



Royal Government of Bhutan
Ministry of Agriculture and Forests
Department of Forests and Park Services
Social Forestry and Extension Division



National Strategy for the Development of Non-Wood Forest Products 2020

Social Forestry and Extension Division
Royal Government of Bhutan

Foreword

Non-wood forest products (NWFPs) play an important role in the daily lives and overall well-being of the Bhutanese people especially among the rural farming community; for instance they are a major source of off-farm income, food, medicinal and aromatic products, fodder, fibre, and also used for local construction materials. NWFPs often are a safety net for poor people in the off-farm season and/or whenever needed as a food security measure.

Bhutan is rich in biodiversity including NWFPs. The country has proven a haven for a wide array of NWFPs and to date more than 600 medicinal plants³, 97 mushrooms, 97 fruits and nuts, 34 bamboos, 14 canes, 25 oil/resin species, 20 spices, 38 fibres, 70 ornamental plants, 181 fodder species, 36 dyes, 12 food crops (yams) and 77 forest vegetables have been identified and described (Forest Resources Development Division, 2006). The scientific names of many more NWFP species are still unknown.

Over the last decade, the NWFP programme in Bhutan has evolved dramatically; many changes have been reflected in the Forest and Nature Conservation Rules and Regulations, 2017 regarding the NWFP process; the illegal harvesting of a few NWFPs has brought to light the previously unknown importance of many species; a lot of agencies have taken up various initiatives regarding NWFPs and require focus to maximize benefits to the people of Bhutan; the emergence of CF Networking has allowed for the sharing of resources and benefits among communities; the potential of communities to develop products instead of trading resources in raw form has been identified, etc.

At the beginning of the 11th Five Year Plan in 2013, a total of 70 Non-Wood Forest Products Management Groups had been established which allowed communities equitable access to NWFP resources in the country. Now as the 12th Five Year Plan begins, a total of 144 NWFP Management Groups have been handed over to rural communities of Bhutan which includes around 5000 households. Many of these households have not only been trained on the resource management of NWFPs, but on product development as well.

Therefore, keeping in mind the various new challenges and achievements over the recent years, it is of utmost importance, that we revise the strategy guiding the Non-Wood Forest Product Programme; one which is updated with the socio and political context of Bhutan.

I am proud that the Social Forestry & Extension Division has come up with the updated strategy in light of the above mentioned developments and am confident that the NWFP Programme will be further enhanced through this document to benefit local communities as best as possible.



(Lobsang Dorji)

Director

Department of Forests and Park Services

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ACRONYMS

APIC	Agency for Promotion of Indigenous Crafts
BAFRA	Bhutan Agriculture and Food Regulatory Authority
BCCI	The Bhutan Chamber of Commerce and Industry
CITES	Convention of the International Trade of Endangered Species
CF	Community Forests
CFMG	Community Forest Management Group
CSI	Cottage and Small Industry
CSMIP	Cottage, Small and Medium Industry Policy
CSISDFLP Program	Cottage and Small Industry and Startup and Development Flagship
DAMC	Department of Agriculture Marketing and Cooperative
DCSI	Department of Cottage and Small Industry
DOA	Department of Agriculture
DOFPS	Department of Forests and Park Services
DOHR	Department of Human Resources
DOT	Department of Trade
DRC	Department of Revenue and Customs
FNCA	Forest and Nature Conservation Act
FNCRB	Forest and Nature Conservation Rules of Bhutan
FRDC	Forest Research and Development Centre
FYP	Five Year Plan
MSPCL	Menjong Sorig Pharmaceuticals Corporation Limited
MOLHR	Ministry of Labor and Human Resources
NBC	National Biodiversity Center
NFIM	National Forest Inventory Methodology
NNWFPCC	National NWFP Coordination Committee
NNWFPWG	National NWFP Working Group
NPHC	National Post Harvest Center
NSDNWFPB	National Strategy for the Development of Non-wood Forest Products in Bhutan
NWFPs	Non-wood Forest Products
NWFPM&MGs	NWFP Management and Marketing Groups
PO	Park Office
RNR RDC	Renewable Natural Resource Research and Development Center
SFED	Social Forestry and Extension Division
TD	Territorial Division

I. Rationale for the Strategy

Non-wood forest products (NWFPs) have environmental, economic and social functions. They constitute greater portion of floristic diversity of forest ecosystems. The more diverse an ecosystem the less vulnerable it is. At the same time, NWFPs form the main source of feed for faunal community of forest ecosystems and occupy a vital place in the food chain. In summary, NWFPs have a vital role in sustaining the forest ecosystems and the associated services.

Globally, about 1.2 billion people living in poverty are said to depend on NWFPs. The rural poor rely on it for poverty mitigation and reduction. They gather edible NWFPs and consume them as food supplements to tide over food insecurity. According to the Millennium Ecosystem Assessment report of 2005 more than 150 NWFPs are already being traded globally.

NWFPs support health service of a large number of rural people through home remedies. A range of NWFPs support rural-based traditional healers in dispensing home remedies for many health problems. They also support traditional medicine and indigenous crafts across many cultures. The traditional medicine, indigenous crafts and home remedies constitute a system of indigenous knowledge and culture of incalculable social value. In the contemporary context too, NWFPs hold educational, academic and research values for the societies' endeavor to manage them sustainably.

In Bhutan too, NWFPs are employed as poverty mitigation and reduction means. They also support home remedies, traditional medicines, indigenous crafts and commercial enterprises. The home remedies, indigenous crafts and traditional medicines embody an indispensable cultural and indigenous knowledge.

The poor segment of the farming communities rely on the NWFPs for poverty mitigation and reduction. They use fern tops, cane shoots, bamboo shoots, lichens, wild mushrooms, wild asparagus, orchids, etc. for direct consumption to tide over food insecurity and mitigate poverty and also sell many NWFP species for cash income. Between 2010 and 2018, about 148 community groups have been established for NWFP management and marketing, managing over 32 species inclusive of medicinal plants, incense raw materials, fibre, natural dye, essential oils, mushrooms, cane, bamboo, spices, adhesives and so on. These groups, comprising of 5378 households, marketed worth about Nu.54.66 million between 2010 and 2018. The sale of *Codyceps* and incense raw materials constitutes a sizeable portion of the annual income of some semi-nomadic pastoralists.

NWFPs are vital for traditional medicine. The Menjong Sorig Pharmaceutical Corporation Limited (MSPCL) uses over 300 NWFP species in order to produce over 128 essential medicines and 19 varieties of herbal products. Annually, traditional medicine worth Nu.26.5 million (2018) are dispensed through public health service. Similarly, home remedies cater remedial services to rural population. Its significance could not be summarized for lack of systematic information.

On the indigenous crafts, 3 of the 13 indigenous crafts are NWFP-based, while some for example weaving are supported by NWFPs. Some NWFP-based commercial enterprises such as carving, traditional paper making are based on the indigenous crafts.

At the moment, about 100 of the cottage and small industries are NWFP-based. Over one-third of them are incensed-based, followed by traditional paper making and essential oils. These cottage and small industries provide livelihoods to urban and rural populations comprising of artisans, traders and entrepreneurs. For instance, a local community in Bjoka under Zhemgang Dzongkhag generate cash income from the sale of bamboo and cane products, as well as farmers from Mongar and Trashigang make substantial income from the sale of lemon grass oil.

II. Scope of NWFP Development and Stakeholders

NWFP development as an enterprise comprises three elements: a) NWFP management & production, b) NWFP product processing & development and c) NWFP marketing. These three elements involve stakeholders from government agencies, the private sector, civil society organizations and local community groups as described below.

A. NWFP management and production

The Department of Forests and Park Services (DOFPS) under the Ministry of Agriculture and Forests (MOAF) has the responsibility for sustainable management and supply of NWFPs to cottage and small industries, indigenous medicine and local communities. The Social Forestry and Extension Division (SFED) holds the responsibility for functional services which ranges from NWFP assessment, preparing harvesting prescriptions, information gathering and database creation, reviewing and approving NWFP management plans, extension support, capacity development planning; through trainings in areas such as product development, resource assessment, sustainable harvesting, etc, monitoring of management plan implementation and implementation impact evaluation.

The Territorial Divisions (TDs) and Park Offices (POs) have the mandate to gather local level NWFP data and information, assess NWFP resources, formulate/revise NWFP management plans, create community groups for the planning and implementation of the NWFP management plans, plan and execute technical and extension support, support capacity building of community groups, issue permit for NWFP harvesting by local communities and industries and monitor management plan implementation. The Forest Research and Development Centers (FRDCs) are mandated for research service for NWFP management and technology development. The National Biodiversity Centre (NBC) has the mandate for herbarium and strengthening biodiversity access and benefit sharing.

Local level NWFP Management and Marketing Groups (NWFPM & MGs) are responsible for management and harvesting of NWFPs. The NWFP-based private cottage and small industries depend on NWFPs for their livelihoods. These industries collect the raw materials based on the permits obtained from the DoFPS.

NWFPs make principal ingredients of indigenous medicines. In keeping with its mandate, the MSPCL harvests and manufacture indigenous medicines for indigenous public health services. It also produces various NWFP-based commercial products.

Rural household economy in the country has an inevitable dependence on NWFPs. There are civil society organizations which support rural communities to mitigate poverty through its NWFP-based socio-economic development interventions.

B. NWFP product processing and development

NWFP-related private enterprises invest their financial and human capitals, run the enterprises and address research and management issues affecting the enterprises. The NWFP & MGs, harvest the products but seldom process them.

The Department of Cottage and Small Industry (DCSI) under the Ministry of Economic Affairs (MOEA) has the mandate to lend policy, licensing, technological and capacity building support to the NWFP-related enterprises. It also provides machinery and skills and entrepreneurial development support to the rural enterprises. The Bhutan Chamber of Commerce and Industry (BCCI) has the mandate to promote dynamic and competitive business.

The Ministry of Labour and Human Resources (MOLHR) has the mandate for entrepreneurship development training to the potential and the existing entrepreneurs. The training seeks to stimulate and assist the trainees to develop business ideas, competencies required for the conduct of business activities, professional business plan or feasibility study. As for the existing entrepreneurs the training seeks to stimulate them to improve or diversify their business.

The National Post-Harvest Centre (NPHC) under the Department of Agriculture (DOA) has the mandate to provide post-harvest processing and product development support to NWFP & MGs in NWFP product processing and development. The support ranges from designing and dissemination of appropriate post-harvest technologies, advisory support for technology selection, technology maintenance, capacity building for product development and technology application, enterprise management and product research and design support.

The Department of Trade (DoT) under the MOEA has the mandate to promote product branding through its BRAND BHUTAN initiative. MADE IN BHUTAN brand can be used by individual craft producers, community groups, cooperatives, private businesses and agencies that produce and trade commercial products if products fulfill the lead criterion and the five elements established by BRAND BHUTAN. The DoT also implements quality control works through awarding the Seal of Excellence and Seal of Quality for handicraft products.

The Agency for Promotion of Indigenous Crafts (APIC) has the mandate for the promotion of indigenous arts and crafts. It promotes product development and innovation. It also enhances technical, entrepreneurial and business skills of the indigenous crafts artisans and entrepreneurs. It awards the Seal of Origin for the indigenous handicrafts.

The Cottage and Small Industry and Startup and Development Flagship Program [CSISDFLP](2019-2023) is being implemented collaboratively by the DCSI, APIC, DAMC and MOLHR. Under this Program, of the 21 products targeted for value additions, 6 are NWFP-based products – essential oil products, handmade paper, incense, bamboo products, wooden products (toys, carving, turning) and natural dye for textile products. The DAMC will be responsible for the essential oil products; DCSI for handmade paper and incense; and APIC for bamboo products, wooden products and natural dye. Besides, the entrepreneurship development training will continue to generate feasible business proposals from potential entrepreneurs which will be sent to the Startup Centers and create new CSIs eventually. The Program will strengthen entrepreneurship culture, policy and legal support, access to finance and incentives, human capital, market access and business development support to the enterprises producing those products as well as to the new CSIs. New CSIs will be set up as well.

The MSPCL has the mandate for the production of indigenous medicines for indigenous-medicine-based public health services. It also produces various NWFP-based commercial products.

The NWFP-based enterprises perform product processing and development, grading and packaging of the processed products. As for the unprocessed products, the NWFPGs do grading and packaging.

C. NWFP marketing

The NWFPM & MGs, traders and auction bidders are involved in the marketing of unprocessed NWFPs, while the NWFP-based enterprises do the marketing of their products. The MSPCL does the marketing of their own NWFP-based commercial products.

The CSISDFLP mandates DCSI, APIC and DAMC for marketing of the products assigned to them. In addition, the DAMC has the mandate for providing marketing service to the NWFPM & MGs as well as make Farmers' Groups and Cooperatives effective in marketing of NWFPs.

NWFP marketing entails movement of unprocessed NWFPs from their production sites to the processing and product development industries. Marketing also involves movement of both processed and unprocessed products from the industries and the production sites to the domestic and overseas markets. Exporting the processed and unprocessed NWFPs require quarantine certificate (Phyto-Sanitary Certificate) and certificate of origin (Material Transfer Agreement). Export of the processed products

also requires the exporters to assure the quality of the products as well as meet other obligations of the importing countries.

The DoFPS regulates the movement of unprocessed NWFPs from the production sites or selling sites to the industries. In case of exporting unprocessed NWFPs, the DoFPS regulates its transit upto the exit point. The DCSI issues the transit permit for the processed products from the industry to the exit point, while the DoT issues certificate of origin. The Department of Revenue and Customs (DRC) provide the customs services. The DCSI issues the transit permit for the processed products for trading in the domestic markets. The quarantine certificates are issued by the Bhutan Agriculture and Food Regulatory Authority (BAFRA).

III. Problem Definition

For the enterprises to be effective and efficient, it is inevitable to discern and address the problems affecting all the three elements. The following section presents the problems affecting all the elements. The problems, described below, have been identified based on the methodology used for the evaluation of the National Strategy for the NWFP Development 2008.

A. NWFP Management and Production

The raw material production can be *in situ* in the natural forests and *ex situ* through cultivation in the private fields as well as community forests and leased land. Both *ex situ* and *in situ* production of raw materials entail sustainable production and harvesting of NWFPs. A management plan needs to be formulated for the purpose for which data and information are needed on the use types, distribution and quantity of NWFPs in the forests, quantity cultivated and the demand. The management plan needs to be implemented to ensure sustainable management and harvesting of NWFPs. Effective and efficient implementation of the management plan calls for enabling policy and regulatory support, efficient organizational set up, adequate staffing, allocation of financial resource, technical capacity, extension and research inputs and effective monitoring and evaluation.

The following sections present the problems affecting the management and production of raw materials.

A.1 NWFP program, organization and staff

1. Despite its environmental, economic and social importance, NWFP development is yet to form part of the national Five Year Plan (FYP) priorities of the DoFPS. As a consequence, NWFP development does not receive budgetary support for extension, technical, research and capacity building supports required for effective and efficient management of raw materials.

2. With the recentralization of the decentralized forestry program, the TDs and POs have taken over the mandate of NWFP management. Before the recentralization, the NWFP development program was planned and implemented based on the principle of collaborative management supported by appropriate staffing. With the recentralization, the TDs and POs are yet to make adjustment to organizational set up and staffing to suit collaborative management of NWFP.

3. Community-based NWFP Management and Marketing Groups (NWFPM & MGs) have been institutionized across the country. However, group governance is weak in terms of decision making, compliance enforcement, record keeping, financial literacy

and implementation of NWFP management and marketing as well as adding value to products.

4. The equitable participation of rural population in NWFP management is limited. At the moment the number of NWFP M & MGs cover about 6000 rural households of the total about 70,000 constituting about 8.5% of the rural population.

A.2 Data and information

5. The existing National Forest Inventory Methodology (NFIM) is timber-focused. As a result, the data and information generated by the recently completed forest inventory lack comprehensive information and data on NWFP use types, the extent of distribution and quantity. The existing information on the use types and geographical and ecological distribution of NWFPs are inadequate.

6. In the absence of inventoried data, information and data are being generated following NWFP resource assessment guidelines. So far the assessment guidelines are available for 12 species only. While about 200 species are being harvested for indigenous medicine and many are used for enterprises and farmers' cash income the existing information is partial, refer Annex 1 and Annex 2. Most of the medicinal plants listed in the Annex 1 (as source from MSPCL) is not yet included in the forest management information system.

7. Taxonomic classification on *in situ* NWFPs is yet to materialize as a result of which, a systematized structure for data collection and information generation is lacking.

8. There is a lack of systematic data on the quantity and types of NWFPs harvested by NWFP M & MGs which affects planning and implementation of marketing plan.

A.3 Sustainable management of NWFP

9. Invariably, the NWFP M & MGs, refer Annex 3, are required to follow management plans to manage, harvest and market NWFPs. However, some groups lack management plans while for some groups, their management plans have become outdated. Some management plans have been formulated in English, which the NWFP M & MG members find inappropriate as they cannot read in English. The TDs and POs lack system of archiving the management plans. The boundaries of the forest areas assigned to different NWFP M & MGs sometimes overlap.

10. NWFP management is yet to be integrated into CF Management Plans (CFMPs). NWFP management is also yet to be mainstreamed into forest management planning and Forest Management Units (FMUs) management plans.

11. Harvesting prescriptions form the crucial part of the management plans. However, while about 200 species are being harvested the harvesting prescriptions are available for 60 species only.

12. NWFP harvested by the enterprises are not governed by harvesting prescriptions.

13. In the management plans of the NWFP & MGs, the scope for management intervention is limited. As a result growing areas of some species are shrinking because of lack of or inappropriate management interventions. A case in point, Chirata's ecology requires some level of opening and burning of the growing areas, but the burning has been outlawed. Similarly, pole-size spruce forest solely dedicated to Matsutake production is ideal for the sustained spawning of the mushroom, but timber extraction, grazing and overgrown trees deleteriously affect the spawning capacity of the fungus. Lemongrass suffer high incidence of both exotic and local invasive species.

14. Weak compliance enforcement of the harvesting prescriptions and the by-laws of the NWFP & MGs, lack of re-stocking of NWFP resources and premature harvesting are attributed to resource overharvesting and degradation, particularly those species with high economic use such as bamboo and medicinal plants.

15. While the system of NWFP management for NWFP-based enterprises is absent, the existing practice of DoFPS's allocation of raw materials to the enterprises is unsystematic and inefficient. The practice entails requesting the DoFPS for the raw materials mentioning the quantity and locations of collection. Based on the request, the Directorate of DoFPS seeks feasibility assessment reports from the TDs concerned. If allocation from the requested locations is reported as infeasible, a new request has to be put for different locations. Then the feasibility assessment reporting gets repeated, sometimes several times, before the approval is accorded.

A.4. NWFP domestication and cultivation

16. NWFP domestication and cultivation is yet to become an operational program. While 70 NWFP species have been identified to have potential for cultivation, so far research attempts have been made to promote cultivation of only 6 species. In order to support upcoming domestic enterprises, cultivation of key NWFPs must be initiated.

A.5 Regulatory support

17. The review of the Forest and Nature Conservation Act (FNCA) 1995 is yet to be completed. As a result, harmonization of the Act with the international regulations such as CITES stands pending making the regulatory provision for NWFP trade incomplete.

18. The adoption of the revised royalty rates of NWFPs is pending which continues to affect the pricing of NWFPs. This also hampers the exploration of new/ potential NWFPs by entrepreneurs and private enterprises.

A.6. Technical service

19. The technical support to the NWFPM & MGs for the preparation and revision of NWFP management and harvesting plans, implementation of management and harvesting plans, assessment of NWFPs, preparation and application of harvesting prescriptions, NWFPM & MG governance, NWFP restocking, record keeping on NWFP harvested and marketed, cash income, NWFP cultivation, etc. is weak.

A.7. Extension service

20. Extension materials for propagation of NWFP species, nursery technique, resource assessment, resource harvesting, etc. are inadequate. Turning of the NWFP harvesting sites, managed by NWFPM & MGs, into 'Centers of Excellence' as stated in the 2008 version of the NWFP Strategy is also incomplete.

A.8. Research service

21. Research support for sustainable management of NWFPs is lacking. The efficiency of the existing system of NWFP allocation to the enterprises and the assessment of the impact of harvesting NWFPs for commercial purpose is yet to be understood. The knowledge and technique to propagate even for commercially important species are not available. The research on the ecology of economically important NWFP species is yet to begin. The contribution of NWFPs to poverty mitigation and reduction is yet to be determined. The level of domestication and economic significance of domesticated NWFP species are not yet understood.

A.9. Capacity building

22. Capacity of forestry professionals for taxonomic classification, NWFP resource assessment, NWFP inventory, database establishment, technical and extension support to the NFWPM & MGs, NWFP, etc. is weak. Similarly, capacities of research staff and NWFPM & MG members for NWFP management and governance are weak.

A.10. Monitoring and evaluation

23. The TDs and PAs are yet to mainstream monitoring of performance of the NWFPM & MGs. Similarly, a system to evaluate social, economic and ecological impacts of NWFPM harvesting is not yet institutionalized.

B. Product Processing and Development

Effective and efficient NWFPM enterprises require secured raw material supplies and appropriate infrastructure, technological, financial and human resource inputs. The product processing and development are constrained by two sets of problems: product specific and general problems the details of which are as below.

B.1 Product specific problems

24. Lack of information on the demand of raw material for the NWFPM enterprises makes supply planning management ineffective and inefficient.

25. The CSI products are little understood in terms of production process, technology in use, human resource capacity, distribution process, etc. as well as bottlenecks that prevented them from realizing their full potential.

26. Information on the contribution of cottage and small industry to Gross Domestic Product (GDP) is lacking.

27. Lack of rationalized promotion of NWFPM enterprises (refer Annex 4 and 5): of 100 or private cottage and small industries 76 are incense, 11 traditional paper, 4 bamboo, 1 Chirata, 2 traditional medicines, 2 lemongrass, 1 edible oil, 2 spices and 1 Cordyceps.

B.2. General Problems

B.2.1. Entrepreneurship culture

28. Entrepreneurship culture in NWFPM-related enterprise is underdeveloped. The youths do not prefer self-employment in business and poor social recognition for entrepreneurs dampens the entrepreneurship interests of the youths. The elderly involved in NWFPM & MGs lack entrepreneurship skills and mindset.

29. The enterprise development plan for NWFP & MGs is lacking and the Rural Industry Development Scheme, both in terms of technological support and skills development, of the DCSI does not cover NWFP & MGs.

30. The entrepreneurship culture of the NWFP & MGs is non-existent. The startup entrepreneurship development training of MOLHR, being targeted at school dropouts or college graduates does not cover the NWFP & MGs.

B.2.2. Legal and policy framework

31. The existing Cottage, Small and Medium Industry (CSMI) Policy 2012, primarily designed for Medium and Large industries, were automatically applied to Cottage and Small Industries (CSIs) without due consideration to the implementation capacities and cost for smaller industries, such as their ability to comply with complex regulations. Hence, it needs to be revised and make it relevant to CSIs.

B.2.3. Access to finance and incentives

32. NWFP-based cottage and small industries lack dedicated financing scheme for startups. Non-banking financing opportunities are limited. The existing financing windows involve different procedure and cost.

B.2.4. Human capital and development

33. Skilled labour shortage is a constraint for productivity enhancement in NWFP cottage and small industries. Skill mismatch between demand and labour market supply and non-lucrative financial rewards and benefits are the main constraints.

34. NWFP-based entrepreneurs suffer poor managerial know-how owing to low academic qualification and lack of soft skills in business management.

B.2.5. Business development support

35. Inadequate infrastructures like business incubators, storage and warehouses, industrial estates also have a negative effect on the NWFP-based cottage and small industry development.

36. The NWFP & MGs lack basic infrastructure such as simple storage facilities for NWFPs which causes storage loss.

C. Product Marketing

The product marketing includes selling of unprocessed NWFPs by the NWFPM & MGs and processed products by NWFP-related private enterprises. The problems that constrain effective and efficient marketing of the products produced by the NWFPM & MGs and enterprises are as below.

C.1. Market access

37. Generally, NWFPM & MGs and NWFP-based private enterprises operate in isolation from each other. The private enterprises meet their raw materials requirement through their own arrangement, while NWFPM & MGs struggle to sell their products. The NWFPM & MGs export certain products, for example natural adhesives (Pangpoe) used for incense, to India causing the enterprises to import it at a higher price. Traders prefer to market these NWFPs in raw form to ensure uniformity as they are imported from other neighbouring countries in raw form as well.

38. The import regulations are liberal and fiscal protection measures are weak. As a result, free flow of cheaper-priced similar items from across the border is affecting the local NWFP related cottage and small industrial products.

39. Lack of accredited third party certification body and absence of accreditation by third party certification is a major impediment to certification of processed products eventually limiting market access.

40. Poor innovation, low technology adoption, lack of capacity to invest in research and design (R&D), and use of outmoded technology make the products non-competitive.

41. Lack of grading of unprocessed NWFP products by the NWFPM & MGs affects the price and marketability.

C.2 Product information

42. There is a lack of demand and supply information on the unprocessed and processed NWFPs produced by the NWFPM&MGs.

C.2 Marketing plan and collaboration

43. The scope of the marketing plan of the NWFP&MGs is limited to selling either unprocessed or very lightly processed products; through auctioning or to middlemen.

44. The lack of marketing collaboration among the private entrepreneurs, traders and the NWFP & MGs makes product marketing inefficient.

C.3. NWFP pricing

45. The prices of the unprocessed MWFPs are arbitrarily fixed, while limited auction bidders and retailers depress the prices. The approval of proposed revised royalty rates is pending which continues to affect the prices.

C.4. Policy and procedures

46. Harmonization of the NWFP-trade-aspects of the forest regulations with the international regulations such as CITES is pending.

47. There is a lack of knowledge about the policy and procedures on the NWFP domestic trading and export among NWFP & MGs and traders. There is also a lack of proper marketing system for most NWFPs which therefore allows for illegal trade.

C.5. Marketing service

48. The DAMC is yet to institutionalize its mandate of providing marketing service to the NWFP & MGs. As a result, marketing of unprocessed NWFPs remains inefficient. Many of the NWFP & MGs also lack financial resource to transport the products to auction yards and participate in auctions.

C.6. Marketing capacity

49. Generally, marketing capacity of the NWFP & MGs is weak. The export of unprocessed NWFPs to India is constrained by the lack of capacity of exporters to comply with its online General Sales Tax system.

IV. Strategy: Vision, Goals, Objectives and Outputs

50. Vision: Enhanced rural livelihoods and economic contribution through sustainable management of NWFPs

51. Goals

- (a) Sustainable management and utilization of NWFPs for livelihoods
- (b) Enhancement of economic efficiency of NWFP-related enterprises

52. Objectives

- Improve sustainable management of NWFPs
- Improve NWFPs product development, and
- Improve efficiency and effectiveness of marketing

53. Key outputs

The key outputs will be produced as follows:

NWFP management and production

- NWFP development included in the FYPs
- NWFP management mainstreamed into CF, FMU, TD and PO operations
- NWFP data collection incorporated into the FRIMS
- NWFP information made adequate for management planning
- NWFP allocation of NWFPs to the private NWFP enterprises made efficient
- Efficient formulation and approval of NWFP management plans

Product processing and development

- At least six NWFP-related products diversified and improved
- Management of the enterprises producing the six products made efficient
- Policy for cottage and small industry made enabling for NWFP-related industries
- Contribution of NWFP enterprises to Gross Domestic Product (GDP) assessed
- The Startup program cover at least three NWFP-based enterprises
- At least 5 new NWFP-based CSIs established

Product marketing

- The quality and standards for the six products set
- The same six products branded under Brand Bhutan
- The third party certification obtained for the six products
- Marketing service for the NWFP & MGs improved
- Improved export of processed products

V. Strategic Actions

The interventions will be made in three areas which are Sustainable Management and Production of NWFPs, Product Development and Product Marketing.

D. Sustainable Management and Production of NWFPs

The actions taken will be as follows:

D.1 Reform NWFP program, organization and staff

54. The DOFPS will incorporate NWFP development into the FYPs and operational plans of TDs and POs, secure budget for extension, technical, research and capacity supports required for effective and efficient management and production of NWFPs.

55. The TDs and POs will reform organizational set up and staff deployment to suit NWFP planning and implementation based on the principle of collaborative management principle.

56. Governance of NWFP & MGs will be strengthened to improve decision making, compliance enforcement, record keeping, financial literacy and implementation of NWFP management and production.

57. The equitability of participation of rural population in NWFP management and production will be expanded by increasing the number of NWFP & MGs from the current level of 156 to 250 covering about a total of 10000 households over the next 10 years.

D.2. Improve data and information

58. The NFIM will be expanded to include NWFP data and information will be made more comprehensive by covering NWFP use types, including home remedies, the extent of geographical distribution and qualitative estimation.

59. The NWFP resource assessment guidelines will be prepared for at least 20 additional species over the next 10 years.

60. A roadmap to conduct taxonomic classification of NWFPs will be prepared and classification work will be started.

61. A systematic data on the quantity and types of NWFPs harvested by NWFP M&MGs will be created progressively.

D.3. Strengthening sustainable management and production of NWFPs

62. The TDs and POs set up a system of archiving the sustainable NWFP management and production plans, formulate the plans in English and Dzongkha, revise and approve the plans on time with the boundaries of the forests assigned to different NWFP & MGs resolved.

63. The TDs and POs integrate NWFP management into the management plans of CF and the FMUs.

64. Harvesting prescriptions for all the species collected for the indigenous medicines, NWFP enterprises and the NWFP & MGs will be prepared.

65. Ensure that the indigenous medicine establishment, NWFP enterprises and NWFP & MGs subscribe to the harvesting prescriptions.

66. Expand the scope of the NWFP management and production plans of the NWFP & MGs to include the scope for management interventions to address the problems related to overharvesting, shrinking of resource base, multiple use, invasive species, resource degradation, restocking, weak compliance, premature harvesting, etc.

67. Institutionalize a transactional system at the TD and PO levels for the NWFP-based private and corporate enterprises to procure raw materials from the NWFP & MGs.

68. Design a system of NWFP management specifically to cater to the demand of NWFP-based enterprises in order to replace the existing inefficient system of allocation.

D.4. Outscaling NWFP domestication and cultivation

69. Assess the performance of the NWFP species cultivated so far, assess the demand for cultivable NWFP species, institutionalize and outscale the domestication and cultivation of the ones with high demand.

D.5. Improving relevance of regulatory support

70. Complete the revision work of FNCA 1995 and its harmonization with the CITES regulation. Collaborate with BAFRA to strengthen regulation of NWFPs sold in local markets alongside other vegetables.

D.6. Strengthening technical service

71. Technical support to the NWFPM & MGs for the assessment of NWFPs, preparation and revision of NWFP management and production plans, implementation of the plans, application of harvesting prescriptions, NWFPM & MG governance, NWFP restocking, record keeping on the NWFPs harvested NWFP cultivation and so on will be strengthened.

D.7. Improvement of extension service

72. Extension materials will be prepared and disseminated for the propagation of NWFP species, nursery technique, resource assessment, sustainable resource harvesting, setting up 'Centre of Excellence' and so on.

D.8. Improvement of research service

73. Research on the impact of harvesting on the resource base, artificial propagation techniques for the species lacking successful propagation, plant ecology of economically important species, performance of domesticated species, system of NWFP-related home remedies, etc. will be undertaken.

D.9. Capacity building

74. A capacity building plan will be formulated and implemented to capacitate forestry professionals for taxonomic classification, NWFP resource assessment, NWFP inventory, database establishment, technical and extension support to the NFWPM & MGs and so on. Similarly, a plan to build capacity of the forest research staff will be prepared and executed. The capacity of the NWFPM & MG members will be improved through formulation and execution of a capacity development plan.

D.10. Operationalization of monitoring and evaluation

75. A system for monitoring the performance of the NWFPM & MGs will be institutionalized at the TD and PO levels. Similarly, a system for the evaluation of social, economic and ecological impacts of NWFP harvesting will be operationalized.

E. Improving Product Processing and Development

Effective and efficient NWFP enterprises require secured and sustained supply of raw materials as well as appropriate infrastructure, technological, financial and human resource inputs. The product processing and development are constrained by two sets of problems: product specific and general problems the details of which are as below:

E.1 Addressing of product specific problems

76. A system of compiling information on demand of raw materials for the NWFP enterprises will be developed and used to make supply planning and management efficient.

77. The NWFP-related CSI products will be studied to understand production process, technology in use, human resource capacity, distribution process, etc. as well as identify bottlenecks that prevent them from realizing their full potential.

78. Some of the NWFP-related startup enterprises, such as the ones based on essential oils and organic bathing products, will be upgraded into full-fledged enterprises.

79. Licensing will be rationalized to diversify NWFP enterprises to cover other NWFP products and avoid concentration into few products.

E.2. Addressing general problems

E.2.1. Improvement of entrepreneurship culture

Promotion of entrepreneurship culture will encompass support for infrastructure development and skill development. The strategy will include the actions as below.

80. Possibilities of converting some of the NWFP & MGs into rural enterprise/CSIs through the entrepreneurship development training of MOLHR and the Rural Industry Development Scheme of the DCSI.

81. The Department of Forests and Park Services can collaborate with the Startup Center at Changamtog to strengthen the NWFP related proposals.. As new Startups Centers and Business Incubation Centers will be established, arrangements will be made for NWFP-related enterprises to take advantage of these Centers.

82. The skill development will be carried out through institutionalization of mentorship program and a host of startup events. While the program and events are for all CSIs, arrangements will be made for the NWFP-related CSIs to take advantage of the program and events.

E.2.2. Improvement of legal and policy supports

83. A study will be carried out to determine the contribution of CSI to the GDP and the findings will be used for future policy formulation.

84. A survey of informal sectors will be done to determine the size and composition and necessary support services for their formalization will be instituted.

85. A forum for dialogue for CSIs will be created with members from CSI entrepreneurs association, Cooperatives, farmer groups, relevant Civil Society Organizations and Government agencies.

E.2.3. Improvement of access to finance and incentives

86. The Fiscal Incentives will be reviewed to reflect the needs of the producers of the 5 identified products.

87. Other credit sources, such as crowd funding, 'JAB CHOR' and Druk Holding Inc. BizAPP, Loden Foundation and financing from SCI Banks will be explored for CSIs.

88. Equity financing will be provided to help the startups continue their viable innovative business ideas idea in the market.

E.2.4. Human capital and development

89. The training will be targeted to promoting the 5 NWFP-related products and the enterprises and other NWFP-related CSIs for addressing their training needs and to increase productivity and value of their products.

90. The training will encompass hard skills like product design, packaging, plant operation, etc. and also soft skills like bookkeeping / accounting, product costing and pricing, marketing, human resource management and so on.

91. Training on diversification and miniaturizing of some of the NWFP-related craft products will be imparted.

E.2.5. Business development support

92. Grants will be given for purchasing core equipment/machinery required for initial setting up or expansion of the existing production/manufacturing units for the five NWFP-related products, startups at the Startup Center, Bhutan Enterprise Awards recipients and cooperatives/farmer groups.

93. Under its Innovation Voucher Scheme (IVS) the DSCI will implement 8 IVS schemes which will cover NWFP-based CSIs.

94. The DAMC under its Cooperative Business Development Scheme (C-BuDS) can provide value addition equipment to NWFP-based Farmer Groups (FGs) as well as provide help in developing a business plan.

95. Possibility of availing packaging equipment and pre-printed packaging materials from the DAMC for NWFP-related FGs and Cooperatives to improve packaging of their processed products will be explored.

96. A technology database for CSIs in the country, including NWFP-related CSI, will be developed.

97. Bhutan Enterprise Award to be strengthen entrepreneurs through the award of the Certificate of Appreciation and Cash Prizes will be implemented on a trial basis by the DoFPS in collaboration with relevant stakeholders.

F. Improving Product Marketing

Product marketing includes selling of unprocessed NWFPs by the NWFPM & MGs and processed products by NWFP-related private enterprises. The problems that constrain effective and efficient marketing of the products produced by the NWFPM & MGs are as below:

F.1. Harmonizing forest regulations with international regulations

98. Revision of the FNCA 1995 and harmonization of the NWFP-trade-aspects of the forest regulations with the CITES regulation will be completed.

99. The NWFPM & MGs, exporters, traders and private enterprises will be capacitated to comply with the online application system of the General Tax System of India.

100. Awareness campaign will be organized for the NWFPM & MGs and traders about the policy and procedures of the various government agencies on the domestic trading and export of NWFP.

F.2. Enhancing market access

101. Setting standards and securing certification/ branding for the five NWFP-related products - hand-made paper, incense, bamboo products, wooden products, natural dye for textile products and essential oil products - will be ensured and awareness on the standards and the importance of conformity to the standards will be organized.

102. The five NWFP-related products mentioned above (104) will be branded under *Made in Bhutan and Grown in Bhutan* Sector Brands.

103. Dedicated domestic CSI marketplace and overseas CSI outlets will be established.

F.3. Improvement of product information and marketing service

104. Marketing service for the processed and unprocessed NWFP products will be mainstreamed into the management of the DAMC.

105. Improvement of demand and supply information on the unprocessed and processed NWFPs produced by the NWFPM & MGs will be made.

106. The auctioning and retailing business of unprocessed NWFPs will be improved through targeted support for auction and retailing.

F.4. Strengthening marketing plan and improving marketing collaboration

107. Scope of the marketing plan of the NWFPM & MGs will be expanded to include marketing of processed, semi-processed and unprocessed products through auctioning and retailing.

108. A collaborative and networking mechanism will be institutionalized for the private entrepreneurs, traders, corporate entities and the NWFPM & MGs for domestic marketing of unprocessed NWFPs.

F.5. Rationalizing NWFP pricing

109. The arbitrary fixing of prices of the processed and unprocessed NWFPs will be rationalized through fixation of prices based on costing principle. The proposed revised royalty rates for NWFPs will be brought to application.

F.5. Improvement of marketing capacity

110. The capacity of the enterprises producing the five products, the new NWFP-related entrepreneurs to be established and NWFPM & MGs for producing the processed and unprocessed products will be improved through customized business plans.

VI. Implementation Strategy

The implementation of the strategy will cover three aspects - NWFP production, processing & product development and product marketing. These aspects will be implemented as described below.

Coordinated and collaborative approach

At the national level intra-and-inter-agency coordination body (such as National NWFP Coordination Committee and National NWFP Working Group) will be established which will coordinate NWFP production, products processing and product development and NWFP marketing. This body will ensure that the agencies plan and implement annually the aspects of the Strategy that are relevant to them. Their plans will propose and adopt mechanisms for collaboration among or between them at policy and operational levels. Similarly, such bodies will be set up at the operational levels – TDs and POs – for facilitating cooperation particularly for NWFP production and marketing of unprocessed NWFP products.

NWFP Management and Production

The TDs and POs will formulate harvesting plans for the NWFP & MGs for *in situ* management and support them to implement the duly approved plans. They will also monitor the implementation, document progress and give feedback to the groups. The groups will implement the plans; maintain progress records on the types and quantity of NTFPs harvested. The TDs and POs with support from the SFED will lend technical and extension support for the implementation of the plans. They will also plan and implement technical, managerial and governance capacity building of the Groups. The SFED will plan and implement capacity building plans for the technical staff. The Forestry Research (FR) will plan and implement necessary research work.

The DoFPS should collaborate with the DoA to support farmers and enterprises in planning the *ex situ* cultivation and harvesting of NWFPs and implementing the plans. The cultivators and harvesters will maintain cultivation and harvesting records. The DoA with support from SFED, TDs and POs will provide technical and extension support in cultivating and harvesting NWFPs from CFs and Private Forests. The DoA will plan and implement technical and managerial capacity building of the cultivators and harvesters. The forest and agricultural research entities will plan and provide necessary research support and services to the cultivators and harvesters.

Product Processing and Product Development

The processing and product development are done mostly by private enterprises, while only few NWFPM & MGs do it with financial support from the government and development partners. The DoFPS should organise with the DCSI, APIC and DAMC jointly in order to work towards achieving the actions under this element of the strategy covering product specific problems, entrepreneurship culture, legal and policy support, access to finance and incentives, human capital development, business development support, etc.

NWFP Marketing

NWFP marketing involves selling of primary as well as processed products by private and corporate enterprises and NWFPM & MGs. The DAMC, SFED, TDs and POs will support the NWFPM & MGs in marketing unprocessed products to the private and corporate enterprises, NWFP traders and auction bidders. The DoT, DCSI, DAMC and APIC, together with the enterprises will implement the marketing aspect of the strategy. The DoT, DoFPS, BAFRA, DRC will facilitate the private and corporate enterprises and NWFPM&MGs in the export of unprocessed and processed products. The SFED in collaboration with the DAMC can facilitate drawing agreements between private enterprises and NWFP groups to ensure supply of raw materials in the long run. The SFED can also support these specific groups in cultivating raw materials to reduce dependence on wild resources. The SFED can facilitate business agreements between interested parties such as the MSPCL & APIC, and farmers where steady supply of materials such as Yula and medicinal plants is maintained as well as a fair price is ensured to rural members.

VII. Funding Mechanism

The Strategy comprises three components: NWFP Management and Production; Product Processing and Development, and NWFP Marketing. The product processing and development, and marketing have been incorporated into government's FYP. The funds have been earmarked for the two components under the programs of MoLHR, APIC, DCSI and DAMC.

NWFP Management and Production component has not been incorporated into the government's FYP. There are no funds designated for this purpose. However, NWFP management has to be mainstreamed into management plans of FMUs, CFs and PAs which are incorporated into the government's FYP. Therefore, a portion of the funds designated for FMUs, CFs and PAs will be used for NWFP management and production.

A possible complementary source of funding for this purpose will be programs and projects on forest-related climate change and poverty alleviation since NWFPs not only constitute vital structural and functional part of forest ecosystem, but holds great a potential for rural poverty alleviation. Further, to secure long-term funding NWFP management will be incorporated into the government's FYP.

The civil society organizations execute rural poverty alleviation programs some of which are based on sustainable development and utilization of NWFP resources, often promoting product development and marketing as well. Their programs will be targeted at strengthening NWFP management and production as conceived in the Strategy.

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Annex 1: NWFP Information

Sl.#	Species	Sl.#	Species
Bamboo and canes (Source: NSDNWPB 2008)		High Altitude Medicinal Plants (Source: MSPCL)	
	Neomicrocalamus andropogonifolius (Yula)	35	Lancea tibetica
2	Borinda grossa	36	Dracocephalum tanguiticum
3	Dendrocalamus spp.	37	Hypocoum leptocarpum
4	Calamus acanthospathus	38	Gentiana spp.
5	Calamus latifolius	39	Bistorta macrophylla
6	Calamus spp.	40	Pteroccephalus hookeri
7	Plectocomia himalayana	41	Nardostachys grandiflora
High Altitude Medicinal Plants (Source: MSPCL)		43	Heracleum spp.
1	Solanum xanthocarpum	44	Potentilla spp
2	Gentiana spp.	45	Heracleum candicans
3	Codonopsis bhutanica	46	Corydalis crispa
4	Adrabidopsis himalaica	47	Nepeta spp.
5	Fridllaria delavayi	48	Nepeta spp.
6	Berberies aristata	49	Rhododendron alaegenoides
7	Taraxacum officinalis	50	Delphinium glaciale
8	Tanacetum nubigenum	51	Lepisorus spp.
9	Brassica juncea	52	Thlaspi spp.
10	Gentiana urnula	53	Aconitum orochryseum
11	Geranium spp.	54	Fragaria indica
12	Pedicularis flagellaris	55	Cortia wallichiana
13	Valerin spp.	56	Clematis spp.
14	Androsace stigillosa	57	Dactylorhiza hatagirea
15	Thalictrum reniforme	58	Inula racemosus

16	Aster spp.	59	Cavea tanguensis
17	Jaeschkea oligosperma	60	Aconitum lacinatedum
18	Ranunculus brotherusii	61	Pleurospermum amabile
19	Aster spp.	62	Arenaria kansuensis
20	Oxyria digyna	63	Manconopsis horridula
21	Myricarea rosea	64	Podophyllum emodi
22	Ranuculus tricuspis	65	Sambucus spp.
23	Rheum austral	66	Chrysosplenium nudicaule
24	Salviacastanea spp.	67	Saussurea lappa
25	Mallva sylvestris	68	Corydalis dubia
26	Aconogonon turtuosum	69	Polygonatum verticillatum
27	Pleurospermum hookeri	70	Ligularia amplexicaulis
28	Selinum vaginatum	71	Geranium tuberaria
29	Hippophae rhamnoides	72	Aster flaccidus
30	Dorsera pelatata	73	Pedicularis siphonantha
31	Corydalis gerdae	74	Pedicularis longiflora
32	Plantago ovate	75	Cordyceps sinencis
33	Rhododendron anthopogon	76	Juniperus squamata

Sl.#	Species	Sl.#	Species
77	Juniperus spp.	116	Beaumontia grandiflora
78	Juniperus ptedosabina	117	Bombax ceiba
79	Primula spp.	118	Canarium strictum
80	Primula spp.	119	Piper pedicellatum
81	Choenomeles lagenaria	120	Otochilus lancitabius
82	Verbascum Thapsus	121	Sapindas rarak
83	Herpetospermum pedunculatum	122	Terminalaria bellirica
84	Saxifragm spp.	123	Aristolochia griffithii
85	Rosa macrophylla	124	Synplocos ramosissima
86	Anemone rivularis	125	Aegeles marmelos
87	Rhodiola crvenulata	126	Aconitum violaceum
88	Rosa sericea	127	Corydalis crispa
89	Neopicrorhiza scrophulariiflora	128	Butea parviflora
90	Fritillaria gardneri	129	Quercus griffithii
91	Meconopsis simplicifolia	130	Rubia manjith
92	Aster diplostephioides	131	Symplocos sumuntia
93	Incarvillea compacta	132	Curcuma longa
Low Altitude Medicinal Plants (Source:MSPCL)		133	Brassica juncia
94	Lagenaria siceraria	134	Drynaria propingua
95	Phyllanthus emblica	135	Acorus calamus
96	Erythrina arboranscens	136	Typha elephantia
97	Erythrina variegata	137	Cinnamomum zeylanicum
98	Sus scrofa	138	Euphorbia royleana
99	Bos indicus	139	Punica granatum
100	Laccifer lacca	140	Morus mucroua
101	Mucuna recurva	141	Morus spp.

102	Cautleya spicata	142	Tinospora cordifolia
103	Cautleya spp.	143	Albemoschus manihot
104	Diosyros lotus	144	Syzygium cumini
105	Swertia chirayita	145	Terminalia chebula
106	Selaginella involvens	146	Millettia pachycarpa
107	Asparagus racemosa	147	Aquillaria malaccensis
108	Cedrella toona	148	Cinnamomum gradiferumn
109	Acacia catechu	149	Cymbopogon spp.
110	Sessamum indicum	150	Illicium griffithii
111	Sessamum spp.	151	Adhatoa vasica
112	Cassia tora	Incense (Source: NSDNWFPB 2008)	
113	Rhus semilata	1	Juniperus squamata
114	Knema tenuinervia	2	Ephedra gerardiana
115	Jatropha curcas	3	Rhododendron anthopogon

Sl.#	Species
4	Rhododendron ciliatum
5	Rhododendron setosum
6	Nardostachys grandiflora
7	Cinnamomum tamala
8	Tanacetum nubigenum
9	Terminalia chebula
10	Terminalia bellirica
Natural Dyes (Source: NSDNWFPB 2008)	
1	Rubia cordifolia
2	Rhus spp.
3	Phyllanthus emblica
Vegetable and food crops (Source: NSDNWFP 2008)	
1	Asparagus spp.
2	Dioscorea bellophylla
3	Dioscorea hamiltonii
4	Diplazium esculentum (Nakey)
5	Elatostema spp. (Damroo)
Spices (Source: NSDNWFPB 2008)	
1	Piper betleoides/peepuloides (Pipla)
2	Piper hamiltonii
3	Piper longum
4	Piper pedicellatum
5	Piper spp. (long)
6	Piper spp. (round)
7	Piper spp.

8	Zanthoxylum armatum (Sichuan pepper)
Other plant species (Source: NSDNWFPB 2008)	
1	Daphne spp.
2	Edgeworthia spp.
3	Lacopodium spp.
4	Elaeocarpus spp.
5	Sarcococca hookeriana
6	Girardinia diversifolia (Nettele plant)
7	Thysanolaena spp. (Broom grass)
Mushroom (Source: NSDNWFPB 2008)	
1	Tricholoma masutake (Sangay shamu)
2	Canthrellus cibarius (Sisi shamu)
3	Rozites caperata (Dungshi shamu)
4	Lyophullum shieji (Ngala shamu)
5	Auricularia spp. (Jili namcho)

Annex 2: Priority Species

Sl. No.	Genus	Species
Bamboo and canes		
1	Neomicrocalamus	andropogonifolius
2	Borinda	grossa
3	Dendrocalamus	spp.
4	Calamus	acanthospathus
5	Calamus	latifolius
6	Calamus	spp.
7	Plectocomia	himalayana
Medicinal and aromatic plants		
8	Aconitum	heterophyllum/lacinatum
9	Aconitum	spp.
10	Acorus	calamus
11	Adhatoda	vasica
12	Cordyceps	sinensis
13	Cymbopogan	spp.
14	Illicium	griffithii
15	Picrorhiza	scrophulariiflora
16	Swertia	chirayita
Incense		
17	Juniperus	squamata
18	Ephedra	gerardiana
19	Rhododendron	anthopogon
20	Rhododendron	ciliatum
21	Rhododendron	setosum
22	Nardostachys	grandiflora
23	Cinnamomum	tamala
24	Tanacetum	nubigenum
25	Terminalia	chebuba
26	Terminalia	bellirica
Natural dyes		
27	Rubia	cordifolia
28	Rhus	spp.
29	Phyllanthus	emblica
Vegetable and food crops		
30	Asparagus	spp.

31	Dioscorea	bellophylla
32	Dioscorea	hamiltonii
33	Diplazium	esculentum
34	Elatostema	spp.
Spices		
35	Piper	betleoides/peepuloides
36	Piper	hamiltonii
37	Piper	longum
38	Piper	pedicellatum
39	Piper	spp.
40	Piper	spp.
41	Piper	spp.
42	Zanthoxylum	armatum
Other plant species		
43	Daphne	spp.
44	Edgeworthia	spp.
45	Lycopodium	spp.
46	Elaeocarpus	spp.
47	Sarcococca	hookeriana
48	Girardinia	diversifolia
49	Thysanolaena	spp.
Mushrooms		
50	Tricholoma	masutake
51	Cantharellus	cibarius
52	Rozites	caperata
53	Lyophyllum	shimeji
54	Auricularia	spp.

Source: NSDNWFPB 2008.

Annex 3: NWFP Management and Marketing Groups

SL. No`	Dzongkhag	Geog	Village	Name of NWFP Group
1	Bumthang	Ura	Ura	Mushroom Conservation & Market Group
2	Bumthang	Ura	Shingnyer	Shingkar Mushroom Group
3	Bumthang	Ura	Somthrang	Somthrang Mushroom Group
4	Bumthang	Ura	Pangkhar	Pangkhar Mushroom Group
5	Bumthang	Chumme	Yerangbi	Ye-Rang Khuenphen Bamboo Tshogpa
6	Chhukha	Darla	Sarphu	Sarphu Broom Grass Management Group
7	Chhukha	P/Ling	Serina	Serina Broom Grass Management Group
8	Chhukha	P/Ling	Bosokha	Bosokha Broom Grass Management Group
9	Chhukha	Sampheling	Betar	Betar NWFP Group
10	Chhukha	Darla	Tshangkhu	Tshangkhu Broom Grass Management & Marketing Group
11	Chhukha	Dungna	Mondokha, Choleykha	Mondokha Cane Management Group
12	Chhukha	Dungna	Drukdingsa	Drukdingsa Cane Management Group
13	Chhukha	Metekha	Goemba	Metekha NWFP Management Group
14	Dagana	Nichula		Damchuna Shingmen Tshogpa
15	Dagana	Nichula		Dangraybu Shingmen Tshogpa
16	Dagana	Lamoizhingkh a		Devi Shingmen Tshogpa
17	Dagana	Karmaling		Dorjiphu Shingmen Tshogpa
18	Dagana	Karmaling		Homa Shingmen Tshogpa
19	Dagana	Nichula		Gangtokha NWFP Group
20	Dagana	Karmaling		Kusumbari NWFP Group
21	Dagana	Karmaling		Laptshakha Shingmen Tshogpa
22	Lhuentse	Kurtoe	Jasabi	Jasabi Nakapani Group
23	Lhuentse	Minji	Chusa. Lekshogang and Lekpachu	Lekpachu Shingmen Nyamrup Tshokpa

24	Lhuentse	Menbi	Thinleypang	Lauri Gaki Shingmein Thuenkey Tshogpa
25	Lhuentse	Metsho	Missiling, Oongar, Zowabi	Oongar NWFP Management and Marketing Group
26	Lhuentse	Tsenkhar	Lagay	Lagay Shingmen Tshogpa
27	Mongar	Drametse	Baging	Baging Dronam Tshenjor Tshogpa (Within Phuensum Community Forest)
28	Mongar	Saleng	Kalapang	Kalapang Kuenphen Tshogpa
29	Mongar	Balam	Balam, Bakaphai, Jadung & Yangbari	Shingmen Nyamrub Tshogpa
30	Mongar	Drametse		Lemon Grass Oil Group
31	Mongar	Drepong	Tsangkhar	Tsangkhar Amla Group
32	Mongar	Tsakaling	Kaling, Thumling, Nyertse & Tormashong	Tshakaling NWFP Management Group
33	Mongar	Gomdar	Panhang	Panhang NWFP Management Group
34	Mongar	Gongdue		Phajong NWFP Management Group
35	Mongar	Ngatshang	Phanas, Robtangkhar & Zangdari	Cherup Desho Dulen Tshogpa
36	Mongar	Drametse	Yengkheartsheng, Pangthangra & Tshowang	Yengkarseng NWFP Management and Marketing Group
37	Mongar	Ngatshang	Tagore, Thumbari, Chogpa, Robtangkhar, Gochakpo, Mentsang, Jakhori, Shingthagri, Bainangkhar, Bachak and Ksheywang	Shingmen Nyamrub Detshen
38	Mongar	Silabee	Gelgong	Gelgong Tsherzoo Group (CF)
39	Mongar	Saleng	Sengor	Sengor NWFP Management Group
40	Mongar	Ngatshang	Phanas, Robtangkhar & Zangdari, Ngatshang	Desho Dulen Chirup Group
41	Paro	Tsento		Drakey Tsento Ngomen Tshogpa

42	Paro			Luchu Shamon Tshogpa
43	Paro	Soe		Soe Yaktsa Ngomen Tshogpa
44	Pemagatshel	Dechhenling	Yangmalashing	Yangmalashing Pipla Group
45	Pemagatshel	Dechhenling	Dungchilo	Dungchilo Pipla Zinchong Detshen
46	Pemagatshel	Dechhenling	Namdaling	Namdaling Pipla Zinchong Detshen
47	Pemagatshel	Decheling	Ngangray and Dungphu	Ngangrey NWFP Zhingchong Tshogpa
48	Pemagatshel	Norbugang	Menchu	Menchu Pipla mgt group
49	Pemagatshel	Norbugang	Gashari	Gashari NWFP
50	Pemagatshel	Norbugang	Norbugang	Norbugang NWFP
51	Pemagatshel	Chokhorling	Dezama	Dezama NWFP Group
52	Pemagatshel	Chokhorling	Yarjeywoong	Yarjeywoong NWFP group
53	Pemagatshel	Chokhorling	Chokhorling	Chokhorling NWFP Group
54	Pemagatshel	Chokhorling	Kerong	Kerong NWFP group
55	Pemagatshel	Zobel	Tshelingore	Tshelingore NWFP group
56	Pemagatshel	Zobel	Khinadang	Khinadang Land Bamboo Mgmt Group
57	Pemagatshel	Zobel	Pangthang	Pangthang Sokpo tsho NWFP Group
58	Pemagatshel	Zobel	Zobel	Zobel Bamboo Management Group
59	Pemagatshel	Dungmaed	Tomey	Tomey Zimzore Shingmen Detshen
60	Pemagatshel	Chemong	Chhimoong	Chhimoong Shingmeon Theonkei Detsen
61	Pemagatshel	Chemong	Chhiphung	Chhiphung NWFP group
62	Pemagatshel	Yurung	Khangma	Khangma NWFP group
63	Pemagatshel	Nanong	Woongchiloo	Woongchiloo Chighten Tshogpa
64	Pemagatshel	Nanong	Tokari	Tokari Shingmen Detshen
65	Pemagatshel	Nanong	Raling, Drangphu and Khangma Ri	Raling Shingmen Detshen
66	Pemagatshel	Shumar	Dagore	Dagore Shingmen Gongphel Detshen
67	Pemagatshel	Shumar	Gonpung	Gonpung NWFP Group
68	Pemagatshel	Shumar	Gamung	Gamung NWFP Group

69	Pemagatshel	Khar	Labar	Labar Shingmen Detshen
70	Pemagatshel	Khar	Bongmen	Bongmen Detshen
71	Pemagatshel	Khar	Khengzore	Khengzore Shingmen Detshen
72	Samdrup Jongkhar		Barkalangna	Barkalangna Shingmein Thuenkay Wongbab Tshogpa
73	Samdrup Jongkhar	Lauri	Baytsheling	Baytsheling Shingmein Yargay Gongphel Tshogpa
74	Samdrup Jongkhar	Serthi	Chitori	Chitori Shingmein Tshogpa
75	Samdrup Jongkhar	Serthi	Denphu	Denphu Shingmein Tshogpa
76	Samdrup Jongkhar	Serthi	Deptsang	Deptsang Shingmein Thuenkyed Kuenthin Norphel Tshogpa
77	Samdrup Jongkhar	Lauri	Dungmanma	Dungmanba Shingmein Gakey Pelzom Tshogpa
78	Samdrup Jongkhar	Martshala	Kakaney	Kakaney group
79	Samdrup Jongkhar	Lauri	Lauri	Lauri Gaki Shingmein Thuenkey Tshogpa
80	Samdrup Jongkhar	Martshala	Wangphu	Mawong Chirphen Shingmein Thuenkey Tshogpa
81	Samdrup Jongkhar	Lauri	Momring	Momring Shingmein Thuenkey Tshogpa
82	Samdrup Jongkhar	Orong	Pheluma & Phu	Potala NWFP Group
83	Samdrup Jongkhar	Orong	Remung	Remung group (Remong Lhundrup Shingmen Gongphel Tshogpa)
84	Samdrup Jongkhar	Lauri	Renang	Renang Shingmein Thuenkey Tshogpa
85	Samdrup Jongkhar	Serthi	Suskar	Risum Tsholing shingmein Tshogpa
86	Samdrup Jongkhar	Martshala	Tsholingkhar	Samten group, Tsholingkhar
87	Samdrup Jongkhar	Serthi	Serthi	Serthi Shingmein Yargay Phunsum Tshogpa
88	Samdrup Jongkhar	Gomdar	Denchi	Shingmin Natshok Detshen
89	Samdrup Jongkhar	Serthi	Tashithangjay	Tashithangjay shingmein Thuenkay Yunten Mijur Phuensum Tshogpa

90	Samdrup Jongkhar	Lauri	Phajogoenpa	Thekcho Choling Goenpa Shingmein Tshogpa
91	Samdrup Jongkhar	Orong	Thungshing & Nadangchello	Thungshing Yubephodrang Shingmin Detshen
92	Samdrup Jongkhar	Lauri	Woongthi	Woongthi Shingmein Natshok Thuedrel Tshogpa
93	Samdrup Jongkhar	Lauri	Zangthi	Zangthi Shingmein Thuenkey Tshogpa
94	Samdrup Jongkhar	Gomdar	Rongchanglu, Khandoma, Khoyar, Barogoenpa	Rongchanglu NWFPs Group
95	Samdrup Jongkhar	Gomdar	Bazor & Fremi	Bazor Fremi NWFP Management and Marketing Group
96	Samdrup Jongkhar	Gomdar	Denchi	Denchi Chituen NWFP Group
97	Samtse	Tendu	Kochen	Kochen NWFP Collection and marketing Group
98	Samtse	Tendu	Okherbotey	Okherbotey NWFP Collection and Marketing Group
99	Samtse	Namseling		Namseling NWFP Collection and Marketing Group
100	Samtse	Phuntshopelri		Lahatar NWFP Collection and Management Group
101	Sarpang	Chudzom	Drakchu, Galaythang & Jangchubling	Bumpa Shingmen Dulan Tshogpa
102	Sarpang	Jigmecholing	Dungay, Gairigoan, Daragoan, and Gongtsekha	Doringphu Shingmen Tshogpa
103	Sarpang	Jigmecholing	Chungshing	Tashiling Shingmin Dulen and Thongdrel Tshogpa
104	Sarpang	Jigmecholing	Simkharka, Ashiney, Bhirgoan	Thruendrel Shingmen Tshogpa
105	Sarpang	Gakiling	Gaychu, Joyshi, Saag Botay	Muga softbroom Management & Marketing Group
106	Sarpang	Shompangkha	Shawali	Shawali Bamboo Marketing Group (merged with Pakeygang CF)
107	Sarpang	Gakiling	Kalikhola, Gomba Dagra, Dauty	Ratey Pani Softbroom Management & Marketing Group
108	Sarpang	Gakiling	Ratey Pani	Ratey Pani Broom Grass Group

109	Sarpang	Pemaling, Tszorgang		Pemaling Pakshe Tshogpa
110	Thimphu	Geney		Community Mushroom Management
111	Thimphu	Dagala	Wangdro	Jhom Daga Ngomen Tshogpa
112	Thimphu	Naro		Naro Gangrey Ngomen Tshogpa
113	Trashi Yangtse	Bumdeling	Tarphel	Longkhar NWFP Management Group
114	Trashi Yangtse	Bumdeling	Tarphel	Cheng NWFP Management Group
115	Trashi Yangtse	Yallang	Yerphey & Namthi	Phuntsho Thinyee Tshogpa
116	Trashigang	Merak		Khashitang Khaloo Tshogpa
117	Trashigang	Kangpara	Kangpara	Achudongkar Bamboo Management Group
118	Trashigang	Udzorong	Gengkhar	Gengkhar Chorgensey Tshogpa
119	Trashigang	Merak		Merak Ngoshing Zinchong Tshokpa
120	Trashigang	Lumang	Drupkang	Daphne Collection Group
121	Trashigang	Merak	Merak	Kuenphen Poina Tshogpa
122	Trashigang	Merak	Shingkhar	Shingkhar Khalung Tshogpa
123	Trashigang	Phongmay	Yabrang, Phimsong	Wangphu Choling Dhom Leshi Group
124	Trongsa	Nubi	Chella	Chella Zenthozillum Management group
125	Trongsa	Langthel		Dungdung Kuenphen Namrub Shingmen Tshogpa
126	Trongsa	Nubi	Jungthang	Jungthang Zynthozillum Management group
127	Trongsa	Nubi	Karshong	Karshong Bamboo Management and marketing Group
128	Trongsa	Langthel	Jangbi	Monpa Selwai Yoezer Tshogpa
129	Trongsa	Nubi	Simphu	Orchid Management Group
130	Trongsa	Langthel		Namther Throgmen Tshogpa

131	Tsirang	Kikorthang	Menchuna	Kikorthang Broom group
132	Tsirang	Semjong		Sare kakthap Dhe tshen
133	Wangdue	Phobjikha		Eusa NWFP Management Group
134	Wangdue	Athang	Rukha, Metakna, Lawa	Rukha Naktshel Thunkhung Tshogpa
135	Wangdue	Dangchu	Redha, Yulsagang, Tashidhingkha- Chuba, Tokaling- Tomla & Godra- Taksa	Dangchu NWFP Management Group
136	Wangdue	Phangyul	Phangyul, Kumchi, Geonkha	Phangyul-Kumchi-Goenkha NWFP group
137	Wangdue	Sephu	Rujubji, Bumilo, Longtey, Gangchukha	Ngomen Meto Pema NWFP Group
138	Wangdue	Tsedtsho	Rinchen Gang	Lamjithang NWFP Management Group
139	Zhemgang	Bjoka	Bjoka	Kamati Pipla Management Group
140	Zhemgang	Bjoka	Bjoka	Bjoka Tsherzo Gongphel Tshogpa
141	Zhemgang	Nangkor	Goling	Goling Jamphel Shingmin Thoenkhung Tshogpa
142	Zhemgang	Nangkor	Nyakhar	Nyakhar Shingmin Gongphel Tshogpa
143	Zhemgang	Nangkor	Shobling	Shobling Shingmin Thoenkhung Tshogpa
144	Zhemgang	Nangkor	Tshaidang	Tshaidang Shingmin Gongphel Tshogpa
145	Zhemgang	Ngala	Ngala	Ngala NWFP Management Group
146	Zhemgang	Ngala	Kaktrong	Kaktrong NWFP Management Group
147	Zhemgang	Ngala	Marangduth, Prekchegang, Mochari, Objang	Marangduth NWFP Management & Marketing Group
148	Zhemgang	Goshing	Lamtang	Lamtang NWFP Management & Marketing Group

Source: Social Forestry and Extension Division

Annex 4: NWFP Enterprises – Incense Manufacturing

Dzongkhag	Gewog	Sl.#	Name of Enterprise	Location
Bumthang	Chumey	1	Chhoedeydung Monastery	Chedeydung
	Chumey	2	Lhundup Incense Unit	Uru
Chhukha	Phuntsholing Throm	3	Norbu Dezang Payee	Phuensum Lam
	Phuntsholing	4	Kuenzang Rangdol Enterprise	Ramitay
	Darla	5	Gyaltshen Drezim Incense Unit	Rinchentse
	Phuntsholing	6	Kinzang Choden Incense Making	Kharbandi
	Phuntsholing	7	Thinley Zimpay Driden Jungne Incense	Dophugchen
	Phuntsholing	8	Drizang Pae Zhokhang	Ramitey
	Phuntsholing	9	U C Poizokhang	Pekarshing
	Phuntsholing	10	Yoebar Poizokhang	Wangdigatshel
	Sampheling	11	Chhoethreng Chudrung	Chhumigthang
	Haa	Bji	12	Meri puensum poizokhang
Samar		13	Leki Khandu Incense Production	Dorikha
Haa Throm		14	Druk Sangzey Zokhang	Hathrom
Lhuentse	Tshenkhar	15	Zangmo Incense Factory	Chalibadeb
	Menbi	16	Tenzin Penjor Incense Making	Kusumphay
	Gangzur	17	Cheney Rangdel Incense Manufacturing	Thema
Mongar	Chaskhar	18	Khuenphen Dewachen Incense Making	Pam
	Mongar	19	Tashi Pelzang Incense Making	Kidheykhar
	Mongar	20	Zhingkhams Kuenchap Poe Khang	Mongar throm
	Mongar	21	Cheni Dorji Incense Manufacturing unit	Traling
Paro	Dogar	22	DKCSCCT	Khamdrag
	Wangchang	23	Tshenden Poe Zokhang	Bondoy
	Lamgong	24	Pema Tshering	Shomo
	Throm	25	Bhutanese Herbal Incense	Throm
	Shaba	26	Dol Jang Bhutanese Incense Production	Lholing
	Tsento	27	Norbu Incense Manufacturing Unit	Namji
	Wangchang	28	Loday Poi Zokhang	Geptey
	Dopshari	29	Dee-Nye Kuenzang chotin	Kempa
Pema Gatshel	Shumar	30	Zangthi Poi Zokhang	Khorapam
	Norbugang	31	Sangay Wangchuk Incense Production	Nganglam
	Shumar	32	Jamyang Poe Zokhang	Yalang

Samdrup Jongkhar	Deothang		Karma Incense	Kheripam
	Deothang	33	Ghandhey Incense Industry	Gezor
	Langchenphu	34	Dredhen Zhingkhram Kuenchap Poe Zodrakhang.	Langchenphu
Samtse	Yoesheltse	35	Sang-ngag Gyeltshen Poizokhang	Dungkar
Sarpang	Gelephu Throm	36	M/s Yangjung Sonam Traditional Incense	Industrial Service Centre
Thimphu	Thim Throm	37	Nado Poe Zokhang	Thimphu
	Thim Throm	38	Kuenzang Dechap Poezokhang	Changzamtok
	Mewang	39	Tshering Pae Zokhang	Khasadrapchu
	Dagala	40	Lhayul Incense Production	Chamgang
	Thim Throm	41	Druk Incense Unit	Changzamtok
	Thim Throm	42	Tshering Incense Unit	Pamtsho
	Thim Throm	43	Sonam Sang Zokhang	Dechencholing
	Thim Throm	44	Lhadon Pezokhang	Pamtsho
	Thim Throm	45	Rabgyel Wangchen Sangzey & Incense	Dangrena
	Thim Throm	46	Kuenphen Dargay	Thimthrom
	Kawang	47	Sonam Wangchuk Poizokhang	Chamina
	Thim Throm	48	Ugyen Choling Incense Producton	Thim Throm
	Mewang	49	Dezang Poekhang	Jimena Industrial Estate
	Mewang	50	Kuenzang Choetrin Poey	Khasadrapchu
	Thim Throm	51	Gabur Peokhang	Changgidaphu
	Kawang	52	Kuenchap Poezokhang	Changtagang
	Dagala	53	Phurpa Poezokhang	Chamgangtoe
	Thim Throm	54	Dhuetshe Tinchin Sangzey Zothak	Changnamkar
	Thim Throm	55	Chenri Zee Zhitsok Poisang Zokhang	Thim Throm
	Thim Throm	56	Bhutan Incense	Wangbama
Thim Throm	57	Tandin Dorji Payzokhang	Siluna	
Thim Throm	58	Druk Aroma	Thmthrom	
Thim Throm	59	Drizang Kenchab Insense Unit	Thimphu town	
Trashigang	Bidung	60	Karma Wangdi Incense Manufacturing	Saling
	Khaling	61	Mani Incense Powder Production Unit	Bayphu
	Shongphu	62	Incense Factory	Buna
	Bartsham	63	Jeltsun Kinga Pema Poekhang	Tadzong
	Phongme	64	Zhingchog Kuenchab	Dorshing

	Bartsham	65	Samdrup Incense Manufacturing Unit	Bartsham
	Khardung	66	Duedjom Tersar Fragrance Industry	Khardung
	Shongphu	67	Dugpoey Khang	Rangjung
Trashi Yangtse	Bumdeyling	68	Druk Himalayan Incense Unit	Bomdeyling
	Jamkhar	69	Lhodra Incense Manufacturing Unit	Kizor
	Jamkhar	70	Yeshe Dorji Incense Manufacturing Unit	Wongchilo
Trongsa	Langthil	71	Druk Zheyter Cheozeykhang	Pangzur
Wangdue Phodrang	Sephu	72	Dorling Treasure Lake Incense Production	Chazam, Nyichugang
	Kazhi	73	Yoesel Samtenling Goendey Poezokhang	Belangdra
	Phobji	74	Thaye Incense Unit	Gangzur

Source: Department of Cottage and Small Industry

Annex 5: Other NWFP Enterprises

Sl.#	Dzongkhag	Location	Name of Enterprise	Enterprise Focus
1	Bumthang	Gorpongdiksa	Sonam Papers	Handmade paper manufacturing
2	Chhukha	Ethopang	Druk Dewang Hand Made Paper	Handmade paper manufacturing
3	Chhukha	Pekarshing	M/s Bhutan Tooth Pick	Manufacturing of bamboo toothpick
4	Mongar	Kurizampa	Lemon Grass Oil Factory, Kurizampa, Chali, Chali, Mongar	Distillation of Lemon Grass
5	Paro	Paro	Bhutan Herbs and Aromatics	Manufacturing of Chirata products
6	Paro	Jepa	Tashi Gongphel Bhutanese Paper	Paper Manufacturing
7	Samdrup Jongkhar	Pemathang	Phendey Zotuen Khang	Bamboo and Cane Crafts production
8	Samtse	Saduzhima Ka	Bamboo, cane & Wooden Manufacturing Unit	Bamboo, Cane and Wooden Furniture
9	Thimphu	Danglo	Touch from Heaven	Manufacture of herbal products
10	Thimphu	Kawangjangsa	Menjong Sorig Pharmaceuticals Corporation Limited	Manufacture of Traditional Medicine

11	Thimphu	Langjophakha	Bhutan Natural Products	Packaging of lemon grass oil
12	Thimphu	Kawag Jangsa	Bhutan Cordycep Tea Manufacturing	Production of Cordycep tea
13	Thimphu	Changzamtok	Druk Metho	Production of spices, herbs and flowers
14	Thimphu	Changlimithang	Bhutan Traditional Archery production house	Production of traditional bow and arrow
15	Thimphu	Wangbangma	Pure Vision Sorig	Plantation of Medicinal Plants
16	Trashiyangtse	Lechen	Nima Desho Production	Handmade paper manufacturing
17	Trashiyangtse	Lechen	T.T Desho Production	Handmade paper manufacturing
18	Trashiyangtse	Durchen	Gempo Desho production	Handmade paper manufacturing
19	Trashiyangtse	Berteng	Lhamo Dema Paper Factory	Handmade paper manufacturing
20	Trashiyangtse	Bimkhar	Chorten Desho Production	Handmade paper manufacturing
21	Trashiyangtse	Womanang	Dema Tshering paper manufacturing	Handmade paper manufacturing
22	Trashiyangtse	Womanang	Pema Desho Production	Handmade paper manufacturing
23	Zhemgang	Tingtibi	Tama Handmade Paper Factory	Handmade paper manufacturing

Source: Department of Cottage and Small Industry