will be made for export-based VAT refund facilities and tax exemptions for industries processing,

- producing, and adding value to bamboo and rattan products for export.
- 16. Extensive awareness campaigns will be conducted through various media to promote the use of bamboo and rattan products.
- 17. Innovation and start-up activities related to bamboo and rattan will be encouraged.

Strategy 6: Attract private and cooperative sectors for the development and expansion of bamboo and rattan cultivation, sustainable management, enterprise development, productivity enhancement, production diversification, and commercialization.

Working Strategies:

- 1. The private and cooperative sectors shall be encouraged to participate in the conservation, utilization, sustainable management, and expansion of bamboo and rattan cultivation.
- 2. The process of transferring forest land to the private sector for commercial bamboo farming in community forests shall be facilitated and simplified.
- 3. Priority shall be given to planting commercially significant local and exotic bamboo and rattan species.
- 4. The private and cooperative sectors shall be attracted to increase investment in the development of the bamboo and rattan sector.

Program and Activities:

1. Private, government, non-governmental, cooperative, and private companies will be encouraged to develop and expand appropriate technologies for bamboo and rattan processing.

- 2. Foreign investment and technology will be encouraged to promote the development and advancement of bamboo and rattan.
- 3. Arrangements will be made to purchase raw materials from bamboo and rattan cultivation carried out by private, community, or cooperative entities.
- 4. National and international organizations, as well as private and cooperative sectors, will be encouraged to engage in bamboo and rattan processing, appropriate technology development, skilled manpower development, and enterprise operations.
- 5. The participation of communities and the private sector in bamboo planting, management, and sustainable use will be increased and made effective in community-based forest management systems such as community forests, partnership forests, religious forests, private forests, and registered lands.
- 6. Arrangements will be made for cooperatives, networks, and organizations for stakeholders involved in the bamboo and rattan sector.
- 7. Policy and legal arrangements will be made to encourage the use of bamboo and bamboo-based materials as construction materials for buildings.

8. Institutional Structure [Arrangement]

To effectively implement this strategy in coordination with relevant bodies for the development and management of bamboo and rattan, a National Bamboo and Rattan Development Coordination Committee will be formed with the following composition:

Coordinator: Secretary, Ministry of Forests and Environment

Members:

- Chief, Planning, Monitoring, and Coordination Division, Ministry of Forests and Environment
- Director General, Forest Research and Training Center
- Director General, Department of Forests and Soil Conservation
- Director General, Department of National Parks and Wildlife Conservation
- Director General, Department of Plant Resources
- Director General, Department of Industry
- Director General, Department of Agriculture
- Representative, Forestry and Environment Section, National Planning Commission
- One Provincial Secretary from the Provincial Ministry overseeing forestry, nominated by the Coordinator
- One Mayor or Chairperson from municipalities, nominated by the Coordinator
- Representative, Federation of Nepalese Chambers of Commerce and Industry
- Two experts/entrepreneurs working in the bamboo and rattan sector, including at least one woman

Member Secretary: Deputy Director General designated by the Director General, Forest Research and Training Center

The committee will determine its own procedures and carry out the following tasks:

- Assist and coordinate in program formulation, prioritization, problem identification, capacity building, financial identification, operation, monitoring, and evaluation for bamboo and rattan development.
- b) Facilitate the overall development and management of the bamboo and rattan sector, including studies, research, capacity building, and coordination with local levels, provincial ministries, the Government of Nepal, and other stakeholders.

- c) Establish and expand relationships with international organizations related to bamboo and rattan, and coordinate and cooperate in implementing existing agreements and commitments.
- d) Coordinate and facilitate the management of resources required for conducting bamboo and rattan-related activities.
- e) Carry out other necessary policy-related tasks.

Implementation committees will also be established at the provincial level, involving government, non-government, and private sector stakeholders.

The strategies and programs related to the conservation and sustainable management of bamboo and rattan will be implemented by bodies under the Ministry of Forests and Environment, provincial and local-level offices, and other relevant organizations. The Ministry of Industry, Commerce, and Supplies, along with its subordinate bodies, will lead programs to make bamboo and rattan-based materials commercial, competitive, and effectively marketed.

The Forest Research and Training Center, on behalf of the Ministry of Forests and Environment, will serve as the secretariat of the committee and coordinate, collaborate, and regulate various studies, research, and technology development activities related to bamboo and rattan in collaboration with other relevant bodies.

9. Financial aspect and Financial Management

Investment for the implementation of this strategy will be made by the Government of Nepal, including the Ministry of Forests and Environment, the Ministry of Agriculture and Livestock Development, the Ministry of Federal Affairs and General Administration, the Ministry of Industry, Commerce and Supplies, and the Ministry of Urban Development, as well as provincial governments, local levels, and relevant government bodies. Additionally, development partners and the private sector will contribute to the implementation of this strategy. To avoid placing an additional financial burden on the Government of Nepal, the strategies and programs outlined in this strategy will be prioritized, and the strategy and implementation plan will be executed accordingly. Furthermore, support will be mobilized from bilateral and multilateral international organizations active in the fields of bamboo, biodiversity, and climate change, as well as non-governmental organizations and the private sector, to conduct annual plans and programs in line with this strategy.

10. Legal Arrangements

The bamboo and rattan development strategy, encompassing various sectors, will be implemented by integrating it into different policies to achieve the set goals. In this context, existing laws, rules, and regulations will be timely improved and amended, and they will be implemented in a coordinated manner. Additionally, necessary procedures, guidelines, and implementation plans will be prepared and put into effect.

11. Monitoring and Evaluation

The monitoring and evaluation of bamboo and rattan conservation and development activities will be coordinated through the mechanisms of the relevant federal ministry, subordinate bodies, and provincial and local levels. The aforementioned monitoring system will be integrated with the monitoring systems of the concerned ministries. The National Bamboo and Rattan Development Coordination Committee will coordinate with all relevant bodies to ensure necessary arrangements for monitoring and evaluating whether the expected outcomes and objectives of this strategy are achieved through its implementation. In accordance with Section 22 of the Federal, Provincial, and Local Level (Coordination and Interrelation) Act, 2077, discussions and coordination will be held

in the thematic committee to make the planning, implementation, monitoring, and evaluation of bamboo and rattan-related programs more effective. For monitoring and evaluation, result-based indicators will be prepared with the participation of stakeholders, and monitoring and evaluation will be conducted based on these indicators.

The periodic impact evaluation of this strategy will be carried out by the National Planning Commission in coordination with the Ministry of Forests and Environment.

12. Risk

Through the conservation, management, and sustainable use of bamboo and rattan, the long-term protection of forests, wildlife, the environment, and biodiversity will be ensured. Additionally, employment generation and income opportunities for the targeted groups will lead to an improvement in their living standards. Therefore, no significant risks are anticipated from the implementation of this strategy.

13. Review of the strategy

This strategy will be evaluated and revised as necessary every five years by the Ministry of Forests and Environment, based on the recommendations of the National Bamboo and Rattan Development Coordination Committee and with the participation of relevant stakeholders.

National Bamboo and Rattan Strategy Implementation Plan

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Conduct a detailed survey of Resource Inventory of	Resource Inventory of											009	Forest	Entities [Bodies]	$\overline{}$
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													Training	of Forests and	
													Centre	Environment and	
														relevant [related]	
														Provincial	
														Ministries	
Conduct study and research	Preparation of the											150	FRTC and the	Entities [Bodies]	т —
on the potential and	study report on the												Department	under the Ministry	
utilization of bamboo and	utilization of Bamboo												of Agriculture	of Forests and	
rattan in agroforestry	and Rattan.													Environment and	
systems.														relevant [related]	
														Provincial	
														Ministries, Division	
														Forest Offices	
Conduct study and research	Conservation of											100	FRTC,	Entities [Bodies]	_
works on diseases and	bamboo and rattan by												Department	under Ministry of	
insects/pests that affect	identifying the												of Agriculture Forests and	Forests and	
bamboo and rattan, and take	diseases.												and	Environment, NARC	
conservation actions.													Department	[National	
													of Forests and Agriculture	Agriculture	
													Soil	Research Council]	
													Conservation		
Engage government, non-	Participation of											100	FRTC,	DNPWC, DoFSC,	
government, cooperative, and stakeholder in the	stakeholder in the						_						Department	Department of	

private	development of			of Industries	Agriculture,
associations/organizations in	bamboo and rattan.				Relevant Provincial
various studies related to the					Ministries and
conservation, management,					Agriculture
productivity enhancement,					Cooperative
production of diverse					communities
materials, and marketing of					
bamboo and rattan.					
Implement the findings	Implementation of the		70	Entities under Stakeholders	Stakeholders
obtained from studies and	study results.			the MoFSC,	related to Forests
research for business-oriented				Relevant	and Agriculture
purposes.				Provincial	
				Ministries	
				and Local	
				Governments	
Study various properties of	Completion of the		20	FRTC	DoFSC and relevant
local species for the	study on the quality of				Provincial
construction of houses using	bamboo.				Ministries
bamboo.					
Implement the findings and	Implementation by		20	FRTC,	DoFSC, NARC and
technologies obtained from	disseminating the	_		Department	relevant Provincial
bamboo and rattan-related	results and promoting			of Agriculture Ministries	Ministries
studies and research with	technology.				
wide [extensive]					
dissemination.					
Conduct the habitat research	Carried out study on		100	FRTC	DNPWC, DoFSC,
[study] of the bamboo and	habitat [habitat study].				Department of
rattan-dependent wildlife like					Livestock Services
the Red Panda.					and Conservation
					Partners
Sustainably utilize and	Sustainable utilization		100	DNPWC, FRTC DoFSC	DoFSC
conserve the bamboo	and conservation	_	 -		
resource in the protected	[protection]				
areas by studying and					

researching the bamboo status. [Conduct studies and research on the status of bamboo found within conservation areas to ensure their sustainable use and protection.					
Establish and operate genetic conservation programs and seed banks for various native species of bamboo and rattan.	Establishment of BSOs of various Bamboo species.		70	FRTC	DoFSC, Department of Plant Resources, DNPWC, Forest Communities and Conservation Partners
Strategy 2: To strengthen the economy by c	n the economy by crear ramboo and rattan.	Strategy 2: To strengthen the economy by creating local employment opportunities through the conservation, management, sustainable use, and commercial farming of bamboo and rattan.	, manageme	ent, sustainak	ole use, and
Conduct in-situ and ex-situ conservation and management of bamboo and rattan species.	In situ and Ex situ conservation of Bamboo and Rattan.		80	FRTC	DoFSC, DPR, DNPWC, Forest Communities
Enhance the productivity of bamboo and rattan and emphasize commercial production.	Plantation of 4 million Bamboo plants [seedlings] [culms]		400	DoFSC, Department of Agriculture, President Chure Terai Madhesh Conservation Development Committee	FRTC, relevant Provincial Ministries and Local Governments
Prioritize [Emphasize] biodiversity conservation by conserving native bamboo and rattan species found in	Conservation of biological diversity [biodiversity].		35	DoFSC, DNPWC	FRTC
		25			

natural forests.				
Prioritize the use of bamboo	Prioritization of use	200	DoFSC,	Department of
and rattan under	of bamboo and		relevant	Roads,
bioengineering techniques to	rattan in the control		Provincial	Department of
control natural disasters, land	of natural disaster.		Ministries	Irrigation, Forest
degradation [soil erosion], and				Users Groups,
riverbank erosion.				Farmers, Local
				Governments
Include topics [matters] such	Inclusion of	20	DoFSC,	Relevant
as cultivation, conservation,	conservation and		relevant	Divisional Forest
management, and utilization	management of		Provincial	Offices and Forest
of bamboo and rattan in	bamboo and rattan		Ministries	Users Groups
forest management plans.	resources in the			
	forest management			
	operational plan.			
Plant bamboo and rattan in	Plantation of bamboo	200	DoFSC,	Relevant Local
barren, marginal, degraded,	and rattan in the		relevant	Governments and
landslide-prone, and	degraded, sloppy		Provincial	Forest Users
ecologically sensitive areas.	[steep] and sensitive		Ministries	Groups
	areas.			
Strengthen multi-stakeholder	_	35	DoFSC,	Relevant Local
involvement in the	stakeholders'		relevant	Governments and
conservation, sustainable	participation.		Provincial	Forest Users
management, and utilization			Ministries	Groups
of bamboo and rattan				
resources.				
Prioritize the use of locally	Use of bamboo and	<mark>20</mark>	All	MoFE, MoALD
produced bamboo and rattan	rattan equipment	_	Government	and all Provincial
products in government	[products] in		Offices	Ministries
offices.	Government offices.			
Promote the sale and export	Sales and export of	20	Department	MoFE, MoALD
of locally produced bamboo	bamboo and rattan	_	of Industries,	and all Provincial
and rattan products.	products.		Department	Ministries

											of Commerce,	
											Supply and	
											Customer	
											Protection	
											and Domestic	
											and Small	
											Industries	
											Offices	
Strategy 3: To preserve, promote, and expand indigenous and traditional knowledge, skills, and arts in the processing and production of bamboo and	promote, and expand	indigenon	is and t	radition	al know	ledge, sk	lls, and	irts in the	e proces	sing and	production o	f bamboo and
rattan materials.												
Document the various	Documentation of									20	Relevant	Entities under
community-based knowledge,	knowledge, skill and										Provincial	MoFE and MoALD
skills, technology related to	technology.										Ministries and	
bamboo and rattan.											Local	
	_										GOVERNITIENUS	
Enhance the investment in the										200	Relevant	MoFE and MoALD
preservation and promotion	various skill-based										Provincial	
of local knowledge, skills, and	training and										Ministries and	
art [craft] related to bamboo	exhibitions.										Local	
and rattan.											Governments	
Develop local resource	Participation in									100	Relevant	MoFE and MoALD
persons and enhance their	national [domestic]										Provincial	
capacities to promote local	and international										Ministries and	
and traditional knowledge	[foreign] knowledge										Local	
related to bamboo and rattan.	enhancement										Governments	
	programs.											
Establish and operate local	Establishment of									400	Department	MoFE, MoALD
and national museums to	local and national										of Industries,	and all Provincial
promote traditional bamboo	museums.										Department	Ministries
and rattan product.											of Commerce,	
											Supply and	
											Customer	
											Protection	
											and Domestic	

									and Small	
									Industries	
									Offices	
Identify pocket areas and	Identification of							300	MoFE and All	MoALD
implement bamboo and	pocket areas and								Provincial	
rattan-based income-	organization of								Ministries	
generation programs for	bamboo and rattan-									
women, Dalits, and other	based income									
socially or culturally	generation programs.									
marginalized groups.										
Provide technical services,	Provision of training							09	MoFE and All	MoALD, Ministry
including necessary training	and technical								Provincial	of Women,
for processing and production,	services to the								Ministries	Children and
to women, Dalits, and other	targeted groups.									Senior Citizens
socially or culturally										
marginalized groups in pocket										
areas.										
Promote the use of bamboo	Market							100	MoFE and All	MoALD,
and rattan and diversify their	diversification.				1				Provincial	Department of
markets to improve local									Ministries	Commerce,
livelihoods.										Supply and
										Consumer
										Protection,
										Domestic and
										Small Industries
										Offices
Establish suitable bamboo and	Establishment of 7							140	FRTCand	MoALD
rattan demonstration plots in	(seven)								relevant	
various locations across the	demonstration plots.								Provincial	
country.									Ministries	
Strategy 4: To develop th	Strategy 4: To develop the necessary technology, infrastructure, technical knowledge, and skilled human resources to make bamboo and rattan-	infrastructu	ıre, techn	ical knowl	edge, and	skilled hu	ıman resc	urces to m	ake bamboo a	nd rattan-
based materials commercial and competitive.	cial and competitive.									
Promote and produce both	Development of							80	MoFE and All	MoALD,
traditional and modern	technology and								Provincial	Department of

bamboo - and rattan-based	knowledge.						Ministries	Commerce,
handicrafts and industrial								Supply and
materials.								Consumer
								Protection,
								Domestic and
								Small Industries
								Offices
Identify and revive closed and	Operationalization of					200	Department	MoALD,
struggling bamboo- and	bamboo and rattan-						of Industries,	Department of
rattan-based industries.	based industries.						Provincial	Commerce,
							Ministries	Supply and
								Consumer
								Protection,
								Domestic and
								Small Industries
								Offices
Facilitate the import of tools,	Facilitation of import					200	Ministry of	Entities under
machinery, and skilled human	of tools, machinery						Finance,	MoFE
resources from abroad to	and human resources						Department	
enhance the production and	from abroad						of Industries	
technological development of	[overseas].							
bamboo- and rattan-based								
materials.								
Develop skilled technical	Enhancement of					140	CTEVT, FRTC	Department of
manpower at the local level.	technical capacity in							Industries,
Enhance capabilities in the	local level.							relevant
identification, production,								Provincial
technology development, skill								Ministries and
and entrepreneurship								Local
development of bamboo- and								Governments
rattan-based products and								
capacity development of								
involved craftsmen.								
Emphasize the establishment	Establishment of one					200	Department	Local

and operation of local	bamboo and rattan-			of Industries,	,Governments
bamboo and rattan-based	based cottage			Domestic and	
industries.	industries in each			Small	,Commerce
	pocket areas.			Industries	Supply and
				Offices	Consumer
					MoFE ,ctionProte
					and relevant
					Provincial
					Ministries
Support the development of	Development of			30 Ministry of	FRTC
school-level curriculum that	curriculum			Education and	70
highlight the importance and	highlighting the			Science	
utilization of bamboo and	importance and			Technology,	
rattan.	utilization of bamboo			MoFE	
	and rattan.				
Coordinate and collaborate	Coordination and			120 MOEST, MOFE FRTC	FRTC
with training provider	cooperation between				
institutions to enhance	various stakeholder				
technical capacities, develop	agencies.				
new products, test					
technologies, set quality					
standards, and conduct skill-					
based training programs.					
Strategy 5: To enhance tl	he quality of bamboo	Strategy 5: To enhance the quality of bamboo and rattan-based materials, making them competitive in national and international markets.	em competitive in national an	d international ma	rkets.
Protect the intellectual	Protection			30 MoFE and	MoALD
property rights associated	[Safeguard] of the			Relevant	
with both traditional and	intellectual property			Provincial	
innovative bamboo- and	rights on traditional			Ministries	
rattan-related technologies,	knowledge and				
arts, skills, and designs.	technology.				
Encourage the establishment	Establishment of			200 Local	MoFE, MoALD
of common facility centers in	central industry of			Governments,	, and relevant
various locations across the	Bamboo and Rattan.			Department	Provincial
country, as needed for				of Commerce,	, Ministries

designers and craftsmen, to collectively produce quality bamboo and rattan materials.					Supply and Customer Protection and Domestic and Small	
					Industries Offices	
Promote handicrafts,	Value addition by			20	MoFE, MoALD Ministry of	Ministry of
household utility items, and	identification of				and Relevant Finance	Finance
exportable traditional crafts	traditional handicraft				Provincial	
by identifying, upgrading	and its enhancement.				Ministries	
standards, and emidneing their value.						
Encourage entrepreneurs to	Use of bamboo and			80	MoFE and	Local
prepare composite materials	rattan based mixed				Relevant	Governments,
by blending bamboo and	equipment for				Provincial	Department of
rattan with other construction	construction.				Ministries	Commerce,
materials to diversify their						Supply and
production and applications.						Consumer
						Protection,
						Domestic and
						Small Industries
						Offices
Promote the development	Implementation of			140	MoFE and	Local
and dissemination of	subsidy program for				Relevant	Governments,
earthquake-resistant and fire-					Provincial	Department of
resistant bamboo housing	houses using				Ministries	Commerce,
technologies.	bamboo.					Supply and
						Consumer
						Protection,
						Domestic and
						Small Industries
						Offices
Conduct essential primary	Establishment of			100	FRTC	MoFE, Local

he local	_	_					Governments,
	[assessment]						Department of
level to make them	laboratory						Commerce,
competitive in domestic and							Supply and
international markets.							Consumer
							Protection,
							Domestic and
							Small Industries
							Offices
Simplify the process of Es	Establishment of one				320	MoFE and	MoALD
international marketing by Go	Government			-		Relevant	
certifying forests and co	collection depot in					Provincial	
cultivated areas producing	each Province.					Ministries	
bamboo and cane, as well as							
the produced goods.							
Encourage the organization of Participation on	articipation on				80	MoFE and	Ministry of
exhibitions and trade fairs for ex	exhibition and trade					Relevant	Finance, MoALD
bamboo and rattan-based fa	fares of bamboo and					Provincial	
	rattan related					Ministries	
international exhibitions and pr	products.						
trade fairs for bamboo and							
rattan-based products.							
Simplify the marketing	Assurance of the				80	MoFE and	MoALD,
process of bamboo and m	market.					Relevant	Department of
rattan-based products.						Provincial	Commerce,
						Ministries	Supply and
							Consumer
							Protection,
							Domestic and
							Small Industries
							Offices

	Alignment of price			20	MoFE and	Department of
information on bamboo and	with international				MoALD and	Commerce,
rattan production, markets,	market.				Relevant	Supply and
and pricing.					Provincial	Consumer
					Ministries	Protection,
						Domestic and
						Small Industries
						Offices
Encourage trade promotion	Motivation of			20	MoFE and	Local
by organizing bamboo and	community engaged				MoALD and	Governments,
rattan-producing and farming	in production and				Relevant	Department of
communities through	farming expansion.				Provincial	Commerce,
cooperatives to expand their					Ministries	Supply and
commercial engagement.						Consumer
						Protection,
						Domestic and
						Small Industries
						Offices
Manage an organized market	Management of			140	Provincial	MoFE and MoALD
system for bamboo and rattan Market.	Market.				Ministries,	
products. Establish dedicated					Local	
bamboo and rattan markets in					Governments,	
suitable locations across					and Domestic	
multiple cities.					and Small	
					Industries Offices	
Provide extensive training	Enhanced awareness			20	MoFE and	MoALD, Local
through relevant institutions	at local level about				relevant	Governments,
to produce quality, timely,	the importance of				Provincial	Domestic and
and design-conscious goods,	Bamboo and Rattan.				Ministries	Small Industries
keeping international markets						Offices
in focus. Launch widespread		_				
awareness campaigns through						

multiple media to promote the use of bamboo and rattan products.										
Strategy 6: To attract private and cooperative sectors for the development and expansion of bamboo and rattan cultivation, sustainable management, enterprise development, productivity enhancement, production diversification, and commercialization.	vate and cooperative development, produ	sectors for the dictivity enhancem	evelopment tent, produc	and expartion divers	ision of bai ification, a	mboo and	rattan ercializa	cultivatic ition.	on, sustainab	e e
Encourage private,	Establishment of industries with							30	MoFE and	Provincial Ministries Local
government, cooperative, and										Governments,
private companies to develop										Department of
and expand appropriate										Commerce,
technologies for processing										Supply and
pamboo and rattan.										Consumer Protection.
										Domestic and
										Small Industries
										Offices
Promote foreign investment	Development of							20	MoFE and	Provincial
and technology for the	modern technology.								MoALD	Ministries, Local
development and promotion										Governments,
of bamboo and rattan										Department of
industries.										Commerce,
										Supply and Customer
										Protection and
										Domestic and
										Small Industries Offices
Procure raw materials	Ensured the market							20	Provincial	MoFE and MoALD
obtained from bamboo and	of raw material.								Ministries,	
rattan cultivation invested in									Local	
by private, community, or									Governments,	
cooperative entities.									Department	
									ot Commerce,	
									supply and	

						Customer Protection and Domestic and Small Industries Offices	
Encourage national and	Development of				30	MoFE and	Relevant [related]
international associations, as	suitable technology					MoALD	Provincial
well as private and	and skilled						Ministries and
cooperative sectors, to	manpower on						Local Levels
engage in processing bamboo	bamboo and rattan						
and rattan, developing	and						
suitable technologies and	operationalization of						
skilled manpower, and	bamboo and rattan						
operating enterprises.	enterprises						
Engage communities in the	<mark>Sustainable</mark>				08	MoFE and	Relevant [related]
plantation, management, and	management of					MoALD	Provincial
sustainable use of bamboo	bamboo and rattan						Ministries and
and rattan in community-	with the participation						Local Levels
based forest management	of various						
systems such as community	community-based						
forests, collaborative forests,	forest management						
leasehold forests, religious	system.						
forests, and private forests.							
Establish cooperatives,	Establishment				50	Ministry of	Relevant [related]
networks, and organizations	[Formation] of					Forests and	Provincial
for stakeholders engaged in	Bamboo and rattan					Environment	Ministries and
the bamboo and rattan sector. development	development					and Ministry	Local Levels
	network have been					of Agriculture	
	established.					and Livestock	
						Development	







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