



INTERNATIONAL TROPICAL TIMBER ORGANIZATION

Participatory Forest Management for Sustainable Utilization
of Non Timber Forest Products (NTFP) surrounding the
Protected Area of Rinjani and Mutis Timau Mt,
Nusa Tenggara Indonesia
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TECHNICAL REPORT III - 2012

MANAGEMENT PLAN of NON TIMBER FOREST PRODUCTS WITHIN
COMMUNITY FOREST IN CENTRAL AND NORTH LOMBOK
WEST NUSA TENGGARA



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Summary¹

Limited capacity of local community organizations or groups in forest management and utilization of non-timber forest products (NTFPs) has been a critical problem in Rinjani Protected Forest, in both Central and North Lombok districts. A *“Modified Action Research Method”* was applied to understand the existing problems of community groups and the management of NTFPs in these two forest areas. For the research component (21 December 2011 to 15th March 2012), a series of data collection activities were carried out such as in-depth interviews with group and community leaders, focus group discussions and workshops. Results of these approaches reveal many critical issues in NTFP management such as lack of technical skills (in production, processing and marketing components). On the basis of these results, a management plan has been developed for both regions. This management plan covers three major topics, namely, the existing conditions of NTFP management, the strategic issues and causes, and the future direction for NTFP policies and programs. The results and the outputs of this “research” component will be used for the “action” component to develop the capacity of the targeted community groups and the lated field agents in around Rinjani protected forest and Mutis Timau conservation forest.

¹ Part of a project entitled *“Participatory Forest Management for Sustainable Utilization of Non Timber Forest Products (HHBK) surrounding the Protected Area of Rinjani and Mutis Timau Mt, Nusa Tenggara Indonesia”*.

1. Introduction

The Nusa Tenggara region comprises of two provinces, West and East Nusa Tenggara (*Nusa Tenggara Barat-NTB and Nusa Tenggara Timur-NTT*). The region is one of the poorest provinces in Indonesia, but its forests play a vital role in water catchments and in the economic development of local communities.

In West Nusa Tenggara, the contribution of forests to the economics of local communities mainly obtained through a program developed by the government, that's Community Forest (Hutan Kemasyarakatan/HKm). The main objective HKM program is to improve the welfare of local communities through optimal, equitable and sustainable use of forest resources, while maintaining and preserving on the forests and the environment. Through HKM program, local communities are given the right to manage the forest to seek timber plants and non-timber plant and also the environmental services.

One major issue in the development of NTFPs in Rinjani is the contribution of forests to the economy of local communities mainly obtained through a program developed by the government called Community Forest (Hutan Kemasyarakatan/HKm). Based on ministry of forestry regulation No. 37/2007 concerning Community Forest, community forest utilization permit (IUPHKM) has to provide general guidelines for all management activities of NTFPs in sustainability way (ESE). NTFPs (non-timber forest products) play a vital role in sustaining rural communities both in Project area (Rinjani and Mutis Timau), particularly those living close to forest areas. NTFPs not only serve as a safety net in times of food shortage, but also as a valuable source of household materials and income. Despite the high dependence on NTFPs among forest users, there are still many barriers inhibiting the generation of greater benefits from these resources. In Nusa Tenggara, such barriers include two main causes of the key problems: (1) Low capacities of local communities and (2) Weak local institution capacity in formulating policy on sustainable utilization of NTFP's.

Developing of the NTFPs management plan by IUPHKM will not mean if there is no Master Plan NTFP at the district level. Developing Masterplan NTFP district level is to support national efforts to develop and improve the production of NTFPs.

Masterplan NTFPs brought into the realm of local government/district policy. It was a smart innovation because the formulation of MP involved provincial, district leaders, and communities' leaders, NGOs, and local parliament representatives, and other relevant stakeholders. This policy support and promote the equitable cost, benefit sharing and intervention activities in forest utilization among stakeholders in Rinjani protected area (project area).

Through serial consultation and coordination meeting with key stakeholders, the document for NTFP Management Plan within the Community Forestry (HKM)

which had been prepared was expected to be useful as a reference for stakeholders in managing and developing NTFPs. Therefore, it is very important for all parties to take concrete steps that can make this NTFP Management Plan to be internalized and implemented into the real program and activities of each stakeholder. Stakeholders should be encouraged and supported as soon as possible, so that the NTFP Management Plan could be formalized and became a formal and legal document for all stakeholders - that has a clear legal framework, such as legislation (Local Rule) or Bupati decree).

Based on this background and the above problems, the future development of NTFPs in Central Lombok and North Lombok districts, should be done through an effective planning and comprehensive management as directed and carried out on an ongoing basis. It is not only important for community groups IUPHKm, but also for local governance that interested in the NTFP commodities.

This study aimed to collect data/information from stakeholders in order to prepare a document of Management Plan for Non-Timber Forest Products (NTFP-MP) in Community Forestry (HKm) of Central Lombok and North Lombok districts. NTFP-MP expected to provide direction as well as general guidelines for all management activities of NTFPs, particularly in community forestry (HKm) that has earned IUPHKm.

The general objective of this study is: to support national efforts in developing and enhancing the production of NTFPs. While the specific objectives are: (1) to develop the potency of NTFPs as a source of income for both Hkm farmers and the other communities around the forest, (2) to make NTFPs as a commodity that has the leverage for local and regional economic growth; (3) to provide a reference for stakeholders in the management of NTFPs (regional governance, institutional governance, and corporate governance/ business), and (4) to implement the integration and synergy of all NTFP management activities, both among sectors and for all stakeholders associated with the management NTFPs in North Lombok and Central Lombok.

Management Plan for Non-Timber Forest Products (NTFP-MP) within the community forestry, has been made based on the NTFP Management cannot current conditions and desired conditions, and also supported by analysis and certain assumptions. MP-NTFPs is a document of a medium-term five-year plan (2013-2017) which contains the vision, mission of management of NTFPs and objectives, strategies and programs / activities in an effort to realize the goals and vision that has been set.

2. Applied methodology

2.1. Options for methodologies

Modified Participatory Action Research (MPAR) method was applied to this study (Muktasam, 2001). It is called as modified as the study did not fully

encouraged community participation in the whole process of research and action. The methods combine quantitative and qualitative research methods and data collection techniques such as review of secondary data, Focus Group Discussion, in-depth interviews, and workshops. Secondary and primary data collection was carried out in the study.

Some stages of the process of data collection and compilation of NTFP Management Plan outlined in the following sections:

(1) Data collection through Focus Group Discussions (FGD)

Focus Group Discussions conducted at the community level IUPHKm holders and government in the two districts. In Central Lombok district, FGD participants at the community level consisting of representatives of HKm farmers' groups from four villages (Aik Berik, Setiling, Lantan and Karang Sidemen) and in North Lombok district came from three villages (Salut, Mumbulsari and Santong). In addition to representatives of HKm farmers' groups, focus group discussions also involved the local village government officials and NGOs companion. At the district level, focus group discussions attended by related SKPD (Satuan Kerja Perangkat Daerah/ district functional unit), among others: Development Agency, Ministry of Forestry, Department of Industry and Trade, Ministry of Cooperation, Department of Agriculture, and Bapeluh (agricultural extension agency at the district level). FGD main purpose is to collect information about the state of NTFP management and programs that have been implemented as well as to absorb the aspirations of stakeholders on the direction, strategies and programs necessary for the future development of NTFPs. Some key questions were made and discussed in the FGD.

(2) Multi Stakeholder Workshop on Provincial Level

Workshop was conducted at the district and provincial levels by involving the key stakeholders associated with the management of NTFPs. Workshop participants came from deputy managing IUPHKm community groups and village leaders, representatives of SKPD at Central Lombok and North Lombok, vice SKPD NTB provincial level, representatives from universities, NGOs, and others. The purpose of the workshop was to jointly formulate problems in NTFP management, vision, mission and objectives of NTFPs management in the future.

(3) Secondary Data Collection

Secondary data was collected from various source, those are the Central Statistics Agency (BPS), Forestry Statistics and WWF's research report and other previous studies. In addition, secondary data were also obtained from other planning documents, such as the Ministry of Forestry Strategic Plan

(2010-2014), Grand National NTFP Development Strategy (2010-2014), NTB Provincial Forestry Development Strategic Plan (2009-2013), the Forest Service Strategic Plan (2011-2015), Medium Term Development Plan (2011-2015), District Government Work Plan and Work Plan IUPHKm.

(4) Preparation of Draft Management Plan NTFPs

Based on data collected from focus groups, the results of the workshop and secondary data above, then 2 (two) pieces of draft documents of NTFP Management Plan (MP-NTFPs) arranged for Central Lombok and North Lombok districts. The contents of the document include: an overview of the district, the condition of the existing forest resource management, vision, mission and objectives of management of NTFPs; directions, goals and strategies of management of NTFPs; planned programs / activities of NTFP management actions, also monitoring and evaluation of the management of NTFPs.

(5) Discussion and Finalization of Draft Management Plan NTFPs

Discussion of the MP – NTFP draft has done at the district, provincial and central levels (at the Ministry of Forestry-Jakarta). Based on suggestions given in all of these discussion forums, then revision and finalization of the RP-NTFPs was done.

A detail work plan for the Management Plan for Non-Timber Forest Products (NTFP-MP) is presented in the following table.

Table 1 Stages in the preparation of the NTFP-MP

ACTIVITIES	2011	2012						
	Dec.	Jan.	Feb.	Mar.	April	May	June	July
(1) Preparatory discussions designing the research process								
(2) FGDs with the West Lombok village at Sedau								
(3) Workshops at the provincial level: identifying NTFP management problems and formulating the vision, mission and objectives of NTFP management								
(4) The FGDs with community groups IUPHKm holders located at Setiling Village, Central Lombok								
(5) The FGDs with community groups IUPHKm holders located at Salut Village, North Lombok								
(6) Collecting secondary data								
(7) Preparation of draft-1 MP-HHBK								
(8) Consultation draft-1 MP-NTFPs in North Lombok regency level								

(9) Consultation draft-1 MP-NTFPs in Central Lombok regency level								
(10) Internal discussions ITTO-WWF team and draft revision-1 MP-NTFP								
(11) Workshop of draft-2 MP- NTFP, provincial level								
(12) Internal Discussion involving ITTO-WWF Team and revision of draft-2 MP-NTFP								
(13) Workshop for final draft of MP-NTFP, provincial level								
(14) Internal discussions (WWF and ITTO team)-revised the final draft of MP-NTFP								
(15) Internal team discussions WWF and ITTO, then revised the final draft								
(16) ITTO team's internal discussions and finalization of the document-WWF MP-NTFP								
(17) Socialization MP-NTFP documents in the forum "Workshop on Integrated Management of NTFPs" Participatory Forest Management Through the Use of Non-Timber Forest Products in the Region Sustainably Rinjani, Lombok 'in Mataram								

2.2. Justifies and describes the applied methodology

The following table summarizes the applied methods for data collection and justification and a short description of each method.

Table 2 Justifies and describes the applied methodology.

Applied methods for data collection	Justification	Description
(1) Focus Group Discussion (FGD)	A series of focus group discussions were conducted with community groups managing IUPHKm and district level governments and other stakeholders, can be gathered data / information regarding existing conditions NTFP management, not only in the area of IUPHKm, but also on the overall Rinjani, both inside and outside forest. Also, it can be mapped also various intervention programs that have been done and the direction, strategy, program / activities required for NTFPs development.	FGD at the community level management IUPHKm basically to refine and complete the data / information from the focus group had previously been done by the WWF team. Besides discussing in detail the condition of the existing management of NTFPs (biophysical aspects, socio economic, management), FGD participants were also invited to discuss the structure and content of the document MP to be prepared. In addition, alternatives to management direction, targets to be achieved, strategies for implementation, and program /

		activities are necessary for the development of NTFPs are also part of the discussion topics. FGD with stakeholders at the district level discussion topics discussed above, but more focused on efforts to identify and evaluate programs / activities that have been carried out and formulate programs / activities that are integrated and synergistic with the policy, both at the district and provincial policy at the national level.
(2) Secondary Data Collection	This method is used to collect data / information that is difficult / not be done through the FGD. This method is also used to verify and trace information obtained from the FGD.	Most of these types of quantitative data obtained through this method. Policy documents and planning at national, provincial and district collected and reviewed as the basis for preparation of the MP-NTFPs. Similarly, publication of research results related to serve also as a comparison and / or as a reference to support or supplement the primary data.
(3) Consultation/Workshop	This forum provides a space and opportunity for wider stakeholders to meet, discuss, learn and make the perception of the experience in the management of NTFPs. Through this forum of stakeholders to formulate and agree on RP-NTFPs as a reference with the management of NTFPs for the past five years to come..	A serial consultation /workshops conducted at the district, provincial and national level provides information about the position, perception and desires of various stakeholders in the management of NTFPs. However, the activities / forum are also believed to be capable of bridging and sinergizing the differences of stakeholders in the management of NTFPs by MP - NTFP documents prepared and agreed.

3. Presentation of the Data

Results of data collections are as follows:

Table 3. The type and distribution of NTFP in the study site

No	Species of NTFPs	Location deployment			Harvest Calendar (Months)
		Within Forest Area		Outside Forest	
		In the area IUPHKm	Foreign Areal IUPHKm		
A	Resin Group				
1	Gaharu (<i>Aquilaria</i> sp., <i>Gyrinops</i> sp.)	√	√	√	
B	Essential Oils Group				
2	Vanili (<i>Vanilla fragrens/V. planifolia</i>)	√			
C	Fat, Starch and Fruits Group				
3	Kemiri (<i>Aleurites moluccana</i>)	√	√	√	August-October
4	Durian (<i>Durio zibethinus</i>)	√	√	√	May-June
5	Nangka (<i>Artocarpus heterophyllus</i>)	√	√	√	Year-round
6	Rambutan (<i>Nephelium lappaceum</i> L.)	√	√	√	October-November
7	Talas/Keladi (<i>Caladium</i>)	√	√	√	
8	Aren (<i>Arenga pinnata</i>)	√	√		Year-round
9	Melinjo (<i>Gnetum gnemon</i> L.)	√	√	√	July-August
10	Sukun (<i>Artocarpus communis</i>)	√		√	
11	Asam (<i>Tamarindus indica</i> L.)	√		√	June
12	Jambu mete (<i>Anacardium occidentale</i> L.) *)	√	√	√	July-October
13	Pisang (<i>Musa</i> spp.) *)	√		√	Year-round
14	Kopi (<i>Coffea</i> spp.) *)	√	√	√	
15	Kakao/Coklat (<i>Theobroma cacao</i>) *)	√		√	
16	Kapuk/Randu (<i>Ceiba pentandra</i>)	√		√	
17	Badung		√		
D	Tannin Group, Coloring Agents and Gum				
18	Pinang (<i>Areca catechu</i> L.)	√	√	√	Year-round
19	Alpukat (<i>Persea americana</i> Mill.)	√	√	√	June-July
E	Group Plants and Drugs Ornamental Plants				
20	Jahe (<i>Zingiber officianale</i> Roxb.)	√		√	
21	Kunyit (<i>Curcuma domestica</i> Val.)	√		√	
22	Lengkuas (<i>Languas galaga/Alpinia galanga</i>)	√		√	
23	Pakis (<i>Arcipteris irregularis</i>)	√	√	√	
24	Sirih (<i>Pipel betel</i> L.)	√	√	√	Year-round
F	Palma Group & Bamboo				
25	Bambu (<i>Bambusoidae</i>)	√	√	√	Year-round
26	Rotan (<i>Calamus manan</i> Miq./ <i>Calamus caesius</i> Bl.)		√		
27	Kelapa (<i>Cocos nucifera</i> L.)			√	Year-round
28	Ketak (Lygodium circinatun)	√	√	√	
G	The group Animals				
29	Lebah Madu (<i>Apis melivera</i>)	√	√	√	October

Note: *) The types of plants that are not included in P.35/Menhut-II/2007.

Source: Results of FGD with Community Groups at IUPHKm Holders.

Table 4 Some problems in the management of NTFPs

Forest area management (Kelola Kawasan)	Institutional Management (Kelola Lembaga) Manage Institutional	Business Management (Kelola Usaha)
<ul style="list-style-type: none"> Unavailability of data on broad, distribution, production, and potential NTFPs inside and outside the area of IUPHKm. 	<ul style="list-style-type: none"> Weak institutional capacity / community organizations (at the group level, block and district). 	<ul style="list-style-type: none"> Undeveloped entrepreneurship community.
<ul style="list-style-type: none"> Not to optimal utilization of space both horizontally and vertically in the cultivation of NTFPs. 	<ul style="list-style-type: none"> SKPD institutional structure and coordination at the regional level was inadequate. 	<ul style="list-style-type: none"> Still lacking insight, knowledge and skills of the community in the process and creating value-added products NTFPs, so most of the products sold NTFPs are still in the form of raw material (<i>raw material</i>).
<ul style="list-style-type: none"> Plant selection in the configuration NTFPs farming / agroforestry not based on comparative and competitive advantages of commodity or commodity NTFPs have not focused on winning. 	<ul style="list-style-type: none"> Still weak role of cooperatives in developing NTFPs. 	<ul style="list-style-type: none"> Limited ownership and access to capital by farmers and community groups who manage NTFPs, so it is not able to develop the scale of its business;
<ul style="list-style-type: none"> Lack of knowledge and skills of farmers / communities in the application of cultivation and harvesting technologies NTFPs. 	<ul style="list-style-type: none"> There were no intermediary institutions (intermediaries) which can bridge the cooperation among community groups. 	<ul style="list-style-type: none"> Weak access to market information by farmers and community groups who manage NTFPs, so most commodities market NTFPs is limited to traditional markets / local.
<ul style="list-style-type: none"> Total production of all types of commodities produced NTFPs are still in relatively small scales with the quality / quality is also relatively low. 	<ul style="list-style-type: none"> Very limited role of educators in developing NTFPs. 	<ul style="list-style-type: none"> Still largely conventional commodity marketing system of NTFPs, the marketing is done individually and through middlemen or "penendak".
<ul style="list-style-type: none"> Weak process of transformation of research results to farmers NTFPs / community and / or packages limited 	<ul style="list-style-type: none"> The role of NGOs is limited companion efforts to strengthen the capacity of disadvantaged groups and community 	<ul style="list-style-type: none"> Weak bargaining position of farmers as producers in marketing their products NTFPs, so helpless against the

cultivation and post-harvest technologies generated by R & D institutions and universities.	groups to facilitate the interests of other parties (employers and government / banking).	buyer (middleman / "penendak") even caught in a debt bondage system.
	<ul style="list-style-type: none"> There are currently no product policies / regulations of local governments that are incentives and disincentives to develop NTFPs. 	<ul style="list-style-type: none"> Yet there is a partnership between businesses in developing NTFPs, both in terms of production, processing results (post-harvest), as well as marketing.
	<ul style="list-style-type: none"> Still limited government budgets are allocated for programs to develop NTFPs, so that programs are carried out so far are sporadic and do not take on an ongoing basis; 	<ul style="list-style-type: none"> Investment interest in forestry unfavorable because it is often hampered by problems of tenure and lack of incentives to capital, taxation and levies.
	<ul style="list-style-type: none"> Investment and support the business in developing NTFP is very limited. 	
	<ul style="list-style-type: none"> Networking (<i>networking</i>) between stakeholders in developing NTFP undeveloped. 	

Table 5 Some power/potential, opportunities and threats in the management of NTFPs

Strength/Potency	Chance Threat	Threat
<ul style="list-style-type: none"> NTFP planting area is quite extensive. 	<ul style="list-style-type: none"> NTFP market share is quite open. 	<ul style="list-style-type: none"> The practice is still rampant encroachment and <i>illegal logging</i>.
<ul style="list-style-type: none"> Potential areas of land to develop NTFPs are still quite broad (KLU → 7140 DKH and 22,658 Ha LKH). 	<ul style="list-style-type: none"> Central government policies within developing NTFPs. 	<ul style="list-style-type: none"> Diminishing the availability of NTFPs in the forest area (outside the area HKm).
<ul style="list-style-type: none"> Contribution of NTFPs quite large (25-60%). 	<ul style="list-style-type: none"> KLU & LOFT position as a tourist destination. 	

<ul style="list-style-type: none"> • Potential labor enough. 	<ul style="list-style-type: none"> • Availability of employment in the informal and formal sector is limited. 	
<ul style="list-style-type: none"> • In some locations there are examples of non-timber forest management practices have already begun. 		
<ul style="list-style-type: none"> • Social capital (such as the public's institutions) developed enough / much. 		

4. Analysis and Interpretation of the Data and Results

In line with the methods used in this study, quantitative and qualitative data analysis was applied. In qualitative data analysis, the steps taken for data analysis consist of (1) **Data Reduction** that started from the first day of data collection, from the field based on the field notes and continued throughout the data collection activities which consisted of activities such as (a) data editing to check the accuracy and valid of data, (b) data analysis (c) categorization and grouping of data, (d) memo writing; (2) **Data Presentation** in forms of (a) matrix, (b) network and diagram; and (3) **Conclusion Development**. Field verification was carried out to develop tentative conclusions, then the conclusions were presented and discussed again with key informant and the community leaders (Creswell, 1994), either through individual contact or group discussions. The use of in-depth interviews, focus group discussions and workshops had allowed the study team to validate the findings – meeting the triangulation technique.

Quantitative data analysis was applied to the quantitative data by using descriptive statistic such as percentage and mean/average.

Based on the data analysis and information collected, some important issues in the management of NTFPs in the study area are as follows:

1. **Data/information on potential plant NTFPs:** Data and information about the broad distribution, type and the overall potential of NTFPs at the study area is a very urgent thing to develop. To obtain data and information on NTFPs potential plant accurately and comprehensively, both inside and outside areas of IUPHKm, there is a need to have adequate human and financial resources. Therefore, the necessary support and integrated cooperation of stakeholders are critical, ranging from community groups, technical agencies (SKPDs) at the district and provincial, Research & Development Agencies, universities, NGOs and the central government (Ministry of Forestry).
2. **Small scale and diversity of NTFP species:** The number of NTFP species cultivated by the people in the study area is very diverse with a small-scale

business. Therefore, for the management of NTFPs can be more focused and directed into a commodity that has a high economic value both at national and local levels. The future management of NTFPs should be directed to the development of superior NTFP commodities. Development of NTFP commodity seeds also required so that limited resources can be used optimally. Thus, the resource allocation priority should be focused on the development of NTFP commodity seeds.

3. **Cultivation and processing technologies of NTFPs:** To date, post-harvest and silviculture of NTFPs at the study are generally done with conventional and traditional technologies. In the area of IUPHKm for example, from the choice of NTFPs commodity to be grown up way of planting and maintenance, only done through local knowledge, and not using some technologies and the innovations developed and produced by research and development agencies. The same thing occurs in harvesting and post-harvest stages. Technology for NTFP harvesting and post-harvest commodities (storage and transport) is not yet available or cannot be accessed and adopted by farmers/communities. Weak control of production and post-harvest technology, causing NTFPs such as: jackfruit, cashew meat, and cocoa could not be used or marketed. In addition, the quality of most other NTFPs is relatively low, so the segment and market reach is limited to the traditional markets and the domestic market with the level of prices received by farmers/producers are relatively low.
4. **Human resource capacity:** Lack of human resources (farmers and collectors in managing NTFPs), both in terms of the collection and cultivation of NTFPs is one of the important issues in the study area. The low ability of farmers/communities can be seen from the methods of collection of NTFPs in the natural forests, both in production forests and protected forest, tend to ignore this aspect of sustainability. In addition, NTFP cultivation techniques applied by farmers are limited, especially in the area of IUPHKm. From determination of seeds to be planted, arrangement and spacing of plant combinations, and how to maintenance and harvesting mostly done through their intuition – not much support from field agents of the Department of Forestry. Therefore, efforts to develop the next NTFPs should always be coupled with efforts to develop the capacity of human resources (HR) farmers/communities, particularly in the aspect of NTFP cultivation and management. Both cultivation and collection of NTFPs require basic knowledge and appropriate technologies.
5. **Institutional management of NTFPs:** In the study areas there have been several community organizations related to forest management, such as Farmer Groups for Community Forest or HKm (scattered throughout the region of IUPHKm), Association of Farmer Groups (Gapoktan), farmers cooperatives, and several other community groups that involved in

processing of NTFPs. The existence of these groups can serve as *social capital* in the development of NTFPs. However, until now the dynamics and development of community organizations are still low as they faced weak human resource, and the organizational structure is not optimal. On the other hand, institutions at the level of government, apparently also not enough to support to accelerate the development of NTFPs in the future. Meanwhile, the education institutions that exist today have not been able to perform its role and function as an agent of development. The limited number of forestry extension and lack of knowledge and skills of farmers and extension agents in facilitating community groups is a crucial issue facing today.

6. **Processing and marketing of NTFP commodities:** Almost all NTFPs produced by farmers, both inside and outside the area IUPHKm in the study area, sold in the form of *raw material*. *No processing is done* to create value-added to the NTFPs. Post-harvest processing of NTFPs can absorb domestic labor force. Efforts to encourage groups of people to do the processing of agricultural products, including non-timber forest products, has already been done through various programs/activities of the government or other agencies, such as training courses, study visits and help with facilities and equipment, however, it has not been able to encourage the growth of agro-processing units of various NTFPs at the study areas. Several types of NTFP commodities that have a market share and potential to be developed into agro-industrial enterprises are: pecan, honey, bamboo, jackfruit, avocado, durian, and medicinal spices.
7. **Networking:** Some *stakeholders* have played such roles in developing NTFPs; however, the role is still done partially and oriented to the interests of their respective *interest*. Networking between stakeholders is also not well established, so there is a need to create joint programs and activities to develop NTFPs.
8. **Regulation and policy regarding NTFPs:** Although it has long been recognized that non-timber forest products is one of the forest resources that have a comparative advantage, but the focus of attention of the government, both central and local governments on the development of NTFPs is still very limited. This led to limited regulatory policies that govern and support the management and development of NTFPs. The government is a party which is not directly concerned with the development of NTFPs, but greatly affects the viability of agribusiness system of NTFPs through policies and regulations. In the field of production, such as the subsidy policy for inputs (such as fertilizer) and policy priorities on certain commodities, will affect the survival of NTFP production. While in the field of trade, economic policy instruments such as tariffs, subsidies, quotas enforcement, as well as price

stabilization policies are generally applied to a particular NTFP commodity, will affect agribusiness system of NTFPs in general.

The following tables present briefly NTFP management direction and strategy (a comprehensive issue, policies, targets and strategies can be read in NTFP Management Plan document).

Table 6 Direction, objectives and strategies for the development of NTFPs in aspects of regional governance.

No	Development Direction	Target	Strategy
1	Development of data and information potentials of the NTFP plants.	Available of data and information that are of potential NTFPs plants inside and outside the IUPHKm areas	Conduct survey on the existing status and condition of the physical plant, involving multi NTFPs.
		Focused the development pattern of cultivation and utilization of IUPHKm - NTFPs in the study area and other forests	Establish seed development units for NTFPs at district level.
2	Development of NTFP cultivation seed.	Increasing the percentage of acreage/population and crop productivity in the area of IUPHKm featured NTFPs and other forest areas.	Optimizing the utilization of growing space.
			Gradually enriched the types of non NTFPs; Replace less productive NTFP plants with more productive one Utilizing seeds.
3	Development of human resource - capacity building for farmers/community groups in cultivating NTFPs and area management	Increasing the capacity and skills of farmers/community groups, especially those who have obtained IUPHKm in cultivation and harvesting and management of NTFPs	Developing education and training materials as well as access to information for farmers/communities

Table 7 Direction, objectives and strategies for the development of NTFPs in aspects of institutional governance.

No	Direction	Target	Strategy
1	Organizational development of community groups and government	Increasing the capacity of the organization and the role of community groups, particularly farmers' groups and the government in managing IUPHKm and management of NTFPs.	Establishing and strengthening the community organizations for effective management of NTFPs
			Strengthening the role of government in the NTFP management.
2	Information system development for NTFPs.	Development of database and information system that can be accessed openly by farmers/communities to support the development of manpower and utilization of NTFP commodity.	Increasing the availability and accessibility of data and information on NTFPs.
3	Research development and technology	Generates packages of cultivation and post-harvest technologies for NTFPs, particularly NTFP seeds, which can be adopted by farmers in the development of NTFPs.	Developing research featured NTFPs.
			Optimizing the utilization of research results/findings.
4	Developing networking of NTFP stakeholders.	Establishing networking for all <i>stakeholders</i> , from government, employers, farmers, R & D institutions/universities, and NGOs at the local (district) level.	Establish a multi-stakeholder forum for NTFP management at the district level.
		Achieving the strengthening and establishment of networks between institutions at the district and province levels with institutions at the central level that facilitate the development of NTFPs.	Improve coordination and develop networking.
5	Regulation/policy development that supports the management of NTFPs.	Availability of supporting policies and regulations to provide incentives and disincentives for the development of NTFP commodities	Develop regulations and licensing NTFPs.

Table 8 Direction, objectives and strategies for the development of NTFPs in respect to the business.

No	Direction	Target	Strategy
1	Development of NTFP processing industry.	Increased value-added of NTFPs.	Encourage the establishment of the centers of agro-based seed NTFP cluster approach.
		Increasing local employment.	Developing agro-industrial enterprises for NTFP-based household industries (<i>home industry</i>).
2	Financial development of NTFP businesses	Increased capital sources for farmers, entrepreneurs and cooperatives.	Develop capital assistance schemes.
			Develop a system of accumulating capital independently.
3	Development of marketing and promotion of NTFPs.	Realization of a marketing system that is able to create harmony between the prices for farmers in upstream and downstream industries.	Build NTFP trade system to boost the income of farmers and private sector balance
		Increasing selling quantity and selling price of NTFPs.	Improve product competitiveness NTFPs.

5. Conclusions

Based on the data analysis and information collected in this study, it can be concluded as follows:

1. Commodity of NTFPs has great potential and opportunities to be developed. This is partly due to the fact that NTFPs has been shown to contribute to increased revenue of community groups whose managing IUPHKm in particular, and the regional economic of the communities in general to reduce the pressure on forest resources;
2. Management of NTFPs is facing many obstacles and problems, both in the aspects of bio-physical governance, institutional governance and management of business. As a result, NTFP commodities has not provided optimal benefits to the farmers/communities;
3. Many parties are involved and have different interests in the management and development of NTFP commodities, but these stakeholders do not have the same vision. Consequently, the management of NTFPs has not been done synergistically, and as a result, no significant progress has been made; and
4. In order to promote effective management of NTFPs in the future, more stakeholders have realized the importance of building a shared vision and mission for NTFP management, formulate development direction, objectives and strategies, and also formulating and integrating programs and activities,

which further outlined in the Management Plan document of NTFPs. The following table shows the final contents of the **Management Plan**.

CHAPTER	I	INTRODUCTION
		1.1 Background
		1.2 Definitions and Term Limits
		1.3 Aims and Objectives
		1.4 Target Users
		1.5 Scope and Linkage between the Management Plan of NTFPs with Other Planning Documents
		1.6 NTFP Management Planning Process
CHAPTER	II	REGIONAL OVERVIEW OF RESEARCH
		2.1 Conditions of Geography, Natural Resources and Environment
		2.2 Conditions of Population and Human Resources
		2.3 Economy Conditions
CHAPTER	III	EXISTING CONDITION OF FOREST RESOURCES MANAGEMENT
		3.1 Extent and Potential of Forest Resources
		3.2 The Development and Condition of Community Forest Management (HKm)
		3.3 Condition of Non-Forest Timber Products (NTFPs) Management
CHAPTER	IV	VISION, MISSION AND OBJECTIVES OF NTFP MANAGEMENT
		4.1 Vision
		4.2 Mission
		4.3 objectives
CHAPTER	V	DIRECTION, GOALS AND STRATEGY FOR NTFP DEVELOPMENT
		5.1 Area Management
		Direction 1. Development of Data and Information on Potential Of NTFP plants
		<i>Direction 2. Development of Cultivation Technologies for NTFPs</i>
		Direction 3. Development of Farmers/Communities Capacity for NTFPs on Aspects of Farming and Area Management
		5.2 Institutional Management
		Direction 1. Institutional/Organizational Community and Government Development
		Direction 2. NTFPs Information Systems Development
		Direction 3. Research and Technology Development
		Direction 4. Development of Social Work (<i>Net Working</i>) Stakeholders NTFPs
		Direction 5. Development of Regulation and or Policy Supports for NTFP Management
		5.3 Business Management
		Direction 1. NTFPs Manufacturing Development
		Direction 2. Capital for Enterprise NTFPs Development
		Direction 3. Marketing and Promotion of NTFPs Development
CHAPTER	VI	NTFP DEVELOPMENT PROGRAMS AND ACTIVITIES
		6.1 Area Management
		6.2 Institutional Management
		6.3 Business Management
CHAPTER	VII	MONITORING AND EVALUATION
		7.1 Monitoring and Evaluation Mechanisms

7.2	Actors and Time for Monitoring and Evaluation
7.3	Monitoring and Evaluation Instruments
7.4	Recommendations and Feedback
7.5	Monitoring and Evaluation Report

CHAPTER VIII CLOSING

REFERENCES

APPENDIX

6. Recommendations

The document for NTFP Management Plan within the Community Forestry (HKm) which has been prepared is expected to be useful as a reference for stakeholders in managing and developing NTFPs. Therefore, it is very important for all parties to take concrete steps that can make this NTFP Management Plans to be internalized and implemented into the real program and activities of each stakeholder. Stakeholders should be encouraged and supported as soon as possible, so that the NTFP Management Plan could be formalized and became a formal and legal document for all stakeholders - that has a clear legal framework, such as legislation (Local Rule) or Bupati decree.

7. Implications for practice

Once the NTFP Management Plan Document accepted and formalized, all key stakeholders for effective management of NTFPs should use it accordingly. The document highlights the importance of clear and share vision of all stakeholders and develops clear and synergic programs and activities. Capacity building activities are necessary conditions to implement the plan, not only at the government level, but also at the community level. Capacity building activities should be focused on area and regional management, institutional and business management.

Annexes

Annex 1. IUPHKm in Lombok Utara District (IUPHKm Holder: Koperasi Tani MAJU BERSAMA Santong)

No.	Lokations	Village	Sub-district	Size (Ha)
1	Mumbulsari/Munder	Mumbulsari	Bayan	100,0
2	Tangga	Selengan	Kayangan	87,0
3	Salut	Salut	Kayangan	350,0
4	Santong	Santong	Kayangan	221,0
5	Jenggala/Bentek	Jenggala/Bentek	Tanjung	1.284,0
Total				2,042

Annex 2. IUPHKm in Lombok Tengah District

No	Lokation (village)	IUPHKm Holders	Total Groups	Group Members (Households)	Size (ha)	No. Of Block
1	Lantan	Koperasi Male Maju	17	599	349	6
2	Aik Berik	Gapoktan HKm Rimba Lestari	54	1.262	842	4
3	Setiling	Majelis Ta'lim Darus Shidiqien	19	427	217	1
4	Karang Sidemen	Gapoktan HKm	19	676	401	1
Total			109	2.964	109	2,964

Annex 3. Photos of the potential Non Timber Forest Product (NTFPs) Plants in Surrounding the Protected Area of Rinjani and Mutis Timau Mt, Nusa Tenggara Indonesia.



Jackfruit tree



Bricket Sugar (product made from sugar palm)



Sugar Palm tree



Candlenut tree



Peeled Candlenut



Candlenut's sheel



Apis dorsata found on the forest



The process of honey filtering



Durian



Durian tree



Areca tree



Areca nut



Bamboo tree



Ginger Plant



Lengkuas plant



Galangal (Lengkuas)



Turmeric



Turmeric plant

Photographs courtesy of *Google Images and WWF Indonesia-NTP*

Annex 4. Photos of the MP activities and Field visit of Donor and ITTO Representative



Figure 1. The community forestry (HKm) area in Setiling village Central Lombok



Figure 2. Discussion of the draft Management Plan process with the stakeholders in Lombok



Figure 3. Discussion between community group and Dr. James Gasana (Donor Representative) and Dr. Tetra Yanuariadi (ITTO Representative) at Setiling, Central Lombok



Figure 4. Field visit to the community forestry (HKm) area by Dr. James Gasana (Donor Representative) and Dr. Tetra Yanuariadi (ITTO Representative) at Setiling, Central Lombok.

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