Contents

APFNet Workshop on Forestry and Rural Livelihood Development

(1st – 14th November 2016)

1. INTRODUCTION

APFNet's Thematic Workshops

The Asia-Pacific Network for Sustainable Forest Management and Rehabilitation (APFNet) was established with the main mission of promoting and improving sustainable forest management and rehabilitation in the Asia-Pacific region. One of the main missions of APFNet is to strengthen the human resource capacity. This is being accomplished through a number of programmes, including thematic workshops aimed to enhance knowledge especially through sharing of experience gained within and outside the Asia-Pacific region.

Since 2009 APFNet has organized training workshops focusing on two themes, namely (a) Forest Resource Management and (b) Forestry and Rural Development. Hitherto 16 such workshops have been held providing opportunity to enhance the technical capacity of over 265 professionals from 20 economies, such as Bangladesh, Brunei, Cambodia, China, Chile, Fiji, India, Indonesia, Lao PDR, Malaysia, Mexico, Mongolia, Myanmar, Nepal, Peru, Philippines, Papua New-Guinea, Sri Lanka, Thailand and Vietnam. These training workshops have become important platforms for knowledge sharing and strengthening inter-economy collaboration to promote sustainable forest management and forest rehabilitation.

In order to continually strengthen the human resources in critical areas in the Asia-Pacific economies, APFNet-KTC has developed a five year strategic plan for the thematic training workshops from 2016 to 2020 as part of APFNet's capacity building programme. Accordingly every year APFNet-KTC plans to organize two regular training workshops on the themes (1) Forest Rehabilitation and Management and (2) Forestry and Rural Livelihood Development. Both these themes are key priority areas for almost all economies in the Region.

As the first year to implement the five year strategic plan for the thematic training workshops, in 2016 APFNet-KTC has already conducted the first training workshop under the theme of "**Forest Rehabilitation and Management**" in Yunnan Province of China inJuly 2016.In cooperation with the Forest Department, Ministry of Mahaweli Development & Environment, Government of Sri Lanka, APFNet-KTC is now proposing to organize the first training workshop on the theme "**Forestry and Rural Livelihood Developmen**t" from 1 to 14 November 2016 in Negombo, Sri Lanka.

Forestry and Livelihood Development

Forests and forestry play important roles in the livelihood of people in all societies, though the nature of livelihood derived varies in time and space. An estimate by the World Bank about 1.6 billion people are directly and indirectly dependent on forests for their livelihood. Forestry development efforts should hence pay careful attention to the forest-livelihood linkages. This is becoming all the more important considering that livelihood issues are being mainstreamed in the larger developmental and environmental agenda. For example, the Millennium Development Goals (MDGs) and its successor, the Sustainable Development Goals (SDGs) have livelihood improvement as the core agenda.

Most of the developing economies in the Asia-Pacific Region rely heavily on forest resources for livelihoods and economic productivity. The impact of forestry development on people's livelihood has been extremely varied; while some have helped to improve livelihoods through provision of goods and services as also income from forestry employment, others had significant negative impacts. For example, large scale afforestation using monocultures has reduced biodiversity, undermining the availability of a wide range of basic needs goods that are critical to the livelihood of rural communities. Implementation of sustainable forest management should therefore underpin the importance of social aspects of forests, including their contribution to livelihoods.

Most developing economies in the Asia-Pacific region have attempted to improve the contribution of forests and forestry to livelihood development through a wide array of interventions, and a host of activities that increase the flow of goods and services to the poor or to enhance their income have been attempted during last few decades. However, economic development efforts in the region have also resulted in deforestation and forest degradation as well as marginalization of forest dependent communities, and forestry agencies are facing immense challenges in meeting the diverse demands on forests. Protecting the vast forest areas in the context of limited fiscal and human resources requires well-designed and well-implemented policies and programs that improve forest resources management contributing to livelihood improvement of local communities at the same time helping to restore degraded forest areas, conserve biodiversity, and increase the income of local communities.

THE WORKSHOP

It is in the above context that the Forest Department, Ministry of Mahaweli Development & Environment, Government of Sri Lanka and APFNet-Kunming Training Center are jointly organizing this workshop to provide a better understanding of the forest-livelihood linkages and what may be done to enhance forest's contribution to improve rural livelihood.

The workshop is designed for forestry policy makers, planners and managers, specifically working on improving the livelihood contribution of forests and forestry in the Asia and Pacific economies. Depending on availability of funds, the total number of invited participants will be limited to 15 from

APFNet member economies. The workshop will be held from 1st to 14th November 2016 at the Goldi Sands Hotel in Negombo, Sri Lanka.

Objectives

The main objectives of the Workshop are to:

- Assess the linkage between forest management and rural livelihood improvement and explore the ways in which the livelihoods of rural communities might be improved through better forest management
- Provide an overview of the experiences and best forestry practices aimed at enhancing rural livelihood development
- Analyze and assesse implications of key policy, institutional and technological developments and the potentials and limitations for livelihood improvement through biodiversity conservation and climate change mitigation and adaptation measures.

Workshop structure and training approach

The workshop structure is designed to provide the maximum learning opportunity to the participants and the entire thrust will be on dialogue, group work, discussions and field observations. The following are the four key components of the Workshop:

Thematic lectures:

Invited experts will provide an in-depth assessment of different aspects relating to livelihood improvement and forest management.

Participant presentation:

Participants will make presentations which will outline experience in managing forests accommodating livelihood concerns at the national programme and project level.

Group work and discussions:

Group discussions including panel discussions and debates will be an integral component of the workshop and all participants are encouraged to actively participate in these. As part of the group work participants will be required to prepare policy briefs related to strengthening the livelihood contribution of forests.

Field trip:

Field trip to different areas in Sri Lanka will provide an opportunity to learn about the evolution of land use including diverse land uses such as the home gardens in Kandy, natural forest management,

forest plantations and management of protected areas and how livelihood dimensions are taken into account in different land use systems.

Workshop Outputs

The Workshop is expected to significantly enhance the knowledge of forestry professionals in designing policies and programmes helping to improve the contribution of forests and forestry to rural livelihood. Participant papers will be edited and published as an important information sharing source for future initiatives and development efforts; it will be disseminated on both APFNet and APFNet-KTC websites at same time. In addition, a synthesis report as another important workshop output with summarized key issues from workshop discussion will also be accessible to a wider audience.

Main Topics/Areas

The Workshop will attempt to provide a broad analytical framework to assess the current state of rural livelihood improvement specifically focusing on the following:

- Forests and livelihoods: Past, present and future.
- Policies and institutions in support of enhancing the livelihood roles of forests.
- Forest governance and its varied impacts on people's livelihood.
- Indigenous communities and traditional knowledge: Myths, realities and the way forward.
- Contribution of small-scale forestry enterprises to socio-economic development.
- Payment for environmental services: Potentials and constraints in improving the livelihood of forest dependent communities
- Livelihood and land use management: The changing role of home-gardens – the Kandyan home gardens.
- Urban forestry and livelihoods
- Protected areas and livelihoods: People and wildlife from conflict to co-existence.

Key issues to be considered

Taking advantage of the vast experience and knowledge accumulated so far the Workshop will attempt to address the following issues:

- What is the current understanding about the contribution of forests in improving the livelihood of rural communities? How are these reflected in the national development policies and strategies?

- How is governance of forests affecting the livelihood of people? Why the "Rich forests - poor people" syndrome is still existing in many forested regions and economies?
- In a rapidly changing society what will be the emerging roles of forests in fulfilling the livelihood needs of people? And to what extent these are reflected in the forest policies and forest management?
- What is the role of small-scale forestry enterprises in improving the livelihood of rural communities?
- What should be done to ensure that livelihood aspects are fully taken into account in the entire length of the forestry based marketing value chain?
- How can protected area management adopt an inclusive approach ensuring that livelihood concerns are accommodated? What is the trade-offs involved?
- How can land use systems like home gardens contribute to livelihood improvement?
- What are the opportunities provided by urban forestry to improve the livelihood of urban dwellers?

Debates and discussions during the Workshop will generate more questions and encourage critical thinking and analyses aimed to provide practical solutions that could help in improving the livelihood contribution of forests.

REQUIREMENTS FOR PARTICIPATION

The Workshop is open to senior policy makers and planners working with government ministries and departments, universities, research institutions and civil society organizations involved in the management of natural resources, in particular forests. Priority will be given to those specifically involved in addressing the livelihood needs of rural communities, and the nomination of female participants from governments and other organizations are encouraged in order to ensure a better gender balance.

The workshop organizer will cover the training costs of international travel (round-trip economy class air tickets), full board accommodation, field visits, as well a certain amount of per diem during yje workshop. Other expense such as visa application expenses and personal expenses will NOT be covered.

WORKSHOP VENUE

Name: Goldi Sands hotel

Address: Poruthota Road Eththukala, Negombo 11500

Tel: +94 31 2279021 **Websites**: http://www.goldisands.com/

WORKSHOP SECREARIAT

For further details about the course and the various arrangements please contact:

Ms. Pan Yao

Programme Officer, APFNet Kunming Training Center

Tel: (+86) 871 63862840 (office) (+86) 13629635716 (cell)

Email: apfnetktc@apfnet.cn Or panyao@apfnet.cn

Address: No. 300 Bailongsi, Kunming City 650224, Yunnan Province, P.R. China

Mr. Alawaththa Kankanamge Isuru Jayantha

Assistant Conservator of Forests, Environment Conservation and Management Division, Forest Department, Sri Lanka.

Tel: +94112866634(office) +94718581618(cell)

E-mail: isuruak@gmail.com

Address: "SampathPaya", Rajamalwatta Road, Battaramulla, Colombo, Sri Lanka

2. WORKSHOP SCHEDULE

PART 1: INDOOR SESSION (1 – 8 & 13 – 14 NOVEMBER, 2016)

(Goldi Sands Hotel, Negombo, Sri Lanka)

Time	Agenda	Presenter/Speaker/ Facilitator
DAY 1: TUESDAY 1 NOVEMBER	**Arrival of Course Participants**	
DAY 2: WEDNESDAY 2 NOVEMBER		
08:30 – 09:00	Participant Registration	APFNet – KTC
09:00 – 09:30	**Opening Ceremony** ○ Welcome remarks ○ Opening address ✧ Remarks by APFNet ✧ Remarks by Forest Department, Sri Lanka ○ Vote of thanks	Forest Department, Sri Lanka APFNet – KTC
09:30 – 10:00	**Introduction to the course**	Ms. Pan Yao & Dr. C.T.S. Nair
10:00 – 10:30	Group photo and Coffee break	
10:30 – 11:00	**Ice breaker** – Getting to know each other	Ms. Pan Yao
11:00 – 12:30	**Lecture 1: Changing role of forests in people's livelihood: Past, present and future.** --- Q & A	Dr. C.T.S. Nair
12:30 – 13:30	Lunch	
13:30 – 14:30	**Guest Lecture**	Mr. Lu De
14:30 – 15:10	**Participant's Presentation 1: Bangladesh**	Mr. Md. Sajjad Hossain Bhuiyan
15:10 – 15:40	Coffee break	
15:40 – 16:20	**Participant's Presentation 2: Cambodia**	Mr. Sothy Bun
16:20 – 17:30	**Group work:** Introduction to the preparation of policy briefs	Dr. C.T.S. Nair
18:30 – 20:30	Welcome dinner	
DAY 3: THURSDAY 3 NOVEMBER		
08:30 – 09:00	Overview of presentations and discussion on Day 2	Selected Participants

09:00 – 10:30	**Lecture 2: Forest policies, institutions and forest management: How have they mainstreamed livelihood concerns?** --- Q & A	Dr. C.T.S. Nair
10:30 – 11:00	Coffee break	
11:00 – 12:30	**Lecture 3: The Kandyan home gardens and their contribution to livelihood improvement** --- Q & A	Prof. DKNG Pushpakumara
12:30 – 13:30	Lunch	
13:30 – 14:10	**Participant's Presentation 3: China**	Ms. Li Dan
14:10 – 14:50	**Participant's Presentation 4: Fiji**	Mr. Maleli Belo Nakasava
14:50 – 15:20	Coffee break	
15:20 – 16:30	**Group discussion: Threats to the livelihood contribution of forests**	Dr. C.T.S. Nair & Ms. Rowena Soriaga
16:30 – 17:30	**Group work**: Preparation of policy brief	Dr. C.T.S. Nair
DAY 4: FRIDAY 4 NOVEMBER		
08:30 – 09:00	Overview of presentation and discussions on Day 3	Selected Participants
09:00 – 10:30	**Lecture 4: Improving governance for enhancing the livelihood contribution of forests.** --- Q & A	Dr. C.T.S. Nair
10:30 – 11:00	Coffee break	
11:00 – 11:40	**Participant's Presentation 5: Indonesia**	Mr. Budi Budiman
11:40 – 12:20	**Participant's Presentation 6: Malaysia**	Mr. Harry Yong
12:30 – 13:30	Lunch	
13:30 – 14:10	**Participant's Presentation 7: Mexico**	Mr. Joel Hernandez Martinez
14:10 – 14:50	**Participant's Presentation 8: Myanmar**	Ms. Su Su Hlaing
14:50 – 15:20	Coffee break	
15:20 – 16:30	**Panel Discussion：Agroforestry and rural livelihoods improvement**	Dr. C.T.S. Nair & Ms. Rowena Soriaga
16:30 – 17:30	**Group work**: Preparation of policy briefs	Dr. C.T.S. Nair
DAY 5: SATURDAY 5 NOVEMBER		
08:30 – 09:00	Overview of presentations and discussions on Day 4	Selected Participants
09:00 – 10:30	**Lecture 5: Indigenous communities and forests** --- Q & A	Ms. Rowena Soriaga
10:30 – 11:00	Coffee break	

11:00 – 12:30	**Lecture 6: Small scale forestry enterprises, value chains and markets** --- Q & A	Dr. C.T.S. Nair
12:30 – 13:30	Lunch	
13:30 – 14:10	**Participant's Presentation 9: Nepal**	Mr. Yajnamurti Khanal
14:10 – 14:50	**Participant's Presentation 10: Papua New Guinea**	Mr. Tom Aposol
14:40 – 15:20	Coffee break	
15:20 – 16:30	**Panel Discussion: People and wildlife: From conflicts to co-existence**	Dr. C.T.S. Nair
16:30 – 17:30	**Group work**: Preparation of policy briefs	Dr. C.T.S. Nair
DAY 6: SUNDAY6 NOVEMBER		
08:30 – 09:00	Overview of presentations and discussions on Day 5	Selected Participants
09:00 – 10:30	**Lecture 7: Markets for environmental services and livelihood: Opportunities and challenges for PES** --- Q & A	Dr. C.T.S. Nair
10:30 – 11:00	Coffee break	
11:00 – 11:40	**Participant's Presentation 11: Peru**	Ms. Aurea Erica Castro Aponte
11:40 – 12:20	**Participant's Presentation 12: Philippines**	Ms. Jerameel Mina Andes
12:30 – 13:30	Lunch	
13:30 – 14:10	**Participant's Presentation 13: Sri Lanka**	Mr. Bharatha Bandara
14:10 – 15:30	**Debate: Protected area management and livelihoods improvement: How do we strike a balance?**	Dr. C.T.S. Nair & Ms. Rowena Soriaga
15:30 – 16:00	Coffee break	
16:00 – 17:30	**Group work**: Preparation of policy briefs	Dr. C.T.S. Nair
DAY 7: MONDAY 7 NOVEMBER		
08:30 – 09:00	Overview of presentations and discussions on Day 6	Selected Participants
09:00 – 10:30	**Lecture 8: Traditional knowledge and rural livelihoods: Myths, realities and the way forward** --- Q & A	Ms. Rowena Soriaga
10:30 – 11:00	Coffee break	
11:00 – 11:40	**Participant's Presentation 14: Sri Lanka**	Mr. Praneeth Perera
11:40 – 12:20	**Participant's Presentation 15: Thailand**	Ms. Kallaya Suntornvongsagul

12:30 – 13:30	Lunch	
13:30 – 15:30	**Group work**: Preparation of policy briefs	Dr. C.T.S. Nair
15:30 – 16:00	Coffee break	
16:00 – 20:00	Proceed to Battaramulla, and Introduction to Community Forestry of Sri Lanka.	Forest Department, Sri Lanka
DAY 8: TUESDAY 8 NOVEMBER		
08:30 – 09:00	Overview of presentations and discussions on Day 7	Selected Participants
09:00 – 10:30	**Lecture 9: Urban people, livelihood and forests** --- Q & A	Dr. Preecha Ongprasert
10:30 – 11:00	Coffee break	
11:00 – 12:30	**Lecture 10: Rural Collective Forest Tenure Reform in China** --- Q & A	Prof. Shen Lixin
12:30 – 13:30	Lunch	
13:30 – 15:00	**Lecture 11: Sustainable utilization and development of Bamboo resources in China** --- Q & A	Prof. Shen Lixin
15:00 – 16.30	Presentation of final draft policy briefs	Participants
16:30 – 17:00	**Briefing on field trip**	Forest Department, Sri Lanka
DAY 9 TO DAY 12: WEDNESDAY – SATURDAY, 9 - 12 NOVEMBER Field Trip to Kandy and visit different areas focusing on forest management and livelihood development		
DAY 13: SUNDAY 13 NOVEMBER		
08:30 – 09:00	Overview of presentations and discussions on Day 8 and field trip in Kandy	Selected Participants
09:00 – 10:30	**An overview of the Workshop**	Ms. Pan Yao & Dr. CTS Nair
10:30 – 11:00	**Course evaluation**	Ms. Pan Yao
11:00 – 11:30	Coffee break	
11:30 – 12:30	**Closing Ceremony** ○ Award of certificates ○ Vote of thanks	APFNet-KTC & Forest Department, Sri Lanka
12:30 – 13:30	Lunch	
PM	Free	
19:00 – 20:30	Farewell dinner	

DAY 14: MONDAY 14 NOVEMBER	Departure of Participants

PART 2: FIELD TRIPSESSION (9 - 12NOVEMBER, 2016)

(Kandy, Sri Lanka)

09 November 2016

07:00	Breakfast at Goldi Sands Hotel and Check-out
07:45 - 09:45	Drive from Negombo to Pinnawala Elephant Orphanage
09:45 - 11:00	Pinnawala Elephant Orphanage
11:00 - 12:00	Proceed to Royal Botanical Garden, Peradeniya
12:00 - 13:00	Lunch at Royal Botanical Garden
13:00 - 15:30	Study Royal Botanical Garden
15:30 - 16:00	Proceed to the Hotel Topaz Kandy
16:00 - 18:00	Check-in and rest
18:00 - 19:00	Visit Dalada Maligawa (Temple of the tooth relic)
19:00	Dinner

10 November 2016

07:00 - 08:00	Breakfast and Check-out
08:00 - 09:00	Proceed to Aladeniya, visit to a Kandyan Home garden
09:00 - 10:30	Study Kandyan Home Garden
10:30 - 12:30	Proceed to Dambulla
12:30 - 13:30	Lunch in Dambulla
13:30 - 14:00	Proceed to Sigiriya Village Hotel
14:00 - 15:00	Check in and Rest
15:00 - 18:00	Visit Sigiriya
18:00 - 18:30	Proceed to Hotel
19:00	Dinner at Hotel

11 November 2016

07:00 - 08:00	Breakfast at Sigiriya Village Hotel
08:00 - 09:00	Drive from Sigiriya to Naula Sinhagama Community Managed Forest Area
09:00 - 12:00	Study Naula Sinhagama Community Managed Forest Area
12:00 - 13:00	Village Lunch prepared by the Community
13:00 - 15:00	Proceed to Hurulu Biosphere Reserve
15:00 - 18:00	Study the Hurulu Biosphere Reserve
18:00 - 19:00	Proceed to the Sigiriya village Hotel
19:00	Dinner at Hotel

12 November 2016

07:00 - 08:00	Breakfast and Checkout
08:00 - 08:30	Proceed to Dambulla Rock Temple
08:30 - 10:00	Visit Rock Temple
10:00 - 11:30	Proceed to Galewela Community Forestry Site
11:30 - 13:30	Study Galewela Community Managed Forest Area
13:30 - 14:30	Village Lunch prepared by the Community
14:30 - 17:00	Proceed to Negombo
17:00 - 17:30	Check in Goldi Sands Hotel
19:00	Dinner at Hotel

.

3. LIST OF PARTICIPANTS

No.	Name	Nationality	Gender	Position/Organization	Email
1	Md Sajjad Hossain Bhuiyan	Bangladesh	Male	Senior Assistant Secretary, Ministry of Environment and Forests, Bangladesh	sajjadb02@gmail.com
2	Sothy Bun	Cambodia	Male	Deputy Chief of Kampong Thom F.A. Cantonment, Forestry Administration, Ministry of Agriculture, Forestry and Fisheries (MAFF), Cambodia	sothy.bun3339@gmail.com
3	Li Dan	China	Female	Assistant Researcher (PhD), Yunnan Academy of Biodiversity, Southwest Forestry University, China	lidan_163@163.com
4	Maleli Belo Nakasava	Fiji	Male	Forester Timber Production, Ministry of Fisheries and Forest, Fiji	avesidina@gmail.com
5	Budi Budiman	Indonesia	Male	"Forestry Extension Worker, Forestry Extension Center, The Forestry Extension and Human Resource Development Agency, Ministry of Environment and Forestry, Indonesia	budiman_bs@yahoo.co.id
6	Harry Yong	Malaysia	Male	Senior Assistant Director of International Affairs, Forestry Department Peninsular Malaysia, Ministry of Natural Resources and Environment	harryfdpm@gmail.com
7	Joel Hernandez Martinez	Mexico	Male	Department Chief of Forestry Production in the State of Hidalgo, National Forestry Commission	hmjoel@yahoo.com.mx
8	Su Su Hlaing	Myanmar	Female	Research Assistant – 2, Forest Research Institute, Forest Department, Yezin, Nay Pyi Taw, Myanmar	susuhlaing021@gmail.com
9	Yajnamurti Khanal	Nepal	Male	Assistant Forestry Officer, District Forest Office Rupandehi, Forestry Department, MoFSC	yajnamurti@gmail.com
10	Tom Aposol	PNG	Male	Community Forestry Officer, Papua New Guinea Forest Authority	aposoltom64@gmail.com
11	Aurea Erica Castro Aponte	Peru	Female	Forest Analyst, National Forestry and Wildlife Service (SERFOR)	ericaforestales@gmail.com
12	Jerameel Mina Andes	Philippines	Female	Forest Management Specialist II, Forest Management Bureau	jerameelandes@gmail.com
13	Bharatha Bandara	Sri Lanka	Male	Assistant Conservator of Forests, Forest Department of Sri Lanka	bharathauop@gmail.com
14	Praneeth Perera	Sri Lanka	Male	Assistant Conservator of Forests, Forest Department of Sri Lanka	praneethsuraweera@gmail.com
15	Kallaya Suntornvongsagul	Thailand	Female	Lecturer(PHD), Environmental Research Institute, Chulalongkorn University	aurorasunt@yahoo.com

4. PROFILE OF RESOURCE PERSONS

1) Dr. C.T.S. Nair(ctsnair47@gmail.com)

Dr. C.T.S. Nair, who was with the Indian Forest Service, is currently a freelance consultant in natural resources management. He has a multi-disciplinary background with Bachelor's degree in zoology (University of Kerala, India) , Post-Graduate diploma in forestry (Indira Gandhi National Forest Academy), Master of Philosophy in Applied Economics (Jawaharlal Nehru University) and doctorate in Forest Economics (University of Wales, Bangor, United Kingdom).

Having worked in several countries in various capacities for over four decades, Dr. Nair has a highly diverse experience profile. With the Indian Forest Service he served as Divisional Forest Officer with the Kerala Forest Department and as Forest Economist and later as Director at the Kerala Forest Research Institute. He has also worked in the Ministry of Environment and Forests, Government of India as Deputy Inspector General of Forests, in charge of forestry research and education and forest policy.

Dr. Nair was with the Food and Agriculture Organization of the United Nations for about 20 years and worked in various capacities, including as Forest Economist in Sudan, Senior Programme Advisor (Forestry Research Support Programme for Asia-Pacific- FAO Regional Office, Bangkok), and in various capacities in the Forestry Department, FAO Headquarters, Rome, including as Senior Forestry Officer (Economic Analysis), Chief of the Planning and Statistics Branch, Chief of the Forest Economics Service and Chief Economist of the Forestry Department).

After his retirement from FAO, in April 2010 Dr. Nair rejoined the Kerala Government as the Executive Vice President of the Kerala State Council for Science, Technology and Environment and as the Principal Secretary, Science and Technology Department, retiring from the position in June 2011. During that period he also served as the Chairman of the Kerala State Coastal Zone Management Authority, overseeing the implementation of zoning regulations under the Environment Protection Act.

Dr. Nair continues to be active in forests and forestry in the Asia-Pacific region, especially in policy analysis and capacity building. He coordinated FAO's Sixth, Seventh and Eighth Executive Forest Policy courses held in Thimphu in 2013, Nadi in 2014 and Nay Pyi Taw in 2015. He also coordinated and facilitated the APFNet workshops on degraded forest rehabilitation and biodiversity conservation and rural livelihood improvement held in Kunming during July and November 2014.

Dr. Nair has over 100 publications dealing with economics, policy and institutional analysis. Some of his notable contributions include the "Forestry Outlook Study for Africa (including 5 sub-regional outlook reports)", "People, forests and trees in West and Central Asia: Outlook for 2020", "Asia-Pacific Forests and Forestry to 2020" South Asian Forests and Forestry to 2020", and the "State

of World's Forests 2009". He has also written extensively on policy, economics and institutional issues including on forest administration, research and education.

2) Ms. Rowena Crispina Lacuesta Soriaga (rsoriaga@gmail.com)

Ms. Rowena Soriaga has been working with natural resource management and rural development concerns over the past 22 years, mainly through the Environmental Science for Social Change (ESSC) and Asia Forest Network (AFN). In ESSC, she has been involved in the design and implementation of projects focused on various aspects of sustainable development especially in rural environments. Through AFN, she has contributed to various collaborative regional knowledge products including: (i) Where is the Future of Cultures and Forests, a thematic paper on Indigenous Peoples and Forest Management in 2020 for FAO's Asia-Pacific Forestry Sector Outlook Study II; (ii) Forest Lives, a report synthesizing Lessons on sustaining communities and forests from the EU-UNDP-SEARCA Small Grants Programme for Operations to Promote Tropical Forests, and (iii) Making Forestry Work for the Poor, an APFNet-supported assessment of the contribution of forestry to poverty alleviation in Asia and the Pacific. She has also provided consulting services to several government, civil society and multilateral institutions. She currently serves as ESSC Program Development Specialist and AFN Adviser. Rowena obtained her BS Business Economics degree from University of the Philippines and Master in Development Management degree from the Asian Institute of Management.

3) Prof. Shen Lixin (shenlixin@apfnet.cn)

Prof. Shen Lixin, as executive director currently working for APFNet Kunming Training Center (APFNet-KTC) as well as faculty of Southwest Forestry University based in Kunming City, Southwestern China. He used to be executive vice director of Yunnan Academy of Biodiversity (YAB) from 2011 to 2014 and worked for National Plateau Wetland Research Center(NPERC) at Southwest Forestry University (SWFU) as research professor during 2010 to 2011.

Prior to joining SWFU in 2010, Prof. Shen Lixin used to be Assistant President of Yunnan Academy of Forestry (YAF) and director of forests research institute of YAF. He has conducted numerous researches for nearly thirty years on forest resources management, wetlands and protected area management, biodiversity conservation, degraded forest restoration, poverty alleviation and rural livelihood development. In addition, he has worked on international projects for biodiversity conservation through protected area management in Southwest China and Southeast Asia as well as on cross-cultural, cross-border projects involving trans-boundary resources use and conservation.

4) Dr. Preecha Ongprasert (preecha_ong@yahoo.com)

With a long experience in Forestry, Mr. Preecha Ongprasert currently works as Director of International Convention and Commitment Division, Internal Forestry Cooperation Office, Royal Forest Department, Thailand.

Education

BSc (Wildlife Management): Faculty of Forestry, Kasetsart University

MSc (Forest Biology): Faculty of Forestry, Kasetsart University

PhD (Urban Forestry): School of Agriculture and Forest Sciences, University of Wales, Bangor, United Kingdom

Working experiences

1991-1995: Researcher, Faculty of Forestry, Kasetsart University

1995-1998: Forest Officer, Permission Division, Royal Forest Department

1998-2010: Forest Officer, Bureau of Community Forest Management, RFD

2013-2015: Director, Training Division, Central Administration Bureau, RFD

2011-present: Director, International Convention and Commitment Division, International Forestry Cooperation Office, RFD

2015-present: Chairman, Regional Model Forest Network-Asia (RMFN-Asia)

2015-present: Chairman, APFNet Council

5. OUTLINES OF KEYNOTE LECTURES

Lecture 1: Changing role of forests in people's livelihood: Past, present and future

--- by Dr. C.T.S. Nair

Forests have been and still are important in meeting the livelihood needs of millions of people providing food, fuel, medicines, materials for shelter and increasingly a source of life-sustaining ecological services. Watershed protection, biodiversity conservation, carbon sequestration and amenity values are some of the most important ecological services provided by forests having direct and indirect implications on livelihoods. Dependence on forests for livelihood varies over space and time. While forest-dependent communities derive a large proportion of their basic needs from forests, such direct dependence has declined significantly in the context of socio-economic development. Forest-livelihood linkages are hence highly context specific and dynamic.

Notwithstanding the significant livelihood potential of forests, in many countries a strong overlap exists between the distribution of forests and distribution of poor people, and forest-dependent communities are often the poorest in many countries. This paradox of "rich forests – poor people" has led to increased attention on what needs to done in the forest sector to improve rural livelihoods. Forest management in the past have largely adopted an "exclusion approach" failing to take into account the high level of dependence of local communities on forests. Acceptance of the principles of sustainable forest management has brought the social dimension of forests, in particular the livelihood aspects, to the forefront. However, many challenges persist in ensuring that the full potential of forests in meeting the livelihood needs of rural communities is realized. Some of the challenges in this regard

include:

- Inadequate information on the extent of livelihood dependence on forests: This has led to generalizations based on scant and sometimes inaccurate information.
- Preponderance of informal sector activities which are not captured in the national statistics.
- Historically forest policies, plans and programmes have largely been formulated in the context of industrial forestry, thus relegating livelihood aspects to the background.
- Most often livelihood is related to access to and control of resources including the access to knowledge. Though many countries have implemented tenure reforms, yet the distribution of assets, including knowledge, remains highly skewed.
- Livelihood is very much dependent on the appropriate combination of different assets/ income portfolios. For most forest dependent communities the options for asset and income diversification are extremely limited.

Global, national and local initiatives have helped to highlight the livelihood relevance of forests encouraging appropriate changes in policies, legislation, programmes and plans. The livelihood role of forests in the future will depend on several factors and different scenarios could be visualized, depending on the relative importance of other assets – human capital, physical capital, financial capital and social capital. Climate change related events could have significant impacts on forest-livelihood linkages.

Some of the important take home messages from the presentation are:

1. Forests-livelihood linkages are multiple, highly context specific and extremely dynamic.
2. Although direct dependence on forests for livelihood is declining, millions of people still rely on forests for a wide array of livelihood needs.
3. There is a need to improve information on the livelihood significance of forests, though this is challenging on account of several reasons.
4. The long term trend as regards forests and livelihood relates to the shift from production of livelihood goods – food, fuel, medicines - to the provision of ecological services and fulfillment of aesthetic and cultural needs.
5. Different scenarios could be visualized as regards the future of forests-livelihood linkages. Under certain contexts the significance of forests for meeting livelihood needs will remain important; there could also be situations where the importance of forests for provision of livelihood goods may decline significantly.

Lecture 2: Forest policies, institutions and forest management: How have they accommodated livelihood concerns? --- by Dr. C.T.S. Nair

How forests are actually governed and the quality of governance is outcomes of the combined effect of policies, rules and regulations and the institutional arrangements in place to implement them. Whether forest management will fulfill livelihood objectives or not is thus dependent on the combined effect of policies, legislation and institutions, both within and outside the forest sector. In this regard it is also important to consider the spatial dimension, in view of the increasing linkages between global, national and local developments. For example, international trade policies could have significant impacts on the livelihood of forest dependent people much more than what is envisaged by local level forest policies. Therefore any analysis of policies, regulations and institutions should consider the full canvass, transcending the sectoral and national boundaries.

Forest policies, legislation and institutions have been undergoing profound changes and the pace of change has accelerated during the last three decades. However the pace of change has been extremely varied. Influenced by key global developments, most of the forest policies have been revised, and many have included provision of livelihood to rural communities, especially forest dependent people, as a key policy objective. Interestingly changes in rules and regulations as also institutions have been relatively slow. Many countries still rely on the colonial legal framework, built on an "exclusion approach" often treating use of forests for livelihood as a forest crime. Failure to repeal older rules and regulations has led to severe conflicts. Some of the general trends as regards changes in policies, legislation and institutions that impact the livelihood role of forests are summarized below:

1. Most of the countries in the Asia-Pacific region have revised their forest policies especially in the post 1980 period and the revised policies reflect the larger changes in the socio-economic conditions. Social considerations like poverty alleviation and livelihood improvement have been mainstreamed in most of the recent forest policies.

2. A number of initiatives have been implemented to facilitate increased participation of communities in the management of forests. Institutional arrangements like forest user groups, community forestry, joint forest management, etc. have enhanced local community participation in forest resource management, enabling increased attention to livelihood dimensions.

3. The developments on the legal front have been somewhat mixed. Though some countries continue to rely on archaic legislation developed almost a century ago, there are also very forward looking legislation that aims to empower local communities including through tenure reforms. Also while farmers and communities are getting actively involved in tree growing, vestiges of old legislation persists creating disincentives.

4. The institutional arrangements are also quite varied. Increased involvement of community organizations in forest management had a positive impact on fulfilling the livelihood needs of rural communities.

5. Livelihood aspects of forestry were earlier addressed in a paternalistic manner and it was assumed that forest based industrial development provided the most effective option for livelihood improvement through employment generation. However this has changed and there is realization that forests could address a number of livelihood issues directly. In fact in many situations the quest for industrial forestry had net negative impacts on livelihoods.

On the whole there is increasing convergence of policies, legislation and institutions and certainly there is greater emphasis on objectives like livelihood improvement. However, the process of evolution of policies, legislation and institutions is slow and challenging, especially when those who gain from existing arrangements resist changes. Policies, legislation and institutions will also have to strike an acceptable balance between two broad trends namely globalization and localization.

Lecture 3: The Kandyan home gardens and their contribution to livelihood improvement

--- by Prof. DKNG Pushpakumara

Lecture 4: Improvement of governance to enhance the livelihood contribution of forests

---by Dr. C.T.S. Nair

Governance is defined as "*all processes of governing, whether undertaken by a government, market, network, family, tribe, formal or informal organization or territory and whether through laws, norms, power or other means*". It is one of the most widely used term in almost all public policy discussions and failure to accomplish socio-economic development objectives is directly or indirectly linked to governance failures. Governance determines the nature of relationship between people and people, as also between people and resources and thus affects almost all aspects of life, including how forests are actually managed and the outcomes like livelihood improvement. Failure to accomplish social, environmental and economic objectives is largely an outcome of poor governance.

The governance system consists of various policies, rules and regulations and how they are actually applied including the various institutional arrangements. To a large extent the governance system is dependent on who owns the resources. In the case of forests three broad categories of ownership exists – communal ownership, government (or public sector) ownership and private ownership which includes a wide range from small farms and enterprises to large corporate ownership. These diverse owners manage forest resources responding to the various policies and markets and in turn influencing both policies and markets. The presentation focuses on the overall functioning of the governance arrangements with particular emphasis on the following:

- The evolution of different ownerships and how they affect the governance system, especially as regards fulfillment of livelihood needs;
- Governance challenges.
- The characteristics of good and bad governance;
- The principles and pillars of good governance.
- Forest governance at different spatial scales and how they impact rural livelihoods.
- Initiatives to improve forest governance.

In a resource abundant situation (which existed in most countries and still exists in many even now) forest governance is relatively less problematic. Many traditional communities adopted governance systems which ensured sustainability and equity in the use of resources through traditions and customs enabling the use of forests to meet livelihood needs. Emergence of other kinds of ownership – private and public sector – altered the purpose and systems of governance. During the last few decades the relevance of community management has been rediscovered especially in the context of meeting the livelihood needs. Important take-home messages from the presentation are:

- Improvements in forest governance are very much dependent on the larger governance environment; Forest governance challenges are a reflection of the larger governance problems though several factors add to the complexity of forest governance.
- Governance reform is considered as a pre-requisite for social and economic development and to improve the livelihood opportunities.
- Poor governance is a recipe for conflicts and unsustainable use of resources.
- A wide array of governance arrangements has been developed; however it has to be ensured that they adhere to the basic principles of participation, accountability, transparency, effectiveness, efficiency and fairness.

Lecture 5: Indigenous communities and forests

--- by Ms. Rowena Soriaga

Two-thirds of around 350 million indigenous peoples in the world live in Asia Pacific. Many of them are traditionally forest dependent, but there is an increasing trend of moving away from this dependence. While indigenous peoples are benefiting from the global attention on tackling sustainable development issues, inequity is still increasing due to various social, political, economic and environmental forces. Indigenous peoples are seeking self-determination and asking global society to respect their cultures and identities. Movements to support them are increasing from a range of sectors, including from human rights and environment. Indigenous communities represent 75% of world's

diverse cultures and, if their rights are upheld, they can play a huge role in forest conservation that benefits broader society. This lecture will explore the following topics: (a) context of Indigenous Communities in Asia-Pacific forests; (b) forces helping and hindering sustainability of forest cultures; (c) status of efforts to empower indigenous communities at the global, regional, national and local levels; and, (d) potentials in improving forest conservation for the larger benefit of society through greater engagement of indigenous peoples in natural resource management.

Lecture 6: Small scale forestry enterprises, value chains and markets

--- by Dr. C.T.S. Nair

Small scale enterprises play an important role in all the economies and in all sectors including agriculture, animal husbandry, fisheries, forestry, industries and in the production of a multitude of goods and services. Within forestry, small scale enterprises have a pre-eminent role, including in tree growing, wood harvesting and processing, collection and trade of firewood and charcoal, production, processing and marketing of non-forest products and so on. Increasingly even wood production is moving into the domain of small holders and in many countries in the Asia-Pacific small holder farm forestry is becoming the most important source of wood supply. Even large industries are relying on small holders, sourcing wood through contract farming. The presentation analyses the role of small scale enterprises in forestry, particularly focusing on their livelihood significance giving specific attention to:

- The evolution and current state of small scale enterprises, especially from the livelihood enhancement role;
- Factors impacting the development, growth and decline of small scale forestry enterprises;
- Impact of globalization and changes in value chains;
- What is being done to support small scale enterprise development;
- Important take home messages.

Small scale enterprises consist of a highly heterogeneous group, producing a variety of products and services, using diverse technologies and catering to the demand from very diverse markets. One of the most important roles of small scale enterprises is their contribution to livelihood, both rural and urban communities. Globalization has brought about major changes, providing new challenges as also opportunities to small scale forestry enterprises. A significant proportion of the small scale forestry enterprises operate in the informal domain, limiting their access to credit, technology and markets. The future of small scale enterprises will largely depend on their ability to adapt to changing markets, technological improvements, ability to enter the formal domain and the characteristics of the value chains they are taking part. The presentation provides a SWOT analysis of small scale forestry

enterprises focusing on their role in providing sustainable livelihoods. Some of the important questions that the lecture raises are:

- What will be the role of small scale forestry enterprises in improving the livelihoods of both rural and urban communities?
- Will they flourish or decline in the context of the larger changes, in particular the emergence of global value chains?
- Should we promote small scale enterprises, just because they are small or should we adopt a realistic approach taking into account their economic, social and ecological significance?
- What kind of support/ interventions is required to enable small scale enterprises thrive in the era of globalization?

Lecture 7: Markets for environmental services and livelihoods: Opportunities and challenges for PES --- by Dr. C.T.S. Nair

In almost all countries management of forests is giving increased attention to the provision of ecological services like watershed protection, climate change mitigation and adaptation, biodiversity conservation and provision of amenity values. Vast tracts of forests which were earlier managed for wood production have been set aside for the provision of ecological services. Natural disasters like floods and cyclones have encouraged a number of countries to impose logging bans and to manage forests entirely for their environmental values. Similarly climate change concerns are impacting forest policies, and most countries have included forests as a key component in their climate change adaptation and mitigation strategies.

A shift from wood production to provision of ecological services raises the question as to who will pay for the provision of ecological services and to what extent payments for ecological services will help in the improvement of the livelihoods of rural communities. Traditionally the costs of conservation has been primarily borne by the public at large – by governments which was justified considering that there are no markets for ecological services and further that most of the environmental services accrue to the entire society, including future generations. However in the recent decades, there has been significant efforts to bring environmental services within the purview of market mechanism so that beneficiaries pay for the provision of such services which in turn provides the necessary incentives to the suppliers of such services, namely forest owners. Many countries have attempted to implement systems for payment for ecological services.

Rewarding resource owners through payment for ecological services is often considered as a "win-win option", accomplishing the twin objectives of environmental protection and livelihood improvement. This presentation addresses some of the pros and cons of the experience of PES particularly focusing

on the following:

- Conditions under which PES is able to generate adequate income encouraging the provision of environmental services; and
- Factors that help to ensure that a significant share of PES helps to alleviate poverty and to improve the livelihood of rural communities.

The presentation provides an overview of the evolution of PES and how it has worked as regards some of the key environmental services like watershed protection, carbon sequestration, biodiversity conservation and provision of amenity values. Various estimates are available about the potential value of PES in the future, though there are uncertainties as to whether these will be fully realized. More importantly there are many uncertainties as to how much of the realizable potential will accrue to those whose livelihoods need improvement which will depend very much on to what extent they are participating in the provision of the services either as owners of forests or as participants in the delivery of services.

Lecture 8: Traditional knowledge and rural livelihoods: Myths, realities and the way forward

--- by Ms. Rowena Soriaga

Traditional knowledge has been defined as "a cumulative body of knowledge, know-how, practices and representations maintained and developed by peoples with extended histories of interaction with the natural environment. These sophisticated sets of understandings, interpretations and meanings are part and parcel of a cultural complex that encompasses language, naming and classification systems, resource use practices, ritual, spirituality and worldview" (ICSU, 2002). Indigenous peoples and other local communities in rural areas use this knowledge as a means of securing the necessities of life - their livelihood. Over the past half century, relationships between traditional knowledge, science and government policy range from mutual disapproval to mutual appreciation. Rapid social transformation is eroding local institutions and practices, with detrimental impacts on forests, livelihoods, and identities. Rural communities, including indigenous peoples, are diversifying their livelihood strategies to cope with risks and uncertainties, and also to take advantage of opportunities coming their way, which are scant. This lecture will cover the following topics: (a) traditional knowledge and rural livelihoods − definitions, perceptions and responses; (b) trends in traditional livelihood strategies and the changing role of forests; (c) traditional knowledge and its relevance in a rapidly changing world; (d) traditional knowledge, rural livelihoods and forest management − potentials and limitations; (e) ways forward.

Lecture 9: Urban people. Livelihood and forests

--- by Dr. Preecha Ongprasert

Lecture 10: Rural Collective Forest Tenure Reform in China --- by Prof. Shen Lixin

Forests provide important livelihood sources for local communities and play a key role in rural livelihood development. In many parts of the world, however, unclear forest property rights and weak local governance are key drivers of deforestation and forest degradation. Over past decades, many developing countries have undertaken forestland tenure reform with a view to reducing land use conflicts and providing incentives to local communities to improve forest resource management.

In this context, the experiences that China has gained with recent rural collective forest tenure reforms can guide forest conservation and poverty alleviation, as well as offer important lessons for other developing countries that are addressing issues related to unclear forest tenure. The objectives of the forest tenure reform are to increase the confidence, initiative, and ability of communities to manage forest sustainably, and to clarify and transfer forestland tenure and ownership of forests to individual households by issuing certificates, valid for 70 years. All collective commercial forests and waste hills/fallow suitable for forestation are targeted but nature reserves and protected forests are excluded. Clear transparent and participatory processes are used, where all villagers discuss details of the reform and at least two-thirds agree to implementation.

In general, the reform has been overall completed during the period of 2008 to 2014, it has achieved the goals with positive impacts on collective/community forest management (CF).

- Farmers can apply for mortgage loan of Forest Tenure by using use right of forest land, forests ownership (or use right) as collateral to financial institutions loans.
- The country has the area with clear tenure of 27.02 million hectares, accounting for 99.05 percent of the total collective forestlands.
- The area with forest tenure licenses issued is 26.04 million mu, accounting for 96.37% of the forestlands area with clear tenure, and more than 8,970 million individual farmer households have received the forest tenure certificates.
- and farmers can apply for mortgage loan of Forest Tenure by using use right of forest land, forests ownership (or use right) as collateral to financial institutions loans, and the loan by using forest tenure certificates as mortgage is over RMB 100 billion yuan in 2015.

Lecture 11: Sustainable utilization and development of Bamboo resources in China

--- by Prof. Shen Lixin

According to archeological discoveries, bamboo research and utilization in China has a history 5,000~6,000 years old, and known as a “Country of Bamboo Civilization” by the West and the Chinese people have been very fond of bamboos since ancient times. Being upright and modest, bamboos offer people an excellent subject for poetry, painting, and gardening. Bamboos have made

major contributions to the development of the historical culture of China, and advances in science and technology are in return constantly pioneering new fields for bamboo utilization.

Although China has attached great importance to the development of bamboo plantations since the 1950s, the resource was sold mainly as raw material until the country began processing in 1985. The area of plantations grew from 3 million ha in 1976 to 5.1 million ha in 2009 and now forms the basis of an important rural industry. China has about 500 species of bamboo but only 50 are used for industrial purposes, products such as flooring, decoration board, furniture, charcoal, fiber, handicrafts, and shoots are exported mainly to Japan, North America and Europe.

In China, different parts of the bamboo plant were used - roots (art and handicrafts), leaves (juice, chicken feed and medicine), shoots (food), sawdust (energy), chips (pulp/paper), and small poles (fiber for textiles). Challenges facing the industry include a shortage of raw material and a utilization rate of less than 20% in most producer countries. If the culm is used only for bamboo flooring, for example, the absolute utilization rate is less than 12%. In addition, a rapid increase in prices of raw materials and labor costs is also Challengeable.

ATTACHED FILES:

1. PPT FILES OF KEYNOTE LECTURES

1) Indigenous communities and forest

   --- by Ms. Rowena Soriaga

2) Rural collective forest tenure reform in China

   --- by Prof. Shen Lixin

3) Sustainable utilization and development of Bamboo resources in China

   --- by Prof. Shen Lixin

2. PPT FILES OF PARTICIPANT PRESENTATIONS

1) **Bangladesh:** In search for practical conservation solutions for Protected Areas - The Nishorgo Experiment

2) **China:** Study on Returning Farmland to Forest Program in China

3) **Indonesia:** Community-based Forest Management of Tourism to Improve Social Welfare: Case Study at Puncak Bintang Tourism Forest, Bandung, West Java, Indonesia

4) **Mexico:** National Strategy to Increase Forest Production (ENAIPROS)

5) **Myanmar:** Assessment of sustainability and how to bamboo contribute to Rural livelihood

6) **Nepal:** Scientific Forest Management in Community Forestry : Opportunities for Regeneration Promotion and Income Generation

7) **PNG:** Forestry and Rural Livelihood Development

8) **Peru:** "Community forest management " The Vicos Community Case in Peru

9) **Sri Lanka:** "Palugahawela" – Sri Lanka Community Forestry Program site: a case study on forests and livelihood.

3. READING MATERIALS

A. Reading materials provided by Dr. C.T.S. Nair

1) **Arild Angelsen et al 2014.** Environmental income and rural livelihoods: A global comparative analysis, World Development, Open-access article, http://dx.doi.org/10.1016/j.worlddev.2014.03.006
2) **FAO, 2009**. Challenges and opportunities for China's small and medium forest enterprises (SMFEs), Forest Connect – Diagnostic Studies on Small and Medium Sized Forest Enterprises 4, FAO, Rome.
3) **FAO 2009**. Where is the future for cultures and forests: Indigenous peoples and forest management in 2020, Working Paper No APFSOS II/ WP/2009/23, Prepared by the Asia Forest Network.
4) **FAO 2010**. Forest policies, legislation and institutions in Asia and the Pacific, Trends and emerging needs for 2020, Asia-Pacific Forestry Sector Outlook Study II, Working Paper No APFSOS II/WP/2009/34, FAO Regional Office for Asia and the Pacific, Bangkok.
5) **FAO 2014**. State of World's Forests: Enhancing socio-economic benefits from forest, Food and Agriculture Organization of the United Nations, Rome.
6) **FAO, AFN and APFNet**. Making forestry work for the poor: Assessment of the contribution of forestry to poverty alleviation in Asia and the Pacific, FAO Regional Office for Asia and the Pacific, Bangkok
7) **Hoare A 2016**. Improving legality among small-scale forestry enterprises: The role of national level indicators within the Sustainable Development Goals, Research Paper, Chatham House, The Royal Institute of International Affairs.
8) **Jeffrey C Milder, Sara J, Scherr and C. Bracer 2010**. Trends and future potential of payment for ecosystem services to alleviate rural poverty in developing countries, Ecology and Society 15(2) 4. On-line publication: http://www.ecologyandsociety:org/vol15/iss2/art4
9) **Lund JF et al 2016.** Promising change, delivering continuity: REDD+ as a conservation fad, World Development – Article in Press. http://dx.doi.org/10/1016/j.worlddev.2016.08.05
10) **Nair CTS. 2007**. Scale, markets and economics: Small-scale enterprises in a globalizing environment, Unasylva, 228, Vol 58, pp3 – 10.
11) **Wunder S, Angelsen A and B. Belcher 2014.** Forests, livelihoods and conservation: Broadening the empirical base, World Development 64, pp S1-S11.

12) **Sunderlin W, et al 2004**, Livelihoods, forests and conservation in developing countries: An overview, World Development Vol 33 No 9, pp1383 – 1402

13) **Swallow Brent M. et al 2009**. Compensation and rewards for environmental services in the developing world: Framing a pan-tropical analysis and comparison, Ecology and Society 14(2) 26.

14) **United Nations 2016.** Report of the Special Rapporteur of the Human Rights Council on the rights of indigenous peoples, UN General Assembly. Seventy-first session, A/71/229

15) **Vira B, Wildburger C & Mansourian S. 2015.** Forests, trees and landscape for food security and nutrition: A global assessment report, IUFRO World Series Vol 33, IUFRO, Vienna.

B. Reading materials provided by Prof. Shen Lixin

16) **International Network for Bamboo and Rattan 2010**, China's Bamboo: Culture/resources cultivation utilization.

INDIGENOUS COMMUNITIES AND FORESTS

Rowena Soriaga
rsoriaga@gmail.com

Outline

1. Context of Indigenous Communities in Asia-Pacific forests
2. Forces helping and hindering sustainability of forest cultures
3. Status of efforts to empower indigenous communities at the global, regional, national and local levels
4. Potentials in improving forest conservation through greater engagement of indigenous peoples in natural resource management

1. Context of Indigenous Communities in Asia-Pacific Forests

Who are indigenous peoples in today's global world?

Indigenous Peoples…

1. self-identify as indigenous or tribal
2. typically aspire to remain distinct culturally, institutionally and geographically, rather than assimilate fully into national society
3. usually live within, or maintain an attachment to, geographically distinct ancestral territories
4. tend to maintain distinct social, economic, and political institutions within their territories
5. recognised by other groups, or by State authorities, as a distinct collectivity

Special cases - due to migration, whether forced or voluntary

References: IFAD; UNPFII; ILO; FAO

Over 370 million Indigenous Peoples…

- represent 75% of world's diverse cultures
- occupy 50%-65% of the world's lands
- cultivate 65% of crop varieties consumed worldwide
- host 80% of world's biodiversity in ancestral domains
- 15% of them are fully dependent on forests to live

Different contexts, different connotations

There are numerous expressions that refer to indigenous peoples or indigenous communities. Some are more acceptable in one culture or country than the other. While some expression could connote certain levels of negativities in a given context, the same wording can be perfectly acceptable in a different culture or country.

"Indigenous people" and "indigenous peoples": "Peoples", with an "s", implies that there are diverse groups of indigenous people in the world, each of which is a "people" with distinct characteristics and legal character. This emphasizes the collective character of indigenous culture and rights.

Source: FAO & AFN. 2009. Where is the Future for Cultures and Forests?

Related expressions

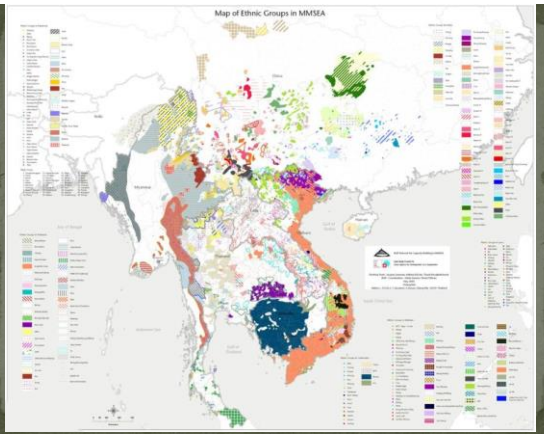
• original inhabitants • tribal communities • traditional groups • aborigines • ethnic minorities • hill tribes • highland peoples • natives • indigenous nationalities • forest dwellers • mountain dwellers • hunter-gatherers • pastoralists • scheduled tribes • first nations •

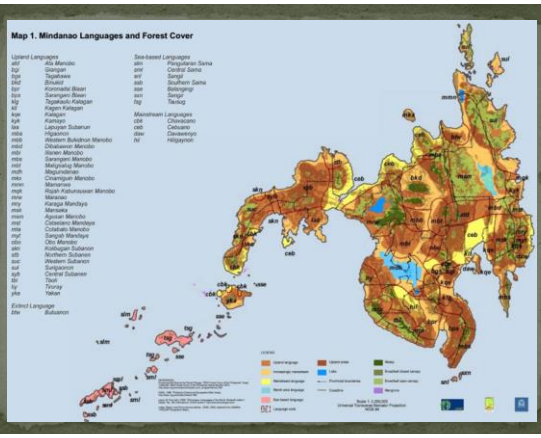
Which ones are acceptable in your country?

Indigenous Peoples in Asia-Pacific

- represent more than 75% of Indigenous Peoples in the world
- many are highly dependent on forests, not only for subsistence and economic purposes, but more so for sustaining cultural, social and political life

In most countries there are other terms used for indigenous peoples within the main languages that indigenous peoples themselves may have adopted, such as: Maori in Aoteroa, New Zealand; Lumad in Mindanao, Philippines; Orang Asal in Malaysia; Adivasi in India. It is most important to draw upon the language of the people themselves for their own sense of self-identity.





Cultural Diversity, Social Marginality and Forest Dependence

Country	Number of ethno-linguistic groups	% living in forestlands[a]	% of National population (%)	Regions where IPs are the 'majority'
Indonesia	737	nd	26%	Papua, Kalimantan, Sumatra, Sulawesi
India	635	nd	8.2%	Gujarat Central states Northeastern states
Australia [b]	>200	25%	2.5%	Northern Territory, New South Wales, Quuensland Torres Straits, Tasmania, South Australia
Lao PDR	240	nd	70%	Across rugged mountains (79% of land area) including northwestern & central eastern region
Philippines	110	66%	13%	Cordillera (91%) Sierra Madre (31%) Mindanao (42%)
Malaysia	95	40%	12%	Sabah (66%) Sarawak (50%)
Thailand	23	nd	14%	Northern Thailand; borders with Burma and Laos
Vietnam	53	nd	13%	Northeast, northwest, central highlands
Taiwan, PRC	38	53%	2%	Eastern half
Asia Pacific	1,200++	nd	6%	200-260 million indigenous peoples of 4.1 billion regional population
World	4,000+	nd	5%	370 million indigenous peoples of 6.8 billion world population

Sources: IWGIA 2007, IWGIA 2009, ADB 2002, UN DESA 2009 and UN ESCAP 2008 in APC, 2009.

Challenges to Governance

Government challenges in relating with Indigenous Peoples

- Diverse cultures; multiple identities
- Diverse livelihoods; majority live on state forest lands
- Dispersed without collective coherence and social presence

Challenges to governance

- Remote, geographically and historically
- Many are not part of the national "system", without social documentation (birth certificate, access to basic services and governance)
- Lack economic connectivity
- Limited recognition of cultural practices
- Subject to hardships of seasonal disasters

2. Forces helping and hindering sustainability of forest cultures

Culture and Awareness

Trends

↑ sense of connectivity of all people, however, naïve, simplistic or trivial

↑ mega shift in social attitude = acceptance & respect in mainstream cultures of 'others' who were once seen as 'worlds apart'

Drivers

External:

✓ International human rights and media driving attitude and action in various ways

✓ Awareness of historically discriminatory attitude and inconsiderate treatment driving shifts to responsible attitudes.

✓ Constitutional changes in some countries

Identity, Movements & Dependence

Trends

↑ drive for self-determination
↑ venues to learn, exchange and act
↑ rediscovery of spiritual relations to forests & complementarities of traditional and contemporary faiths
↑ knowledge management influencing policies and programs

↑ consensus that a universal definition is not necessary
↑ movements calling for national accountability
↑ integration of traditional political systems in state governance

↑ dependence for subsistence and livelihood in many forest areas
↓ forest product value addition, marketing
• cultural and social dependence on forests in some areas, but increasing actions to uphold this in others

Drivers

External:

√ focus on social, economic and cultural aspects of human rights
√ art, ideas and media as support base
x resource depletion and unfavorable access rights
x national suspicion of a culture's allegiance to the state
? conservation movements (positive and negative relations)
? social mechanisms & policies
? institutional frameworks

Internal:

? local food and finance cycles
? occasions for cultural expressions
? socio-economic wellbeing
? disaster risk response
? training and capacity development
? sustainability of capacity and capability
? historical intercultural relations
? migrant expansion or migration

Well-being and Livelihoods

Trends

Compared to mainstream cultures:
↓ subjective well-being
• wealth, health and formal knowledge (↑ in some countries; ↓ in others)
• ↑ traditional forest-related knowledge but ↓ next generation of most IPs
↑ opportunities to interact with other indigenous groups

Livelihood strategies:
↓ forest-based in situ livelihoods (hunting, pastoral, swidden)
↑ non-forest based in situ livelihoods (NTFPs, vegetable & fruit farming)
↑ ex situ livelihoods (off-farm jobs, migration…)
↑ new forms of in situ forest-based livelihoods (PES, tree farming)
↑ all-season roads & transport
↑ market arrangements and facilities
↑ community conservation links with national interests

Drivers

External:

✓ MDGs to SDGs
✓ recognition of traditional knowledge in natural resource management
✓ inclusive models of conservation
✓ new approaches to social forestry
✓ disaster risk reduction measures (ENSO, monsoons, typhoons…)
✓ addressing hydrological and nutrient impact of soil exhaustion and erosion
x global trade and banking laws
x national economic development policy
? national forestry ministries
? other social & resource ministries

Internal:

x demographic issues - health, education
x land use change – crop determination
x increase in downstream impact
? access to market, trade and tourism
? environmental degradation and protection
? demographic changes – migration

Rights & Policy

Trends

✓ Increasing international recognition of IPs
✓ Increased tenure in some countries
✓ Increased and secured access rights and mechanisms for production and marketing
✓ Varying national acceptance across the region

Drivers

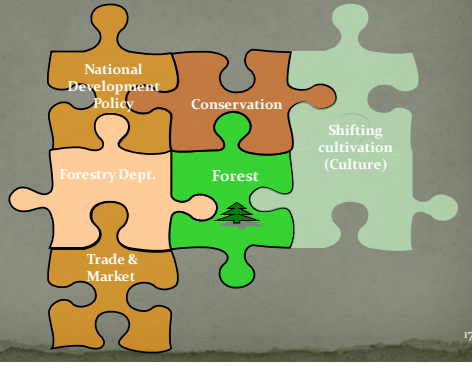
External:

✓ decentralization or autonomy allowing more effective recognition
✓ mechanisms for conflict management and safeguards
✓ international forums open to IPs' voices and agendas
✓ support to fair trade and marketing
x national, international and business pressures for large-scale extraction
x arms & violence threatening daily stability

Internal:

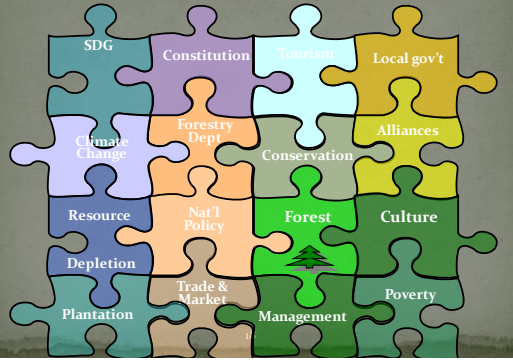
✓ Indigenous Peoples' advocacy and self support
✓ Indigenous peoples' impact on environment and conservation

Drivers of Forest Policies: Before



17

Drivers of Forest Policies: Today



UNPFII summary of environmental issues *

- Land rights in law, but not in reality.
- Implementation Gap: Much talk, little action.
- Costs of unsustainable development
- New technologies force resettlement
- Severe impact on women
- Climate change threatens the very existence of indigenous peoples

Indigenous Peoples & Protected Areas

- "Protected areas have the potential of safeguarding the biodiversity for the benefit of all humanity; however, these have also been associated with human rights violations against indigenous peoples in many parts of the world."
- 'fortress conservation' → rights-based conservation
- Indigenous peoples rights and environmental laws as complementary rather than exclusionary rights

Source: UN Human Rights Council Special Rapporteur Report on rights of indigenous peoples, Jul 2016

3. Status of efforts that empower indigenous communities

Global

- 2000 UN Permanent Forum on Indigenous Issues
- 2002 UNESCO Universal Declaration on Cultural Diversity
- 2007 UN Declaration of Rights of Indigenous Peoples *
- 2010 UNFCCC REDD+ safeguards *
- 2010 UN FAO Policy on Indigenous and Tribal Peoples *
- 2010 UN CBD Mechanisms promoting effective participation of indigenous and local communities
- 2015 UNISDR Sendai Framework
- 2015 UN Sustainable Development Goals
- 2015 UNFCCC Paris Accord
- 2016 IUCN WCC Hawaii Declaration
- Civil society initiatives – IWGIA, Global Indigenous Youth Caucus, Rights and Resources Institute, International Land Coalition…

UN Declaration on Rights of Indigenous Peoples

UN DRIP has 46 articles upholding:

1. Rights to life, integrity and security (Art. 7-10)
2. Spiritual, linguistic, cultural, education rights (Art. 11-16)
3. Labor rights; right to development, subsistence and health; rights of women, children and disabled (Art. 17-24)
4. Rights to lands, territories and resources (Art. 25-30)
5. Intellectual property rights; free, prior and informed consent (FPIC); treaty rights (Art. 31-37)

Adoption Status

144 INITIAL ADOPTORS
- all ASEAN states + Timor-Leste
- 5 South Asian (India, Maldives, Nepal, Pakistan, Sri Lanka)
- China
- Afghanistan, Kazakhstan
- Mexico, Peru

4 INITIALLY AGAINST THEN LATER ADOPTED/SUPPORTED
- Australia (Apr 2009), New Zealand (Apr 2010), Canada (May 2016)
- US, UK (informal support / endorsement)

11 ABSTAINED
- Azerbaijan, Bangladesh, Bhutan, Samoa

34 ABSENT
- Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan
- Papua New Guinea, Fiji, Kiribati, Marshall Islands, Mauritania, Nauru, Palau, Solomon Islands, Tonga, Tuvalu, Vanuatu

National

- 1993 Australia Native Title Act
- 1997 Philippines Indigenous Peoples' Rights Act
- 2006 India Forest Rights Act
- 2007 Nepal ratifies ILO Indigenous and Tribal Peoples Convention 169
- 2007 Australia Parliament issues national apology for 'stolen generations'

Regional

- ASEAN Human Rights Declaration, 2012 *
- ASEAN Inter- Governmental Commission on Human Rights (AICHR)
- Asia-Pacific Forum of National Human Rights Institutions
- Inter-American Commission on Human Rights
- African Commission on Human and Peoples' Rights
- Asian Indigenous Peoples Pact (AIPP)
- Indigenous Peoples' Task Force on ASEAN (IPTF)
- People's SAARC Declaration, 2014
- Coordinator of Indigenous Organisations of the Amazon Basin (COICA)

Statement from ASEAN's Indigenous Peoples *

OUR CALLS TO THE ASEAN MEMBER STATES

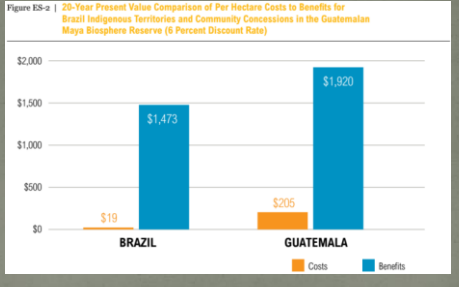
1. **To initiate dialogues at the local, national and regional levels with Indigenous Peoples' representatives to address their legal recognition as distinct peoples with collective rights under international human rights standards and norms.**
2. **To review the national legal framework of each ASEAN member State with a view of incorporating provisions of the UN Declaration on the Rights of Indigenous Peoples especially to the right to lands, territories and resources, to self- governance, and cultural integrity while at the same time repealing/ revising laws and policies that violate these collective rights.**
3. **To immediately implement the requirement for the Free Prior and Informed Consent (FPIC) of indigenous communities especially in relation to the planning and implementation of development projects affecting them.**
4. **To establish effective mechanisms at the local, national and ASEAN level for the full and effective participation of Indigenous Peoples on matters that concerns them, as well as in addressing their urgent concerns relating to their rights and welfare.**
5. **For the members of AICHR to conduct dialogues and meetings with indigenous leaders and representatives at the national and regional levels for the inclusion of the human rights concerns of Indigenous Peoples in the work-plan of the AICHR.**
6. **To designate a focal person for indigenous issues amongst the members of the AICHR towards the formation of a Working Group on indigenous issues to conduct studies on the situation of Indigenous Peoples in ASEAN in relation to the ASEAN Charter and Three Pillars.**

4. Potentials in greater Indigenous Peoples' engagement in natural resource management

Environmental Potential

Source: WRI, 2015.

Economic Potential



Source: WRI, 2015.

Social Potential

"We should not cast indigenous peoples as victims, but rather as critical assets to the diversity of our global humanity.

Today, by adopting the Declaration on the Rights of Indigenous Peoples we are making further progress to improve the situation of indigenous peoples around the world."

H.E. Sheikha Haya Rashed al Khalifa
President of the UN General Assembly
13 September 2007

"The UN Declaration contains no new provisions of human rights. It affirms many rights contained in international human rights treaties but which have been denied to indigenous peoples."

– Les Malezer, Chair, Global Indigenous Peoples Caucus
speech during UN General Assembly, 13 Sep 2007

human rights-based approach

Scenarios

A	Increased marginalisation and loss of cultural communities
B	Cultural outmigration to urban poverty and loss of cultural roots
C	Conflict with economic development and government unable to strategise
D	Growing self-governance but weakened by market forces
E	Supportive policies and institutions for endogenous empowerment

32

Scenarios and Drivers

Scenarios	Harmonized Policies	Available Natural Resources (Forest / Other NR)	Traditional Knowledge & Capacities Harnessed	Management Support Provided	Socio-Economic Inclusion
A	×	✓/×	×	×	×
B	×	×/✓	×	×	×
C	×→✓	✓	→✓	×→?	×→✓
D	✓	✓	✓	→✓	×→?
E	✓	✓	✓	✓	→✓

Closing implementation gaps

Policy
- Reference international agreements, esp. UN Declaration on Indigenous Peoples Rights
- Ensure free, prior and informed CONSENT (FPIC) of Indigenous Peoples
- Install participatory process of policy review and reform
- Influence official development assistance policies and decision-making

Scope of applicability
- Safeguard indigenous peoples' rights in all forest activities
- Ensure free, prior and informed consent in any activity impacting on indigenous peoples
- Include indigenous peoples representatives in multi-stakeholder policy and planning discussions

Operational processes
- Invest more in forest extension services
- Disseminate information in a manner and form understandable by indigenous peoples
- Assess social and environmental impacts prior to approval of a forest project, and consider particular impacts on indigenous peoples
- Do not resettle peoples without their free, prior and informed consent

Monitoring, evaluation and accountability
- Monitor and evaluate project impact on indigenous peoples during and after project implementation
- Establish mechanisms to deal with outstanding problems
- Install accountability measures and litigation for violations of policies and guidelines

☺Jian Kenun
☺Sekian Terima
☺Poningkuanangan
☺Pousikou
☺Kopiunsapatan
☺Selamat Maju Jaya
☺Kotohuadan
☺Daghang Salamat
☺Thank you!

亚太森林组织昆明培训中心
APFNet – Kunming Training Center

Rural Collective Forest Tenure Reform in China

亚太森林组织昆明培训中心
APFNet – Kunming Training Center

Basic information:

- Definition of Forest Resources
- Administrative system of Forestry Sectors
- Land Tenure and Ownership

亚太森林组织昆明培训中心
APFNet – Kunming Training Center

1. Definition of Forest Resources

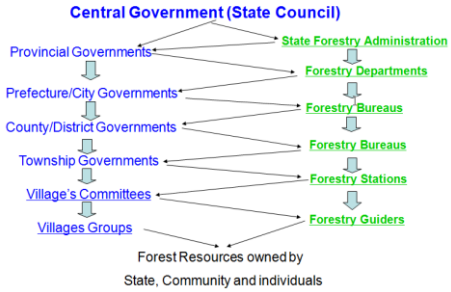
According to National Forest Law (1998):

(1) Forest resources consist of *timber, bamboo, forestry land and other wild plants and animals* living in the forests, and,

(2) Forest resources belong to *State* except those parts belonging to *Collectives Entities (communities /collectives).*

亚太森林组织昆明培训中心
APFNet – Kunming Training Center

2 . Administrative system of Forestry Sectors



亚太森林组织昆明培训中心
APFNet – Kunming Training Center

3. Land Tenure and Ownership

- In general, both arable and forestland was defined as State owned and Collective or Community owned officially after 1949 in China.
- The forests tenure in China involves ownerships and use rights of forestland as well as trees or forest resources above the land before reform.

亚太森林组织昆明培训中心
APFNet – Kunming Training Center

Total land area in China: 960 million km2

- The hilly areas account for 69% of the total land area and are home to 56% of the total population in China.
- Large portions of hilly areas have been classified as "forestland" or land areas for forestry development, even though many hilly areas are not forested or barren.

Forest land area:

- 310.46 million hectares (32.4% of total land area);
- National Forests coverage 21.63% (2015).

State owned forestland (41% of total forestland)

- Commercial/Production forests,
- Nature Reserves, National Park, and Protection Forests for ecological benefits(water conservation, shelter belt etc.)
- Forests Contracted to individuals.

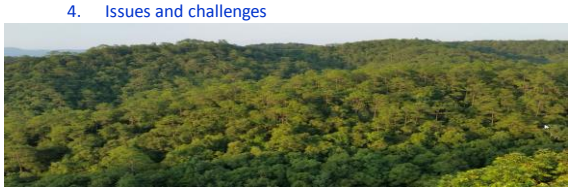
Collective/community owned forestland (59% of total)

- Collective forests (including holy hills, sacred forests),
- Contracted Forests for self use and Responsibility Forests before reform, or forests allocated to individuals (Private/Individuals' Forests) after reform .

亚太森林组织昆明培训中心
APFNet – Kunming Training Center

Overview of Historical changes and New Reform of Collective Forest Tenure in China

1. The main historical changes of forest tenure systems
2. The reform of collective forest tenure system
3. Achievements of reform
4. Issues and challenges



亚太森林组织昆明培训中心
APFNet – Kunming Training Center

1. The main historical changes on forest tenure system

- **Privately owed system**

  Before the establishment of New People's Republic of China in 1949, the privately owed system was the dominated system both for land resources and forests resource.

- **Four phases**

  After 1949, the changes of land tenure and forest ownership could be divided into four phases since 1950's up to now.

亚太森林组织昆明培训中心
APFNet – Kunming Training Center

- **1st rural land reform :**

  Both land and Forests allocated to individual households in the early 1950s until 1958.

- **Collective period :**

  Highly centralized system from 1958 to early 1980s.

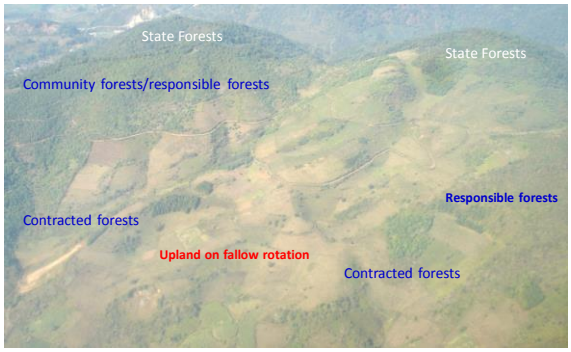
- **"liangshandaohu"**(*contracted and responsible forests*)

  Started in 1982 to 2008 (next to land contracted responsibility system in 1979/2nd "rural land reform").

- **The reform of rural collective forest tenure system**

  Officially started from 2008 to 2014 nationwide.

亚太森林组织昆明培训中心
APFNet – Kunming Training Center



亚太森林组织昆明培训中心
APFNet – Kunming Training Center

亚太森林组织昆明培训中心
APFNet – Kunming Training Center

Issues before reform of rural collective forests tenure

- Despite of forest tenure system has been changed several times since the early 1950's, but the ownership and rights to use and benefit from collective forests was still not clarified by the ambiguity tenure systems among individual farmer households.
- The ambiguity of forest tenure system has been a main problem for community forest management and interfered with sustainable development of community forestry.
- As a result, either the village collectives or individuals couldn't be motivated to manage collective forests efficiently.

亚太森林组织昆明培训中心
APFNet – Kunming Training Center

3. New reform of rural collective forest tenure

(Started in 2008 until 2014)

3.1 Initiatives

3.2 Objectives

3.3 Targets

3.4 Guide principles

3.6 Operating procedures

亚太森林组织昆明培训中心
APFNet – Kunming Training Center

3.1 Initiatives

- The forest reform of "*liangshandaohu*"(contracted and responsible forests)in early 1980s improved collective forest management than collective period, but the collective forest tenure was still intangible or abstract to local people.
- Individual households lack a real ownership on rights to contracted and responsible forests, and also lack of necessary laws to protect benefits from forest resources under their management.

亚太森林组织昆明培训中心
APFNet – Kunming Training Center

In order to promote effective development of CF:

- Central Government made the decision on Accelerating Forestry Development on July 2003. An important reform on collective forest tenure system then started experiments as pilots in Fujiang, Lianoning and Zhejiang provinces in 2003 and followed by Yunnan, Guizhou and Sichuan provinces in 2006.
- A nationwide program of reform for rural collective forest tenure system launched when Central Government issued the official document on "fully accelerating the reform for rural collective forests tenure system" in July 2008.

亚太森林组织昆明培训中心
APFNet – Kunming Training Center

3.2 Objectives

- The ongoing RCFTS aims to increase the confidence, initiative, and ability of local communities to participate in the sustainable community forestry management than before.
- improving the previous forest management mechanism by clarifying and transferring forestland tenure and ownership of forests from collectives to individual households with the fixed duration of seventy years by issued tenure certificate based on the contract of forest allocation.

亚太森林组织昆明培训中心
APFNet – Kunming Training Center

3.3 Targets

- The reform targets all collective forests and waste hills/fallow suitable for forestation.
- The collective forests recognized as nature reserves, and forests under the national forest protection program are excluded from the reform.
- An emphasis is focused on the equal allocation of forestland among individual households based on the number of family member.

3.4 Tasks

The reform ensures individual farmer's "four rights" as following:

- the right to information regarding forest ownership and use arrangements;
- the right to independently manage forest resources;
- the right to transfer ownership of forest resources and use rights of forestland;
- the right to benefit from ownership or use right of forest resources.

亚太森林组织昆明培训中心
APFNet – Kunming Training Center

3.5 Guide principles of reform

Five principles :

1. ensure the use of clear and transparent processes. the reform details must to be discussed by all villagers and approved by at least two-thirds of eligible villagers.
2. Extensive community participation in all stages, especially in the decision-making process of forest tenure allocation;
3. Respect to customary tenure arrangements, as well as consistence with previous policy provisions on forest tenure;
4. Ensuring the transparent processes for tenure reform in order to let local people understand the rights and responsibilities associated with forest ownership and management.
5. More attention to be paid to timing and careful management of the tenure transfer process.

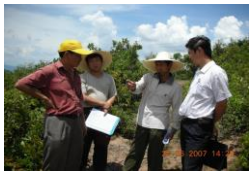
亚太森林组织昆明培训中心
APFNet – Kunming Training Center

3.6 Procedures of Forest Allocation

1. Field inventory /investigation of forestland

2. Boundary mapping and delimiting

亚太森林组织昆明培训中心
APFNet – Kunming Training Center



3. Field re-checking and confirmation with individual farmer

4. Intermediation of forestland disputes between households

亚太森林组织昆明培训中心
APFNet – Kunming Training Center

5. Creating documental files and preparing for issuing forest tenure certificates

6. Open ceremony for delivering official certificates

亚太森林组织昆明培训中心
APFNet – Kunming Training Center

7. Presenting forest tenure certificate to farmer households.

亚太森林组织昆明培训中心
APFNet – Kunming Training Center

亚太森林组织昆明培训中心
APFNet – Kunming Training Center

Expected results

With the issued tenure certificate officially:

- Individual households have the legal guarantee for their benefits after reform,
- Allow to transfer the forests tenure to others freely by the ways of sub-contract, rent/sale, auction, mortgage and joint venture within the contracted period,
- The forests contract will be renewed once the term of seventy years was finished.

亚太森林组织昆明培训中心
APFNet – Kunming Training Center

4. Achievements of reform

In general, the reform has been overall completed during the period of 2008 to 2014, it has achieved the goals with positive impacts on collective forest management (CF).

- the reform was popularly accepted by individual households, because of farmers not only received the actual use right of forestland for seventy years, but also gain the ownership of forest resources on the contracted forestland.
- Farmers can apply for mortgage loan of Forest Tenure by using use right of forest land, forests ownership (or use right) as collateral to financial institutions loans.

亚太森林组织昆明培训中心
APFNet – Kunming Training Center

Main achievements:

- The country has the area with clear tenure of 27.02 million hectares, accounting for 99.05 percent of the total collective forestlands.
- The area with forest tenure licenses issued is 26.04 million mu, accounting for 96.37% of the forestlands area with clear tenure,
- more than 8,970 million individual farmer households have received the forest tenure certificates.

亚太森林组织昆明培训中心
APFNet – Kunming Training Center

- 1,610 forest tenure service centers have been established at county level, and 19 provinces have formulated a management regulation for the operation of forest tenure transfer.
- Total of 140,000 Forestry Cooperatives have established at community level, the percentage of farmers involving forestation in 2014 has increased 34.67 % over 2009.
- Farmers have gained loan as productive capital for forestry based livelihoods development than before, and the loan by using forest tenure certificates as mortgage is over RMB 100 billion yuan in 2015.

6. Issues for discussion

- **Fairness of Forestland allocation**

  The distribution of collective forestland usually through the approach of random lottery for the equal size of land area while the volume and volume of forests, trees quality and accessibility of location are not considered during the allocation, it is difficult to allocate forestland fairly to individual households due to the quality differences of forestland and value difference of forests or, which results some farmers obtained forestland better than others.

- **Lower compensation for ecological protection Forests**

  Those villages where collective forests were recognized as forests under the national forest protection programs, which couldn't get the benefit as much as others despite of government paid certain amount of incentive as compensated for the ecological functions. The current yearly compensations of RMB 300 yuan per hectare is still quite lower. (RMB75 yuan /per hectare only in 2010)

亚太森林组织昆明培训中心
APFNet – Kunming Training Center

- **Customary forest management should be respected during the reform**

  Forests are important and irreplaceable source for traditional cultural and religion for indigenous and ethnic communities, such as the holy hills, sacred forests. Traditionally, they are always owned by the community and considered a public resource of community. The emphasis on individual ownership of those forests may, consequently, undermine traditional and customary forest management .

- **Un clear definition of traditional fallow and swidden fields**

  For the slope fallow or swidden fields used to be used for shifting cultivation traditionally in minority ethnic group region, there is no clear definition of the land use types between forestland and farming land for a long time. As a result, many slope swidden fields were recognized as forestland by the reform, which is not allowed to reclaim those land for farming activity again except forestation.

亚太森林组织昆明培训中心
APFNet – Kunming Training Center

- **Assessment of Forest assets during forest tenure transfer**

  The current reform allows individual households to sell or transfer both forestland and forests tenure to the outsiders like commercial companies and private sectors. A challenge is how to evaluate the real economic value of forests and forestland.

- **Large-scale forestland possessed by company and enterprise causes farmer losing forests & land.**

  In order to make money to improve their living condition, some farmers have sold their forests immediately after forests was allocated. One of issues is more and more villages and farmer households will lose their forests and forestland with the increased transferring of forest tenure to outsiders, especially for poor and venerable groups in rural areas.

- **Others**

  Still need to study, like strict control quota of timber logging etc.

亚太森林组织昆明培训中心
APFNet – Kunming Training Center

What have happened after reform in rural community?

亚太森林组织昆明培训中心
APFNet – Kunming Training Center

Case 1: **Individuals investment**

Mr. Long Youlu, a farmer in ethnic village, he did not invest anything on his waste hills which contracted from collective in 1999 before forest reform in April 2008.

He invested RMB180, 000 yuan for tree plantation on his forestland after reform in 2009, he said that he will make the waste hills become forests and leave it to his young generation as a valuable property.

Year 2009

Year 2014

亚太森林组织昆明培训中心
APFNet – Kunming Training Center

Case 2: Mortgage loan

Mr. Hang Yongqiang, a villager in Yongping County, he has received amount of RMB 500,000 yuan as mortgage loan from bank by using his forest tenure certificate as collateral in 2008.

He was using the loan for the plantation development of walnut intercropping with Tea on his contracted forestland, he said that it was impossible to apply for bank loan without forest tenure certificate as mortgage before the reform.

Case 3: Rosin collection

Because lack of clear right on forest management, there was no income from NTFPs collection in collective forests before the reform in Nanluo village.

Presently, each household earned at least RMB 2,000 yuan by collecting rosin from Pine trees after trees allocated to individuals in 2008, and most farmers is now paying more attention on forest management than before.

亚太森林组织昆明培训中心
APFNet – Kunming Training Center

Case 4: Wild Mushroom and honey

Intensive Forest management has improved with clear ownership, rights and responsibility after reform.

The output of wild mushroom, honey from allocated forests to individuals in Nanhua County has increased up five times compare with 2007.

亚太森林组织昆明培训中心
APFNet – Kunming Training Center

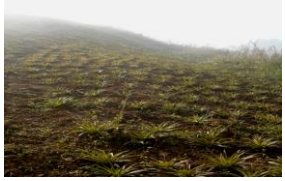
Artificial reforestation

亚太森林组织昆明培训中心
APFNet – Kunming Training Center

Artificial reforestation

亚太森林组织昆明培训中心
APFNet – Kunming Training Center

Land use changes after the reform



亚太森林组织昆明培训中心
APFNet – Kunming Training Center

亚太森林组织昆明培训中心
APFNet – Kunming Training Center

亚太森林组织昆明培训中心
APFNet – Kunming Training Center

Sustainable Utilization and Development of Bamboo Resources in China

Prof. Shen Lixin

APFNet Kunming Training Center (APFNet-KTC)
Southwest Forestry University, China

Sri-Lanka, November 2016

亚太森林组织昆明培训中心
APFNet – Kunming Training Center

亚太森林组织昆明培训中心
APFNet – Kunming Training Center

Geographical Distribution of bamboo Resources in the world

Geographical Distribution: Tropics and subtropics of Asia, Africa, America and Australia.

Core area in the world : Asia and Pacific Region

亚太森林组织昆明培训中心
APFNet – Kunming Training Center

Species distribution of the bamboo in the world

Geographical area	Sub-tribes	Genera	Species
Asia	6	45	ca.600
America	4	21	400
Africa	2	4	15
Madagascar	2	6	20
Australia	2	2	5
Pacific Islands	2	2	4
Total	9	ca.70	ca.1100

亚太森林组织昆明培训中心
APFNet – Kunming Training Center

Richness and Diversity of Bamboo Resources

----- 70-genera, ca.1100 species in the World

Geographical area	Sub-tribes	Genera	Species
The world	9	70	ca.1100
Asia	6	45	ca.600
China	5	40	ca.500
Yunnan	4	30	ca.250

亚太森林组织昆明培训中心
APFNet – Kunming Training Center

Original Place of Bamboo in the World

Homeland of Bamboo: South-Central China, Southeast Asia.

Discovery of Bamboo Fossil

Location:
Longling County of Yunnan Province in Southwest China.

First case of bamboo fossil in the world discovered in 2003.

Bamboo diversity of based on morphology and habit


Arbor


Shrub


Vine-climbing

Herbaceous

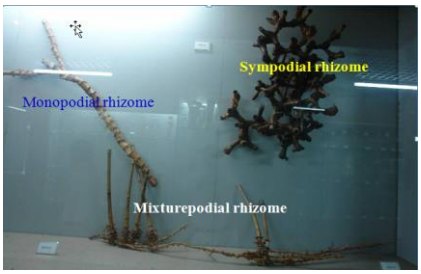

Epiphytic

Bamboos based on Rhizome type


单轴散生竹林
Monopodium rhizome bamboo


合轴丛生竹林
Sympodial rhizome bamboo


复轴混生竹林
Mixturepodial rhizome bamboo



Bamboos based on Rhizome type

Monopodium rhizome bamboo

Sympodial rhizome bamboo

Bamboo classified based on origin

天然竹林
Natural bamboo forests

人工竹林
Bamboo plantation

Other special bamboo types

Almost solid bamboo species

Solid bamboo species
(as hard as iron)

Ornamental Bamboos

Ornamental Bamboos

Bamboos Seeds

Largest Bamboo in the World

Dendrocalamus sinicus (H_{max}=30m D_{max}=30cm)

1. China's Bamboo Industry

Despite of long history to use bamboo resources from ancient time, the industrialization of China's bamboo making begins very late.

- Before 1980, China's bamboo industry was mainly based on traditional manual processing, besides using it as raw material for papermaking. Bamboo farmers sold raw bamboo as their main mode of operation which was mostly used in civil architecture、knitted commodities、handicraft articles and farm implements.
- Since 1985, China has begun to introduce bamboo-processing machines in mainland from Taiwan.
- Up to 1990s, with the development of bamboo processing machines, most of which are made by the companies in mainland, bamboo industrial processing has been extensively used in all provinces where bamboo is produced.

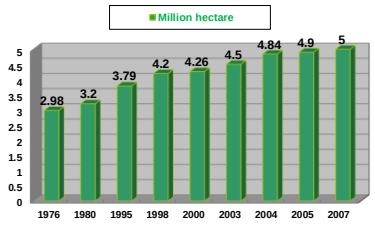
1.1 Bamboo Plantation Increases Rapidly

Since 1950s, the Chinese Government has attached great importance to the development of bamboo plantations.

- Till 1980, the total area of bamboo plantations of the country has reached 3.20 million ha.
- In the next 20 years, the national annual increase of bamboo plantations is 50,000 ha in average.
- Up to year 2007, the total plantation area reached 5.0 million ha.

Increase of China's Bamboo Plantation Area

中国竹林面积增长



Traditional Utilization

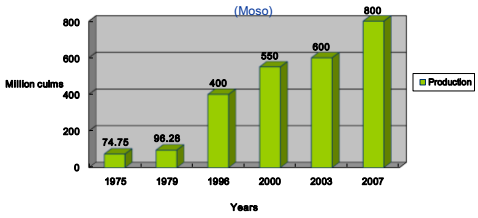
- Bamboo shoots
- Construction
- Art products
- Furniture
- Horticulture and ornamental
- Paper pulp

Modern Utilization (Industrial production)

- Plywood \Veneer Board
- Charcoal
- Bamboo juice (Health care products)
- Bamboo food
- Bamboo fiber
- Bamboo floorboard

1.2 Moso Bamboo Raw Material Production Increases Rapidly

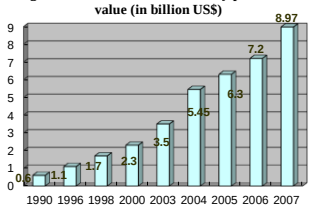
Increase of China's Bamboo Raw Material production in Culms (Moso)



1.3 Bamboo Industry Become One of The Important Rural Industries

The yearly output of China's Bamboo Industry Increases Rapidly, from 0.6 billion USD in 1990 to 8.97 billion USD in 2007.

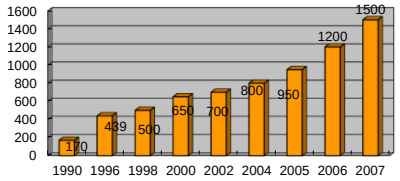
Figure 3: China's bamboo industry production value (in billion US$)



1.4 The Export of Bamboo Products

Bamboo Products (such as bamboo floor, decoration board, laminated bamboo furniture, bamboo charcoal products, bamboo fiber products, bamboo handicrafts, and bamboo shoot) are exported mainly to Japan, North America and Europe; and the export value increased from 0.17 billion USD in 1990 to 1.5 billion USD in 2007.

Figure 4: China's bamboo product export (in million US$)



1.5 Bamboo Shoot Industry

Bamboo shoot is the other important product, and mechanization and industrialization of bamboo shoot processing started from 1990. The annual output of fresh bamboo shoot is about 5 million ton, of which 40% are treated in industrial processing.

- 60% of bamboo shoot produced were sold on domestic markets, others were exported besides exporting to Japan、Korea、China's Hong Kong and Taiwan,
- The bamboo shoot has been exported to the market in American and Europe since 2000 .



2. Research and Development of Technologies and Products

There are over 300 bamboo experts in China, conducting researches in different fields, they have achieved a series of advanced technologies.

2.1 Bamboo Taxonomy and Flora

There are 500 species of bamboo which belong to 40 genera in China

2.2 Fundamental studies of bamboo's ecology, physiology and anatomy

亚太森林组织昆明培训中心
APFNet – Kunming Training Center

2.3 Technologies of High-Yielding Bamboo Propagation and Plantation, as well as Pest and Diseases Control.

亚太森林组织昆明培训中心
APFNet – Kunming Training Center

2.5 Bamboo Processing Technologies

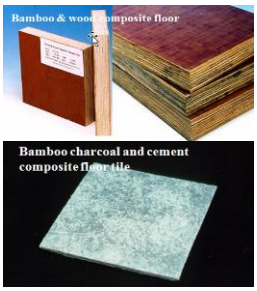
China has developed a series of bamboo panel products, up to date, the annual bamboo panel productivity of China is 40-50 million m2

亚太森林组织昆明培训中心
APFNet – Kunming Training Center

2.6 Bamboo Shoot Processing

亚太森林组织昆明培训中心
APFNet – Kunming Training Center

2.7 Bamboo Composite Materials



亚太森林组织昆明培训中心
APFNet – Kunming Training Center

2.8 Laminated Bamboo Furniture

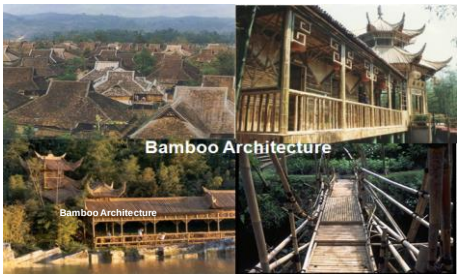
2.9 Bamboo Leave Extracts and Their Utilization

The main ingredient used as medicine is flavones.

2.10 Bamboo Charcoal and Coal Tar Studies

2.11 Bamboo Fibers

2.12 Architecture and Horticulture



Part 3
The Supply Chain of Bamboo Industry and Fully Utilization of Bamboo Materials

1. Challenges of The Bamboo Industry in China

1.1. The price of raw bamboo materials increases

Take Anji County as a example, the raw materials price of Moso Bamboo has reached RMB 1,000 in 2010 from RMB 160 in 1985.

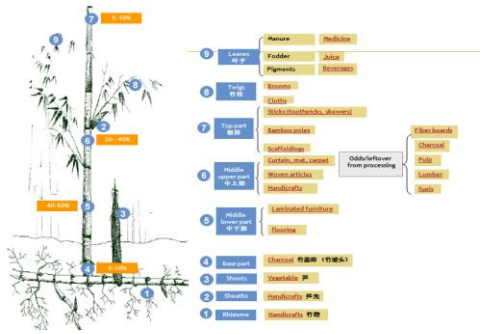
1.2 Raw materials of bamboo becomes short in supply

For example, 80% of raw material are imported in Anji County from other areas in China.

1.3 Single product process brings low utilization rate of raw material and wasted material

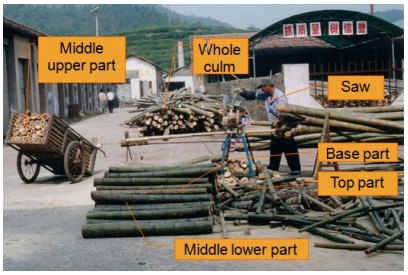
Great challenges is posed on the efficient utilization of raw materials, if all the materials are used for only one product, for example, bamboo flooring, the utilization rate of the culms is only 25-30%, while the absolute utilization rate is less than 12%.

2. Integrated Utilization of Bamboo



2.1 Primary Processing Factory

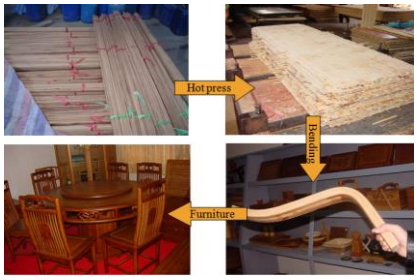
- Key of the supply-chain of the Bamboo Industry
- A Revolutionary of Bamboo Processing



2.2 Utilization of Base Part

2.3 Utilization of Middle Lower Part (1)

2.3 Utilization of Middle Lower Part (2)



亚太森林组织昆明培训中心
APFNet – Kunming Training Center

2.4 Utilization of Middle Upper Part (1)

亚太森林组织昆明培训中心
APFNet – Kunming Training Center

2.4 Utilization of Middle Upper Part (2)

亚太森林组织昆明培训中心
APFNet – Kunming Training Center

2.4 Utilization of Middle Upper Part (3)

亚太森林组织昆明培训中心
APFNet – Kunming Training Center

2.4 Utilization of Middle Upper Part (4)

亚太森林组织昆明培训中心
APFNet – Kunming Training Center

2.5 Utilization of Upper Part

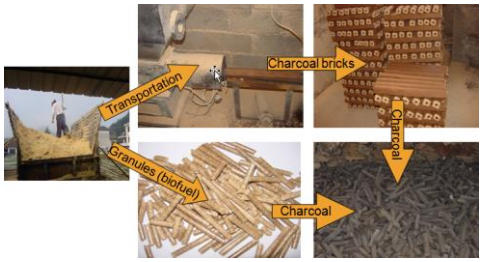
2.6 Utilization of Bamboo Culm and Wasted Materials

亚太森林组织昆明培训中心
APFNet – Kunming Training Center

2.7 Utilization of Bamboo Powder (1)

亚太森林组织昆明培训中心
APFNet – Kunming Training Center

2.7 Utilization of Bamboo Powder (2)



亚太森林组织昆明培训中心
APFNet – Kunming Training Center

2.8 Utilization of Bamboo Particles

亚太森林组织昆明培训中心
APFNet – Kunming Training Center

2.9 Utilization of Other Parts Besides the Bamboo Culm
---- Full Utilization of the Bamboo Biomass

亚太森林组织昆明培训中心
APFNet – Kunming Training Center

a) Extracts of Bamboo Leaves ---flavones products

b) Bamboo Roots and Rhizomes Utilization

亚太森林组织昆明培训中心
APFNet – Kunming Training Center

c) Bamboo shoot utilization

亚太森林组织昆明培训中心
APFNet – Kunming Training Center

d) Bamboo sheath utilization

亚太森林组织昆明培训中心
APFNet – Kunming Training Center

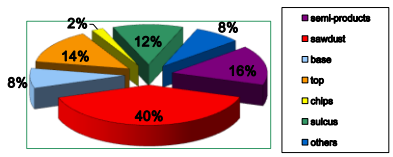
e. Wasted Parts of Bamboo Culms

亚太森林组织昆明培训中心
APFNet – Kunming Training Center

2.10.A Case Study of A Primary Processing Factory

- Total raw material per day: **25 tons**
- Processed into:

Utilization rate of primary processing



亚太森林组织昆明培训中心
APFNet – Kunming Training Center

(1). Utilization Rate for Different Parts

- Semi products （16%）: totally 4 tons (strips etc)
- Sawdust（40%）: 10 tons
- Base（8%）: 1.8-2.0 tons
- Top（12-16%）: 3-4 tons
- Wasted chips（2%）: 0.5 ton
- Sulcus （12%): 3 tons (groove under a)
- Others: （ 8%）: 2 tons (evaporation and dust)

(2). Costs (per day)

- Raw material: 700 RMB/ton * 25tons=17500 RMB
- Labor: 1400
- Insurance: 30 RMB/person/month, 200 RMB/day
- Fuel: 2.5 tons per day
- Depreciation: 66 RMB/day
- Tax: 425 RMB/day

(3). Profit (per day)

- **RMB 2195 yuan from raw materials processing**

  The value increase for each tons of raw material is 171.4 RMB after pre-processing, the , the increase rate is 24.5%.

- **Other benefits**

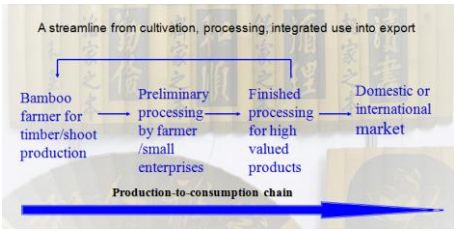
  Bamboo farmer's income from branches, leaves, top part and sheaths is about 2,500 RMB/ha every two years

  The income from shoots (winter, spring and rhizome) is about 19,300 RMB/ha per two years.

亚太森林组织昆明培训中心
APFNet – Kunming Training Center

(4) Production-to-consumption chain

A streamline from cultivation, processing, integrated use into export.



亚太森林组织昆明培训中心
APFNet – Kunming Training Center

4. Some Experiences From China

- Local governments actively involved in making strategic plans for bamboo cluster development, and try to make it as an important part of local economy and sectors development.
- Production development strategies, including in short term, mid-term and long term; and proper government supporting policies, including land policy, forest contract responsibility management system, tax and investment policy etc.
- The bamboo development project should be including protection and rehabilitation of natural bamboo stands, improvement of bamboo species structure and development of bamboo nursery and plantation.

亚太森林组织昆明培训中心
APFNet – Kunming Training Center

3. Some Experiences From China

- When proposing bamboo development strategies, marketing network construction, local customs, bamboo resources and market demand should be taken into consideration.
- Study on Bamboo taxonomy and field inventory of bamboo resources, as well as scientific and technical research and development, should be conducted before identifying the utilization strategy .
- The land tenure or ownership and using rights of bamboo forests should be clarified at household level; otherwise, it will become the biggest hint for the further development of the bamboo sector and the protection of bamboo resources.

亚太森林组织昆明培训中心
APFNet – Kunming Training Center

Summary

Despite of long history on bamboo cultivation and utilization, China's bamboo industrial development started with traditional, small scale and easy products at the beginning, and large scale and industrial processed production thus developed when technical supports from scientific research institutions, enterprises and experts are available.

亚太森林组织昆明培训中心
APFNet – Kunming Training Center

In search for practical conservation solutions for Protected Areas

The Nishorgo Experiment

Presented by:
Md Sajjad Hossain Bhuiyan
Senior Assistant Secretary
Ministry of Environment and Forests
Government of the Peoples Republic of Bangladesh

Outline of the presentation

- Introduction
- Project objectives
- Co-Management Organizations (CMO)
- Challenges to Forest Protected Area Co- management
- Legal and administrative arrangements for Protected Area co-management
- Lessons learnt
- Sustainability of the Project
- The Way forward
- Conclusion

Protected Areas of Bangladesh

Defining PA:
In absence of a flawless definition of protected area, it is a general conviction that protected areas are designated and established in accordance with a formal legal system.

Types of Protected Areas:
(Declared under Forest Act, 1927; Bangladesh Wild Life (Preservation) Order, 1973 ; Bangladesh Wild Life (Preservation) Act, 2012)

National Parks: 17
Eco-parks : 8
Botanical Gardens: 2
Wildlife Sanctuary: 21
Safari Park: 2
Special Biodiversity Conservation Area: 1

Protected Areas of Bangladesh (cont..)

Total PAs : 51 (265,981 ha)

PAs under co-management : 18 (1.8%of the total land area of Bangladesh)

PA strategies of the government

- Establishing additional protected areas
- Increased community involvement in resource management

The Nishorgo Experiment

Nishorgo is a Bangla word meaning "**serene nature**" or "**idyllic nature**"

Nishorgo Support Project (NSP) : a five years pilot project

Conceived in 2002 and launched in 2003

PAs under NSP period :

Lawachara National Park, Satchari National Park, Rema-Kalenga Wildlife Sanctuary, Chunati Wildlife Sanctuary and Teknaf Game Reserve

Objectives:

Improving biodiversity conservation through development of a collaborative management and governance framework and supporting livelihood activities of forest dependent community.

The Nishorgo Experiment (cont..)

Total fund: USD 9.7 million
Construction and habitat restoration of USD 2.5 million and "soft" components for creation of economic incentives, capacity building and training, and policy and communications of USD 7.2 million

Fnanced by: the Government of Bangladesh and USAID

Implementtation: implemented by the Bangladesh Forest Department

Technical support :
IRG and Bangladeshi partners Community Development Centre Chittagong (CODEC), Rangpur Dinajpur Rural Service (RDRS), Nature Conservation Movement (NACOM), and the World Conservation Union (IUCN)

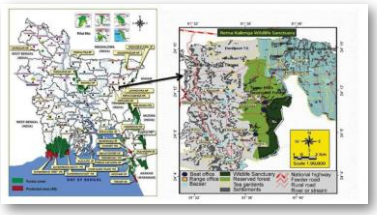
Livelihood scenario in PAs

Occupations: (outside the PAs)

Agriculture (mainly paddy cultivation)
Extraction of non-timber forest products (NTFPs)
illegal logging
Daily labor
Small business
Government and nongovernment services
Overseas employment

Occupations: (inside the PAs)
Daily labor
NTFPs extractors (mainly firewood)

Rema-Kalenga wildlife sanctuary (RKWS)



Situated in Habigonj district : 130 km east-northeast of the capital Dhaka

Boundary:

Tripura State of India to the south and east, Kalenga Forest Range to the north and west, and tea estates to the southwest

Bio-ecologically it falls under the Sylhet Hills zones as part of the Tarap Hill Reserve Forest. Encompasses several hills of various elevations and low-lying valleys

Designated as wildlife sanctuary :1982

Rema-Kalenga wildlife sanctuary (RKWS) cont..

People and Livelihood

Total population : in and around RKWS
24,000 (90% of whom are poor or ultra poor)

Ethnic communities :
Tripura, Santal,Urang, Kharia, Kurmi, Goala, Munda, and Bunargi

Occupation:
Primary: Agriculture Secondary: NTFPs extractions

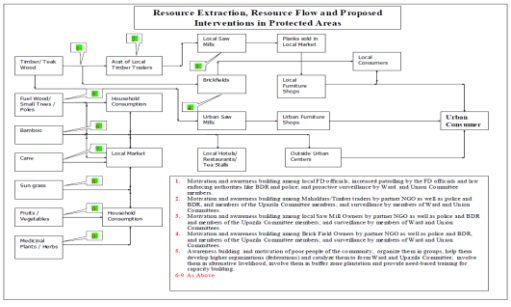
Rema-Kalenga wildlife sanctuary (RKWS) cont..

Houses a total of 606 plant species and 167 wildlife species
Threatened species: Malayan giant squirrel, Flying squirrel, Hoolock Gibbon,

Threats to RKWS

Reduced forest regeneration
Habitat fragmentation
Unsustainable resource explotation

DEFORESTATION AND POVERTY: A LINK LITTLE UNDERSTOOD DYNAMICS OF RESOURCE EXTRACTION: WHO TAKES WHAT AND HOW



NSP Project objectives

Main objectives

To enhance organizational, financial and functional capacities of the Co-Management Organizations CMOs in the NSP sites so that the PAs and the surrounding landscapes are co-managed ensuring biodiversity conservation and livelihoods

Project objectives cont..

Co-management planning approach under NSP

- Protection and conservation of all remaining natural forests and constituent biodiversity in the PAs
- Conversion of monocultures of exotic tree species into natural and manmade regeneration of indigenous species by gradually opening the canopy
- Development of co-management agreements (by linking PA conservation with benefit sharing arrangements)
- Reducing ongoing habitat damage by helping them achieve sustainable livelihoods through participatory forest use and AIG
- Support to better administration and management of the PAs
  - Capacity development of FD
  - Facility/infrastructure development
  - Policy support

Co-Management Organizations (CMO)

Co-Management Committee (CMC)

- ACF/Range Officer-Convener
- 3 Representatives from Forest Villages: Village Headman/Minister
- 2 Representatives from NGO-Organized Federations/Groups
- 2 Representatives from the Local Government
- 2 Representatives from NGOs
- 1 Representative from CBOs
- 3 Representatives from Local Elite
- 2 Representatives from Resource Owning Group
- 1 Representatives from Law-Enforcing Authorities
- 2 Representatives from the Government Department

Half of the members of the committee had to retire voluntarily every year
New members were elected in the vacant posts
No member was allowed to be elected in two consecutive years

Role and function of CMC

Primarily responsible for overall management of the protected area

Segmented the big landscape into multiple sectors and formed an informal action committee in each sector to undertake actions aimed at protecting the forest and conserving bio-diversity.

The Committee prepared an action plan for protecting the forest specifying roles and responsibilities of specific people selected for the purpose

Role and function of CMC cont..

Both in Core and Buffer areas

- Undertake appropriate programmes to protect and conserve Biodiversity.
- Take appropriate actions to protect endangered animal and plant species.
- Undertake promotional activities and provide support to local nurseries to facilitate expansion of medicinal plants, timber and fruit trees.
- Identify local resources and undertake AIG support to local forest dependent communities
- Make tree plantation movement popular and arrange tree fare.
- Take actions against cutting hills and collecting sand.
- Take appropriate actions to control vehicles polluting environment
- Take actions against burning of timber/wood in brickfields and establishment of illegal Saw mills
- Proper management of earnings from the PAs and funds received from various sources
- To make people aware of programmes/projects focused on afforestation and Environment development and undertake coordination among them.
- Identify sites for social forestry and provide guidelines for selection of beneficiaries.
- Undertake programmes to promote eco-tourism
- Undertake any other responsibilities given from time to time by concerned authorities

Conservation Council

- Divisional Forest Officers (DFO) /Assistant Conservator of Forest (ACF)
- 9 Representatives from NGO Organized Federations/Groups
- 12 Representatives from the Local Government
- 7 Representatives from Local Elite:
  Teachers, Doctors, Social Activists, Journalist, Religious Leaders, others.
- 5 Representatives from Resource Owning Group: Sawmill Owners, Brickfield Owners, Timber traders, Furniture Shop Owners, Large Land owners, Representatives from Bazaar Committees, Representative from Tea gardens
- 2 Representatives from the Forest Department: Range Officer/Beat Officer
- 2 Representatives from Law Enforcing Authorities:
  BGB (Border Guard Bangladesh), Police, others
- 5 representatives from NGOs/CBOs(Community-Based Organization)
- 3 Representatives from Ethnic Communities
- Representatives from Other Government Departments:
  Dept of Agricultural Extension (DAE), Ministry of Health and Family Planning (MOHFP), Department of Fisheries, Department of Land.

Role and function of Conservation Council

- Review in the half yearly meeting the progress made on the programme of action prepared by the Co-management Committee, give feedback and necessary advice, if required.
- Assist meaningfully, both individually and collectively, in implementation of the six-month CMC programme plan.
- Assist the Co-Management Committee in its efforts towards building resistance against forces involved in destruction of forest resources and biodiversity.
- Assist the Co-Management Committee to take appropriate actions to prevent illegal encroachment of forest land.
- Identify people, who are involved in regular extraction of forest resources, motivate them and generate public opinion against such action
- Assist CMC to Identify local resources, and promote alternative livelihood options
- Assist the Co-Management Committee in resolving local conflicts, if needed, in advocacy campaign and networking with other agencies and groups.

Inter relation between CMC and Conservation Council

Challenges to Forest Protected Area Co-management

- Co-Management Organizations (CMO) dominated by the elite group
- Lack of local Forest Department (FD) leadership in facilitating empowerment
- Roles and effectiveness of the facilitation teams at field sites
- Deep seated belief of No status quo can change
- Inadequate Engagement with ethnic minorities, and especially indigenous groups
- Income and social status differences among co-management organization members
- "One-size-fits-all" governance approach

Legal arrangements for protected area co-management

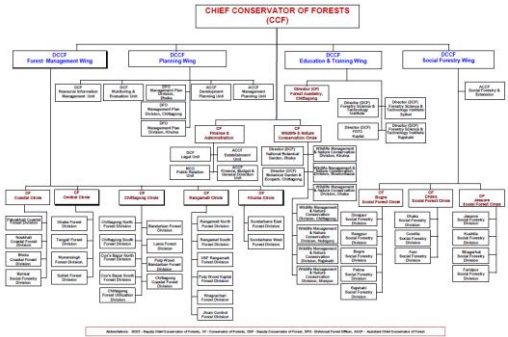
- Forest Act, 1927: 'reserved forest' declared under this act
- The Bangladesh Wild Life (Preservation) Order, 1973 (President's Order 23 of 1973) :
  - the first comprehensive legislation for control and management of wild animals including its habitat
  - Protected area declared under this order
- Bangladesh Wild Life (Preservation) Act, 2012
- PA rules 2016 (proposed)

Administrative arrangements for Protected Areas

❖ Creation of independent wildlife Management and Nature Conservation Circle in 2001

❖ CF (Conservator of Forests)- Wildlife and Nature Conservation Circle:
In charge of supervising and coordinating matters related to ex-situ and in-situ conservation of wildlife (flora, fauna, migratory birds etc)

- 7 Wildlife Management and Nature Conservation Divisions and
- 2 Botanical Gardens



Lessons learnt

In regard of the forest management
- Transferred the forest management from state centric to people centric
- Disproportionate presence in the co-management institution and the historical patronage relation in the society keep FUG as less beneficial

In regard of forest protection
- Community participation , helped enhancing forest coverage or afforestation, and reducing deforestation. But tend to be for short time or unsustainable.

In regard of the livelihood security
- Livelihood options and political space are limited and insufficient.
- no significant initiatives to improve the NTFPs market for the local forest users

The area of empowerment
- Insignificant active participation of the marginalized. Including women and ethnic communities

Uneven distribution of AIG support
- Uneven distribution of AIG support among the co-management partners

Sustainability of the Project

Depends on the degree of support and respect awarded to the protected area by neighboring communities

- Initiatives are very much project oriented, the CMOs find it difficult to carry on the co-management activities independently in the interval period
- Continuous effort : successive PA co-management projects like Integrated Protected Area Co-management (IPAC) And Climate Resilient Ecosystem and Livelihoods (CREL) projects

CMOs capacity need to be enhanced to an extent that they are able to manage funds received through government revenue sharing, leveraging from private sectors and soliciting funds from other projects that will be implemented in to their command areas

The Way forward

Relevance of the NSP project in future

- Springboard for others PA co-management projects
- Subsequent PA co-management projects have incorporated lessons learnt from NSP
- Long-term success depends on
  - the sustainability of co-management organizations (CMOs)
  - their ownership of planning processes, and
  - equitably shared benefits

Proposed measures to overcome the deficiencies

Policy framework

- Bangladesh Wild Life (Preservation) Act, 2012 is not enough
- PA (Protected Area) rules needed
- Site specific Management needed
- Grant financing arrangement for CMOs required

Institutional change

- Public oriented approach: from administrative roles to those of facilitators
- New management orientation: co-management environment that is creative, flexible, pro-people and adaptive in socio -economic contexts
- Training and re-orientation for Forest Department

Proposed measures to overcome the deficiencies cont..

- Redistribution of representation in the CMOs
- Increased and proper representation from the forest user groups, ethnic minorities, and marginalized groups
- Boundary demarcation of PAs
- Public and private partnerships

Conclusion

If the co-management approach does not touch the political and economic settings where access and opportunities are captured by elite and if it could not create the playing field for the marginal people, these co-management initiatives would remain largely as rhetoric than substantial and it could lead to further vulnerabilities to the forest communities.

Q & A

Study on Returning Farmland to Forest Program in China

LIDAN

Assistant Researcher (PhD)
Yunnan Academy of Biodiversity, Southwest Forestry University, China

INDEX

1. Natural condition of China's Western region

2. Background for the implementation of RFFP policy

- The severe environmental situation is already threatening the environmental safety of China.
- In 1990s, the area of soil erosion amounts to 3.67million km^2 in China, of which 80% occurs in the western region, and of the total of 2.622 million km^2 deserted land area in China, 90% lies in the western region.
- The expansion of deserted land has also created frequent sand storms in Northwest China bringing huge economic losses.

- In order to speed up ecological restoration, converting the land for forestry and pasture is a fundamental and foremost approach in the implementation of China's Western Development strategy.
- The Returning Farmland to Forest Program (RFFP) was initiated after major floods in the mid-Yangtze region in 1998, attributed in part to increased sediment transport caused by excessive deforestation upstream.
- Later, enhancing biodiversity and sequestering carbon were added to the program's mandate.

3 Primary coverage of the RFFP policy

- Of China's major forestry programs, the RFFP is largest in area covered, fiscal commitment, and number of households affected.
- The RFFP was piloted in the provinces of Sichuan, Gansu, and Shanxi starting in 1999, and by 2002 it was expanded to 25 province-level jurisdictions.

- The specific content of the policies can be generalized as "returning farmland to forest (or pasture), closing hillsides for afforestation, substituting grain for relief and individual contracting".
- The first is to provide grain to households that return the grain farmland free of expenses.
- The second is to provide proper subsidy to the households that return the grain farmland by the nation.
- The third is to implement individual contracting.

- The forth is when the local fiscal revenues are impacted negatively due to implementation of returning farmland to forests and pastures, proper subsidies are to be financed by the central government in a given period.
- The fifth is to exempt the agricultural specialty tax for the agricultural specialty income obtained from forests (with at least 80% of ecologic forests) and pastures returned from grain farmland to protect ecologic environment for 10 years from the year in which the farmers begin to receive such income.

- The core of RFFP policy is the compensated plantation of trees by rural residents on retired farmland and other uncultivated land.
  - In areas prone to soil erosion, farmers are to retire farmland on steep slopes.
  - Local forestry agencies provide seedlings and technical support for planting trees on retired areas.
  - For each unit of farmland afforested, an equal or greater area of uncultivated land must also be afforested.

- Afforested areas are defined as “ecological forests” or “commercial forests.”
  - Ecological forests have a primary purpose of restoring environmental functions, particularly controlling soil erosion and desertification.
  - Commercial forests provide products that can be marketed, earning income for participating residents, and may provide environmental services to a lesser degree.

4. Dual-function forests in the RFFP and the flexibility of environmental policy

- In spite of the common perception that its economic growth has led to unmitigated environmental catastrophe, China has reversed a long history of forest loss, nearly doubling its forested area from 115 Mha in 1981 to about 210 Mha today .

- Since 1999, the RFFP has contributed to these gains.
- The RFFP provides compensation to rural households for planting trees on marginal cropland and uncultivated 'wastelands' in service of goals to increase forest cover, control soil erosion, alleviate poverty, and transform rural livelihoods.
- By 2013, authorities had invested over 320 billion RMB (US$50B) to afforest over 29 million hectares, affecting 32 million households.

- Chinese forest policy since the 1990s has pursued three goals that sometimes align and sometimes conflict: providing a stable supply of forest products, improving rural livelihoods, and preserving and restoring ecosystems.
- Different stakeholders prioritize these goals differently.
- Thus implementation raises tensions that result in processes of accommodation, resistance, negotiation, and policy revision.

- One outcome of this process is the creation of "dual-function forests," forest plantations formally designated as "ecological forests" for environmental rehabilitation, but planted with commercial tree crop varieties.
- Dual-function forests present a particular set of compromises among the three overlapping goals of forest policy.

- Dual-function forests reveal a key move aimed at reconciling the tensions the RFFP raises. We claim that the processes surrounding dual-function forests present a different picture, in which state intervention is flexible.

- We highlight four mechanisms involved in the varied results of dual-function forests.
  - First, local officials varied in their responses.
  - Second, the vigor with which local governments and firms promoted market development shaped residents' motivation and confidence.
  - Third, variable environmental conditions brought correspondingly variable tree establishment and livelihood impacts.
  - Finally, and most critically, residents acted on their experiences and expectations, negotiating implementation to avert perceived risks and seize opportunities.

5. Case—Sanjiang, Wenchuan, Sichuan

- Sanjiang Township is situated in the Qionglai Mountain Range in western Sichuan, approximately 50 km west of Dujiangyan, at elevations between 1200 and 3500 m.
- Its mountainous landscape is extensively forested, rich in biodiversity and endemism.
- Sanjiang is a part of the Aba (Ngawa) Tibetan and Qiang Autonomous Prefecture.
- In 2007, the township had a population of 4000, most of which was ethnic Tibetan or Han.
- More than 90 percent are farmers.

- This case study looks at one of Sanjiang's nine administrative villages, Caoping.
- At the time of research, there were 86 households, nearly all of whose main economic activity was agriculture – farming and animal husbandry.
- Forest resources were also significant for subsistence and as sources for cash income.
- Some households received off-farm income from migratory work, although this was not widespread.

- The RFFP was introduced in Caoping in 2003.
- All households with farmland participated; on average, households retired 5.4 mu of farmland and retained 5 mu as farmland.
- When the program started, the local government gave households seedlings of kudingcha (*Ilex latifolia*).
- Households in Caoping purchased and planted houpu (*Magnolia officinalis*) to replace kudingcha trees and to continue participation in the RFFP.
- In 2009, stands of established houpu were widely visible throughout the village.

- Houpu planted on sloped land

- All farmlands afforested in Caoping are dual-function forests, formally classified as ecological forests.
- To residents, the houpu plantations were indeed part-ecological and part-commercial.
- They recognize the potential value of houpu as a cash crop, and many households planted the species voluntarily along trails and roads and in between fields, a practice that has continued outside of the RFFP.

- Cropland, houpu plantation, and fir forest

6. Conclusion

- The case of dual-function forests demonstrates the flexibility of state efforts to secure environmental values as well as how local actors' responses shape concrete policy outcomes.
- Responding to social and economic pressures that arose within the piloting process of RFFP, state actors adjusted the program to keep it viable.
- This flexibility can be salutary, enabling adjustment in the face of unexpected circumstances or unconsidered interests, but it brings risks that important priorities will be weakened.
- China confronts a number of serious environmental issues, and the forestry sector has shown that with concerted action it can achieve significant results.

- In late 2013, the State Forestry Administration announced that a “new round” of RFFP would be implemented starting in 2015.
- The new round dispenses altogether with the distinction between ecological and commercial forests, granting farmers autonomy to decide what trees to plant.
- Monitoring provisions are more specific, and compensation will take place on a multi-year schedule.
- Thus, it appears that the new round of RFFP carries on the developments that dual-function forests instantiated.
- We can expect that its impacts will depend on the actions and interactions of community residents and local officials tasked with turning a central vision into a panoply of tree-covered landscapes.

THANK YOU!

Community-based Forest Management of Tourism to Improve Social Welfare: Case Study at Puncak Bintang Tourism Forest, Bandung, West Java, Indonesia

Budi Budiman

Presented on
APFNet *Workshop on Forestry and Rural Livelihood Development*, 1-14 November 2016 Negombo Sri-Lanka

Jack Westoby's challenge to the forestry world :

Forestry is not about trees, it is about people. And it is about trees only insofar as trees can serve the needs of people'

(Jack Westoby, 1967)

Introduction

Indonesia Forest Condition
Total : 132.6 million Ha
Conservation Forest : 20.2 %
Protection Forest : 21.8 %
Production Forest : 58 %

47.5% of the forest area degraded

Target 12.7 million Ha for public access

Community-base Forest Management of tourism

Forest villagers condition
Total forest villagers : 48,8 million
Poor forest villagers : 10,2 million
Depend on forest : 6 million

PERHUTANI

- The state forest owners
- Manages 2,446,907.27 ha of production forest and protected forest
- not less than 5,386 forest villages existed around Perum Perhutani forest area

→ **Community-based Forest Management** *called* **PHBM (Pengelolaan Hutan Bersama Masyarakat)** → **Utilization of Environmental services *through* Nature Tourism Business**

HISTORY
COMMUNITY-BASED FOREST MANAGEMENT IN PERUM PERHUTANI

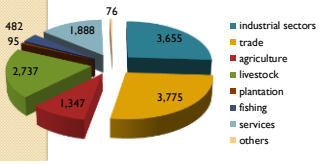
1972	Security approach to Prosperity approach	Prosperity approach agricultural production facilities and clean water facilities subsidized
1982	Rural community development	bio physical infrastructure assistance program
1994	Social forestry	Forest farmers group, Agroforestry, productive business
1994	Integrated Forest Village Community Development	SF as one of the components under the Regional Development Coordination by local government
1998	Forest Village Community Empowerment Program	Cooperative of Islamic education community
2001	community-based forest management (CBFM)	the principle of togetherness, usefulness, sharedness and transparency
2007	CBFM Plus	CBFM Education for forest villagers
2009	CBFM	Decree Nomor 682/KPTS/Dir/2009

From 2001 to 2012, 5,278 forest villages (97% of total forest villages) was cooperated with Perum Perhutani through community based forest program

It covered 2,216,225 hectares of forest area

incorporated in 5,278 the Forest Village Institutions and 995 Forest Village Cooperatives

CBFM Businesses

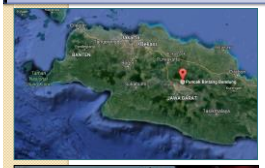


Absorb the workforce of 6,304,467 people with a value of Rp 2,705.71 billion

Realization for timber production and non-timber shared from 2002 to 2012 reaching the Rp. 252.34 billion

Revenue from production of food crops, such as rice, corn, beans and agroforestry activities reached Rp. 7,469.09 billion, or an average of Rp. 679.01 billion, per year

Case study of community-based forest management of tourism
PUNCAK BINTANG TOURISM FOREST, BANDUNG WEST JAVA INDONESIA

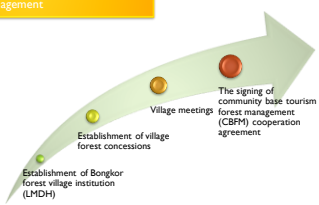


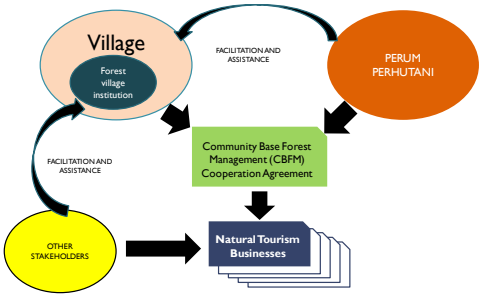
- Located in Buntis Bongkor, Cimenyan village, Cimenyan subdistrict, Bandung regency in West Java of Indonesia.
- Puncak Bintang tourism forest complex was inaugurated on September 23, 2014.
- The area is 11 hectares, located at an altitude of 1,442 meters above sea level.
- Pine forest owned by Perum Perhutani, North Bandung forest management unit (FMU). The area was initially just a sap-tapped pine forests used for industrial raw materials.
- Previously, people who live around the Puncak Bintang Tourism Forest area are the pine sap-tapper workers in the Perum Perhutani forest, basically in poor condition. The village located in remote areas with narrow and damaged roads. Due to economic pressures, villagers do forest encroachment and illegal logging.

- Puncak Bintang tourism forest was located adjacent to other tourism place such as Caringin Tilu and Saung Angklung Udjo.
- The natural potential contained in the Puncak Bintang tourism forest is the natural scenery of the place where it can see the Bandung basin.
- These areas are known as one of the best places to see the Bandung city from a height.
- Sunset and sunrise can be enjoyed by these areas, because the high place and not blocked by a hill or another mountain.
- The Puncak Bintang tourism forest is the best place for pine forest hiking and camping.
- After seeing these conditions, some community leaders through the head of village proposed to company forest extension workers in order to open up the pine forest a tourist place.

Stages of facilitation of company forestry extension worker to establish Puncak Bintang tourism forest management

Company Forestry Extension Worker





Establishment of Bongkor forest village institution (LMDH)

- Official Cimenyan village institution that will cooperate with Perum Perhutani
- The Forest village institution has rules, internal norms authorized by law and legal entities, and more importantly can present forest villagers.
- Members of forest village institution (LMDH) are members of the Forest Farmers Group (KTH) and other community members who are concerned about the existence and preservation of forests
- Member of forest village institution (LMDH) and company forestry extension worker (Perum Perhutani) arrange community base forest management planning based on participatory rural assessment to accommodate the needs of each party.

Establishment of village forest concessions

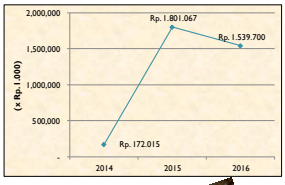
Village forest concessions are forest area (owned by Perum Perhutani) managed by the CBFM system. Establishment of village forest concessions conducted by forest villagers participatory that administratively bordered with the forest area.

Village meetings

- Decided that the village will establish a community base forest management (CBFM) cooperation agreement with Perum Perhutani signed by the head of the village as a party acting for and on behalf of the village
- Designate forest village institution (LMDH) as village social institutions that will establish a community base forest management (CBFM) joint operating agreement as a follow-up of community base forest management (CBFM) Cooperation Agreement
- Point 1 and 2 set in village regulations.

The signing of community-base forest management (CBFM) of tourism cooperation agreement

Community-base forest management (CBFM) of tourism cooperation agreement contains a profit sharing provision between Perum Perhutani (74%), Village (10%) and forest village institutions (16%).



Year	Total Revenue (Rp)	Profit Sharing		
		Perum Perhutani (Rp)	Forest Village Institutions (Rp)	Village (Rp)
2014	172,015,000	131,218,400	25,105,600	15,691,000
2015	1,801,067,000	1,460,915,200	191,340,500	148,811,300
2016	1,539,700,000	1,288,457,800	138,118,300	113,123,900

Impact of Puncak Bintang Tourism Forest Establishment on Forest Community

- ✓ The opening of Puncak Bintang tourism forest has a positive impact on forest communities. Forest villagers manage the parking, opened a food store and a souvenir shop for visitor attractions.
- ✓ From the parking management, forest communities earned revenues of approximately Rp. 15,691,000 in 2014, Rp. 88,578,500 in 2015 and Rp. 59,6240,500 in 2016.
- ✓ The parking revenues are used for village development, such as widening road and other village infrastructure, while income of food stores and souvenir shops as family income.
- ✓ Slowly but surely the income of forest communities who live around Puncak Bintang Tourism Forest was increased, they no longer illegal logging was done, but trying to keep the forest in Puncak Bintang Tourism Forest can be sustainable.

Lesson Learned

1. Poverty reduced to save forests

   The process of emerging forest economic activity through community base tourist management in Puncak Bintang tourism forest with company forestry extension worker and forest village institutions (LMDH) effort to improve the welfare and reduce forest community poverty.

2. Community participation increased in forestry development

   Increased participation of forest communities can be done by emerging the forestry productive business, so the forest communities can obtain economic benefits to improve the income level and living standard.

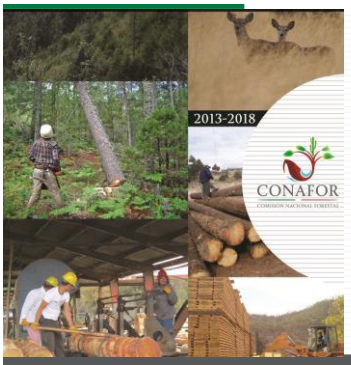
3. Tourism forest as forest community's livelihood

   The Forest village institution and Cimenyan villages received profit sharing and parking fee that can use for village development, such as widening road and other village infrastructure, while other forest villagers got the income from food stores and souvenir shops.

Summary

The implementation of community-based forest management of tourism in the Puncak Bintang Tourism Forest gave the benefit of forest communities such as:

1. Sustainable of Puncak Bintang Tourism forest
2. Added alternative forest livelihood for forest communities
3. Increased public awareness of forest preservation and forest conservation
4. Increased profit sharing for village development
5. Increased social welfare of forest communities



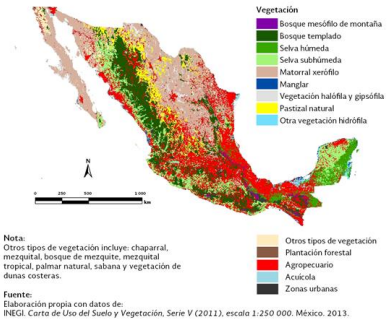
National Strategy to Increase Forest Production (ENAIPROS)

November, 2016

Livelihood of people

- Mexico has a population of 122 billion people, which make it the 11th more populated country in the world.
- The forest vegetation cover 138 million hectares, equivalent to 70% of the national territory.
- Mexico is one the mega-diverse countries, which together are home of about 70% of known species on Earth.

By its forest area, Mexico ranks number 11th place and the 26th place by forestry production



Nota:
Otros tipos de vegetación incluye: chaparral, mezquital, bosque de mezquite, mezquital tropical, palmar natural, sabana y vegetación de dunas costeras.

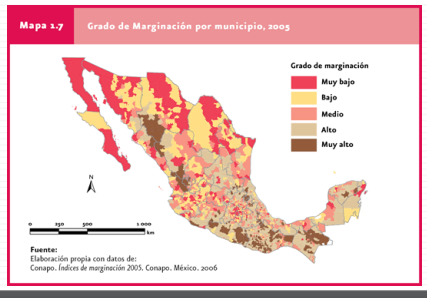
Fuente:
Elaboración propia con datos de:
INEGI. *Carta de Uso del Suelo y Vegetación, Serie V (2011), escala 1:250 000.* México. 2013.

SECRETARIA DE MEDIO AMBIENTE Y RECURSOS NATURALES (SEMARNAT)

Livelihood of people

- Mexican forest areas are inhabited by 11.04 million people (mainly indigenous), for whom forest resources represent a natural capital which should contribute to satisfy their basic needs and improve their quality of life.
- 80% of the forest surface are owned by more than 15,000 ejidos and indigenous communities (the land tenure in forest regions is mainly social).

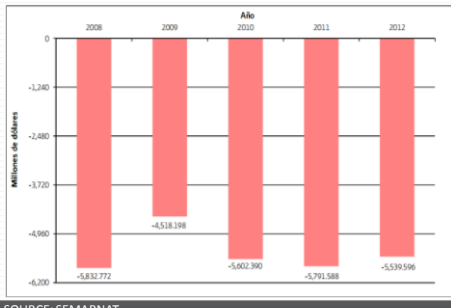
Origin of the ENAIPROS



The highest levels of marginalization and poverty are presented in forest areas

Forest Trade Balance 2008-2012

In recent years Mexican forestry sector has faced a series of complex problems, which have resulted in a competitiveness crisis.



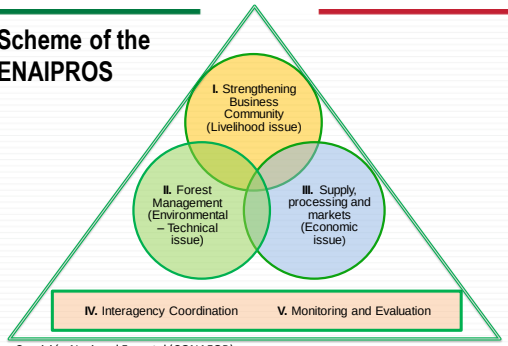
SOURCE: SEMARNAT

Objective

To attend this situation, the current Mexican Government designed and implemented **The National Strategy for Sustainable Forest Management for Increasing Production and Productivity (ENAIPROS), whose main objective is:**

To promote the sustainable use of forest resources through the organization and strengthening of producers, the application of appropriate silvicultural techniques, strategies to finance and modernize the forest industry and to promote the marketing of forest products; that lead to the increase of forest production, to conserve biodiversity and to improve living conditions of owners and holders of resources as well as people who lives in productive forest regions of the country.

Scheme of the ENAIPROS



Comisión Nacional Forestal (CONAFOR)

Main goals

- Elaborate or modify forest management programs for a surface of 4.6 million hectares.
- Implement actions for forestry cultivation and biodiversity conservation in a surface of 1,14 million hectares.

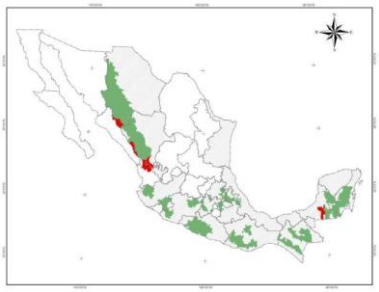
→ **Improve forestry production and productivity**

- Increase forest timber production from 5.9 to 11 million m^3r.
- Certify a surface of 2.5 million hectares under sustainable forest management.

→ **Improve forestry competitiveness**

Geographical coverage

It were delimited 17 zones called **"Zones of Reactivation of Forestry Production and Productivity"** in the States with the largest forest production, where 33 basins forestry supply were defined. The defined territories supply 90% of the current timber forest production from the country.



Technical aspects of meeting livelihood needs

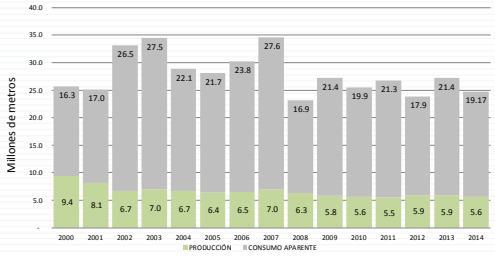
Public consultations, in order to elaborate the National Forest Program (PRONAFOR) and as consequence to formulate the ENAIPROS paper

Technical challenges

- Forestry production in Mexico is realized mainly in temperate forests. Only in the Southern part of Mexico, forestry production is based on rainforests.
- The current surface under sustainable forest management is 7.4 million hectares, which produced 5.9 million cubic meter of timber roll in 2012, while apparent consumption was 19.9 million cubic meter of timber roll in the same year; it means that the national forest production of timber only covers 33% of the domestic market.
- So the **main challenge of the ENAIPROS is to increase timber forest production while ensuring the conservation of biodiversity in forest areas.** Benefits for population will perform through training producers, implementation of activities to increase timber forest production and by improving the profitability of forest industry.

Harnessing the productive potential of forests and rainforests of Mexico

Contribute to the welfare of the population who live in forest areas and supply the domestic market.



Institutional issues

The execution of the ENAIPROS was held at the framework of current laws and regulations, the main are the next:

- Ley General de Desarrollo Forestal Sustentable y su Reglamento. Whereby the protection, conservation and restoration of forest ecosystems is encouraged and the use of forest resources is regulated. In the regulation of forestry in Mexico are involved three different Agencies: one for norming (SEMARNAT), one for promoting (CONAFOR) and one for supervising (PROFEPA).
- Norma Mexicana NOM-SEMARNAT-2006, which establishes the guidelines, criteria and specifications of the contents of forest management programs for exploiting timber resources in forests, jungles and arid vegetation.
- Norma Mexicana NMX-AA-143-SCFI-2008 (modified in 2015), which establishes the specifications and minimum requirements for certification of sustainable forest management.
- Operating rules and guidelines of National Forest Program.

Institutional issues

- Interagency Coordination, whereby the participation of all stakeholders in the forestry sector was intended, including the three levels of Government, Civil society, Forest producers, forest industry, academic and research sector as well as providers of forestry services.
- Technical Committees or Technical Groups are operating in each of the States considered in the ENAIPROS, which are integrated with the above referred sectors; in these Committees, actions and proposals projects are analyzed, likewise the respective follow up are given.

Financial issues

The Strategy was financed with the Funds of the National Forest Program (PRONAFOR), the flagship program of the current Mexican Government, related to forest sector.

PRONAFOR	ANNUAL BUDGET AROUND 250 MILLION DOLLARS

ENAIPROS	ANNUAL BUDGET AROUND 50 MILLION DOLARS

This budget is destined to subsidize the projects included in the first three components of the Strategy.

Sustainability

In addition to principles of silvicultural techniques, the ENAIPROS considered two main environmental safeguards:

Biodiversity conservation

Forest producers supported by the Commission must include practices for biodiversity conservation in their forest management programs.

Once the management program is authorized, the producer has the obligation to implement these practices

Sustainability

Forest management certification

Three scheme of forest management certification are implemented

Advances

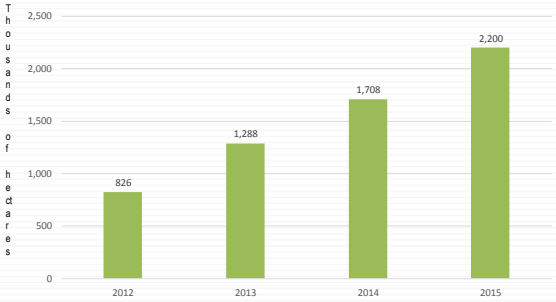
Component I: Strengthening Business Community

Indicator	Base line	Goal	Advances
Number of community forestry promoters recruited and trained in the area of supply and transformation basins	0	750 community forestry promoters	1,288 community forestry promoters, giving support to ejidos and communities with forest management activity.
Forestry Community Companies applying organizational instruments where sustainable management of forest resources is contemplated	0	750 Forestry Community Companies	644 Forestry Community Companies
Forestry Community Companies trained in: forest management, business organization, and financial and marketing issues.	0	750 Forestry Community Companies	2,427 Forestry Community Companies trained

Component II: Forest Management

Indicator	Base line	Goal	Advances
Forest area incorporated or reincorporated into technical management, using criteria to optimize production capacity, forest management and biodiversity conservation.	68,247 ha	4.6 million ha	The Commission has supported forest producers in order to elaborate forestry studies in an area of 5.1 million hectares. Forest management programs have been authorized for a surface of 2.1 million hectares.
Forest surface under management, where intensive silvicultural actions and practices for biodiversity conservation are executed.	68,247 ha	1.14 million ha	The Commission has supported forest producers in order to realize practices for forest cultivation and biodiversity conservation in a surface of 0.546 million hectares.
Forest management surface certified with some scheme recognized by National System of Forest Certification.	826,000 ha	2.5 million ha	The Commission has supported forest producers in order to certify 2.78 million hectares. The forest surface under management with valid certification is 2.2 million hectares.

Certified Forest Management Surface (ha)



Component III: Supply, Processing and Markets

Indicator	Base line	Goal	Advances
Number of supply basins and transformation established and in operation, which facilitate the participation of stakeholders.	1	33	38
Number of projects implementing technological innovation or industry modernization actions and its respective supply processes, processing and marketing.	0	50	101.
Certification of the chain of custody	0	55	51
Incubation and integration of the company or forest production chain	0	400	183

San Pablo, Durango

- Production by/turn: 30,000 fbm
- Productos: (classified lumber),
- Certification: FSC (forest management)
- FSC CoC (in process)

San Juan Nuevo, Michoacán

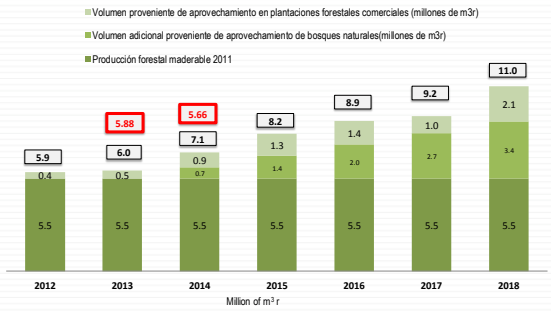
- Production by/turn: 14,000 fbm
- Productos: Woof flooring, Wood molding and furniture
- Certification: FSC and CoC

El Balcón, Guerrero

- Production: 11,496 anual furniture
- Productos: home, school and office furniture
- Certification: FSC and CoC

General Goals

Indicator	Base line	Goal	Advances
Increase forest timber production	5.9 million m^3	11 million	5.7 million m^3 was the forest timber production in 2014
Increase the surface of forest plantation	242,000 hectares	385,000	314,734.7 hectares
To generate 25,000 permanent jobs in the forestry sector	100,000	125,000	N/D



Measures to overcome the deficiencies

- Construction and operation of Regional Networks of Community Forestry Promoters.
- Permanence of Community Forestry Promoters, because of the rotation and discontinuity they have.
- Consolidate the Mexican Forest Certification System (SCEFORMEX).
- Promote schemes for supporting ejidos and communities with the greatest potential to incorporate their lands to sustainable forest management.
- Train more technical advisors in order to integrate more forest production chains and to create more business.
- Encourage consumption of forest certified products, because until now, a market in Mexico does not exist.

Measures to overcome the deficiencies

- Strengthen the Interagency Coordination with the different authorities involved in forestry regulation, especially SEMARNAT, the Government Agency that authorize forests use.
- Consolidate the National Network for monitoring forest productive landscapes through its integration at the National Forest Inventory.
- Using information from the National Forest Management System.
- Update forestry legislation, mainly the General Law on Sustainable Forestry Development and the rules governing forestry, considering the inclusion, among others criteria, practices to conserve biodiversity.
- Strengthen the system of monitoring the indicators of the ENAIPROS, in order to obtain the information in a timely manner, especially those related to forest production and generated jobs

Thanks for your attention

Assessment of sustainability and how to bamboo contribute to Rural livelihood

Case study in Lelu Aing Village in Pyinmana Township

Su Su Hlaing
Research Assistant
Forest Research Institute, Myanmar

Introduction

- In Myanmar, bamboos are the fasted growing versatile non-timber plant .
- considerable potential for rural community .
- rural people which consists of 75% of Myanmar population depend on bamboo.
- income from the sale of bamboo and products is an important source of household income.
- the development of the bamboo sector helps to increase the income of rural livelihood, and improves the rural environment .
- in order to support the livelihood of rural people ITTO Bamboo project was conducted from Jan 2003 to Dec 2006 .
- titled on "Promoting Sustainable Utilization of Bamboo through Community Participation in Sustainable Forest Management".

The overall objective

- to enhance the socio-economic benefits of bamboo for the rural communities through their active participation in sustainable management and utilization of bamboo forests.

Specific objectives

- To develop and disseminate technical guidelines for sustainable management of bamboo forests and quality production of bamboo products.
- To increase income of rural communities in Mandalay, and Bago Divisions through the establishment of bamboo products production groups based on improved processing technologies and marketing.

Objective of case study

- To follow up the sustainability of ITTO Bamboo project support for rural development after 10 years of project and to understand the bamboo contribution to rural livelihood.

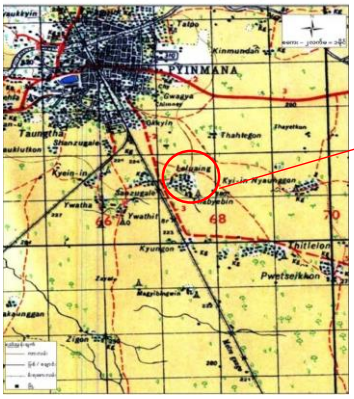
Method

- key informant interview with 18 persons
  - 9 female and 1 male from ex-trainees of ITTO Bamboo project
  - 4 male from leadership group
  - 3 male and 1 female from bamboo product production group
  - field observation
  - secondary information

Study area

- about 2 miles south of Pyinmana Township, Nay Pyi Taw
- 280 household in which 645 male, 673 female and 1308 populations
- Two hundred households depend on income from bamboo weaving products
- Eighty-five households are land ownerships

Location Map of Le Lu Aing Village



Livelihood activities of local people

production of bamboo weaving products

Bamboo weaving products making

- well known around Pyinmana area for production of bamboo round trays (sagaw) and sieves (saga) which are widely used for multipurpose
- made with simple process and commonly not decorated.

- When weaving these bamboo products they just only rely on their hands and work experience and all are handmade.
- In terms of skills, they have traditional skills, handed down by master apprentice from generation to generation.
- They work individually and involving the parents and children of a household for production.

Getting raw material

- buy from bamboo shops in Pyinmana Township

Mainly used species are -

- Kyathaung wa (*Bambusa polymorpha* Murna.)
- Tin-wa (*Cephalostachyum pergracile* Murno.)
- Kyet u kyein (*Calamus gracilis* Roxb.)

Transport charge is 1000 Kyats for 10 bamboo Culm by tricycle

consumption of bamboo raw material per house hold is

- large size - 2 Culm - 600 Kyats each
- medium - 3 Culm - 400 Kyats each
- Yield amount - 10 bamboo trays and sieves

Production cost

For 10 bamboo trays and sieves

- Bamboo - 1200Ks
- Rattan - 2000Ks
- Bamboo frame - 300Ks
- Transport charge - 200Ks

3700 Ks

Income from Bamboo waving products

For 10 bamboo trays and sieves

- Price by **middleman** - **600 Kyats** per sieve or tray
- **Direct price** to traders - **700 Kyats** per sieve or tray
- income per household - 2300 to 3300 Kyats
- bamboo frame is made by them - 2600 to 3600 Kyats
- Each person can make at least 5 sieves or trays par day
- Next day they sell immediately
- 2-4 family members are involved in weaving per household

Income from Bamboo weaving products

- the bamboo resource is scare now
- the price for raw bamboo material is high
- their income is not very remunerative

- **They have no role in setting prices as they are pre-set by the middleman and traders**
- **They have to be happy with their minimum income**
- **since they need to continue producing in order to maintain their needs and pass the time away**
- **To them their meager income is better than not having any income at all**

Currently Marketing Places

- Around the village
- Pyinmana Township
- Leway Township
- Tatkone Township
- Yamethin Township
- Pyawbwe Township
- Tharsi Township

- Sell direct or to middleman

Supports of ITTO Bamboo project in Case Study Area

(i) Bamboo Products Production Group (in 2005)

The group consist of

- Bamboo Culm buying group (with 5 male members)
- Small cane buying group (with 2 female members)
- Production group (all villagers)
- Marketing group (all villagers by selling themselves)

- **supported the capital of three hundred thousand Kyats (300 US$) from Project**
- **to promote the income of rural livelihood**
- **To develop of traditional bamboo products and improved bamboo products**.

The activities of each group

Bamboo Culm buying group	-	buying bamboos
Small split cane buying group	-	buying small split cane
	-	selling in village with reduce price than bamboo shops in Pyinmana Township
Production group	-	production their traditional weaving products and improved bamboo products which studied from training

- To support the above groups, the **managing committee members** were organized with villagers as follow:
  - Chairman
  - Vice Chairman
  - Secretary
  - Treasurer
  - Accountant
  - One staff from Forest Research Institute
- **Revolving fund was controlled by managing committee members**.
- Investment was supported to each group with 1% interest rate.
- Member from FRI audited cash drawing and deposit per month.

Supported appropriate processing technologies equipments

- Two sewing machines
- one bamboo stick making machine
- two hand weaving looms
- two hand saw
- two scissors
- one blade for fixed width
- one double blade for smoothly

Bamboo products training programme

- Thirteen female and two male participants were trained
- processing technique of bamboo weaving and bamboo purse, bamboo file cover, bamboo hats, and bamboo curtain

Fig. Bamboo hat, purse, file cover

Fig. Split to 1 mm width stick

Fig. pulled for smooth surface

Fig. Sewing for folding hat

Fig. Weaved by weaving loom

Fig. Weaved by hand weaving

Supporting Bamboo plants

Distributed species to villagers who want to plant in their homestead

- ❖100 seedlings - Kya-thaung Wa (*Bambusa polymorpha*)
- ❖ 50 seedlings - Hyim Wa (*Dendrocalmus strictus*)
- ❖ 50 seedlings - Tin-Wa (*Cephalostachym pergracil)*

- introduced especially bamboo species *Bambusa polymorpha*

Achievement of Project in case study area

- **Establishment of bamboo products production group** by revolving fund system with the project assistance completed for the purpose of promoting income of rural household and development of traditional bamboo handicrafts in 2005.
- **Providing the appropriate processing technologies equipments** for the production of quality bamboo products to bamboo products production group completed.

Assessment of Sustainability of ITTO Bamboo project support and how to contribute to rural livelihood after ten years

(i) Bamboo products production group

- could be organized only during the project
- this group was not sustained after the project

In bamboo Culm buying group

- less profit in selling bamboo
- the rest of bamboos are not suitable for weaving
- difficult to return loan
- Villagers could not actively participated in group
- struggling for their daily life

➢ **only two time was taken during in 2005**

In small split cane buying group

- It needs more investment (including travel cost and buying small cane)
- Getting loan was less
- no profit
- Investment could not revolved

➢ **only two time was taken during in 2005**

Production group (Bamboo weavers)

- US$ 300 project fund was supported with 1% interest rate
- income of rural household was improved
- market could be extended by individually
- 114 bamboo weaving household out of 200 households
- the number of households were increased
- they got a few amount of loan.
- needed more investment for continuous production
- production of bamboo weaving products was continued by supported project fund until 2007.

Managing committee members

- After finishing the project, the staff from Forest Research Institute handed over her authority to villages by managing committee members in 2008.
- Managing committee members could not carried on the collection of fund supported by project.
- Most of bamboo wavers could not returned their loan due to higher the commodity prices and their financial difficulties.
- Project fund could not revolved.

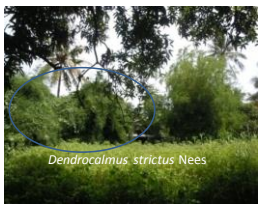
Bamboo product Training (15-24 August, 2005)

Ex-trainees could not utilize effectively the techniques

- electricity is required to run bamboo stick machine for bamboo curtain
- no electricity in village during the project
- hand weaving loom and bamboo stick making machine were returned back to the project
- weaving processing for bamboo purse, hats and file cover is very delicate art and take long time to achieve
- not skillful in sewing for bamboo hats and purses because of the training period is short (for 10 days including 2 days field visit)
- there is no market
- Can not produce finished products

(iii) Bamboo Planting

- ✓ bamboo plants are not survived.
- ✓ Some growing bamboos *Bambusa polymorpha* are used only for their household as fence, poles for agriculture
- ✓ cannot be used for weaving.
- ✓ *Dendrocalmus strictus* Nees. is growing like bushes at the village.



- ✓ Some villagers are not interest to plant bamboo
- ✓ they don't have enough space for planting in their homestead
- ✓ they can buy bamboo easily from Pyinmana Township.
- ✓ During the project they participated in only bamboo products production training.

According to findings from this case study,

- ❖ Contributed to increase income of household for bamboo weavers only during the project period .

Current financial supporting organization

- ❖ co-operative Department in 2011 (Government institution) can borrow five thousand Kyats (US$-50)
- ❖ private co-operative credit society in 2014 can borrow seven thousand Kyats (US$-70)
- ❖ interest rate is 1.5% per month.

- ❖ households which depend on their traditional bamboo weaving products are more increase than last 10 years.
  - 200 household in current situation
  - 119 household last 10 years

The way Forward

To support the income for rural livelihood

- need to have knowledge related to bamboo
- extension activities
  - Educational programme
  - Trainings

- **Efficient Bamboo utilization (Educational programme)**
  - To know the advanced knowledge and techniques of bamboo from not only local but also internationally which are important for social, environmental and economical aspects
  - To enhance their abilities concerning with the traditional weaving products and value added bamboo products
- **Training on processing of value added bamboo products** and **other hand weaving bamboo products** which friendly with them and around the environment should be given with the cooperation and coordination of all stakeholders.
- **Training on bamboo planting and sustainable management of bamboo.**

Conclusion

- Bamboo weaving products have made significant contribution to the socio-economic well being of rural people.
- But bamboo in Myanmar is still being used in the old traditional style of processing and production of its various bamboo products.
- It needs to promote income of the rural livelihood by providing market-oriented processing-technology of value-added bamboo products.
- Market is also essential to increase the income of rural people and improve the rural environment, sustainable utilization of bamboo and sustainable development of the economy.
- Promotion of bamboo cannot be carried out by the Forest Department alone;
- the private enterprise, NGO and cottage industries should be given a chance and operate together with the participation and cooperation of local community
- so that the rural community could be achieved benefits from bamboo in Myanmar.

Thank you
for your kind attention!!

Welcome and Namaste !!

Scientific Forest Management in Community Forestry : Opportunities for Regeneration Promotion and Income Generation

Yajnamurti Khanal
Forest Officer
District Forest Office Rupandehi, Nepal

A Presentation Prepared for

APFNet Training Workshop on Forestry and Rural Livelihood Development
1-14 November 2016 : Negombo, Sri Lanka

Presentation Outline

- Country background
- Community Forestry Concept
- Scientific forest management
- Objectives of case study
- Materials and methods (Study area/ Silviculture system adopted/ Data collection and analysis)
- Results and discussions
- Conclusion

Country Background

- Nepal is a small mountainous country in the central Himalayas between India and China.

contd...

- Total area : 14.7 million hectares
- Total population : 26 million
- Population Growth Rate : 1.35% annually
- Population density :180 / square kilometer
- Forest Area : 6.61 million hectares (44.74%)
  - Forest : 40.36%
  - Other wooded land : 4.38%

Concept of Community Forestry

- The Department of Forests (DOF), was established as a state agency in 1942 to manage the forest resources of Nepal.
- The focus of the department was to manage forests without the involvement of the local people.
- The concept of people's participation in forest management was realized in late1970s and was mentioned in National forest plan of 1976.

contd...

- With the successes of CF approach, several complementary models of community based resource management came in operation, such as Leasehold Forestry, Collaborative Forest Management, user group based watershed management and buffer zone forest management.
- According to the Forest Act, 1993, CF are national forests handed over to the local user groups for protection, management and utilization.
- The forests are managed according to the Operational Plan prepared by CFUGs, approved by the DFO.

contd...

- CFUGs has to be established and registered at the DFO before handing over of the forests and they are self sustained institutions.
- The CFUGs can act as self-governing entities to generate, utilize and sell the forest products as mentioned in the Operational Plan.
- During the last 35 years of CF implementation, about 1.8 million hectares of national forests had been handed over to more than 19,000 local CFUGs (CFD 2016).
- These user groups constitute 2.3 millions households which is about 40% of the country's total population.

contd...

- The achievements of CF include :
  - better forest condition, better social mobilization and income generation for rural development and institutional building at grass root level.
- The major challenges of CF program include:
  - assessing the contribution of the program,
  - pro-poor orientation,
  - emphasis on income generation activities,
  - focus on forest management for demanded products,
  - involvement of local government, and
  - good governance including transparency and inclusion.

Scientific Forest Management (ScFM)

- The concept of scientific forest management is not a new concept, its principles has originated from Germany in the early 19th century.
- In Nepal ScFM was initiated in 1960s with the introduction of management plan of different Forest Divisions of Terai.
- But these plans become ineffective due to lack of site specific plan, political commitment and not addressing the local socio-economic issues.
- In 1990s , with the support from FINNIDA Operational plan of productive forest of Terai districts was introduced but not implemented due to protest from local people.

contd...

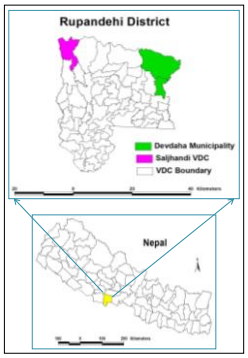
- ScFM concept get momentum after revised forest policy 2000.
- In 2012/13 few young foresters prepared and implemented the ScFM plan in few CFM and CFs.
- After Forest Policy 2015 and ScFM implementation guideline 2015 it is now easy for implementation.
- According to 2015 guideline "*scientific forest management is the systematic application of forestry science knowledge for the management of forests based on the correct assessments of attributes of forest crop to maximize and sustain benefits (including indirect benefits such as environmental and ecosystem services) accruing from the forest. Scientific forest management essentially follows silvicultural systems*."

Objective of Case study

- To know the output of 1st year implementation of scientific forest management plan in Community forestry in terms of:
  - Regeneration (Seedlings and saplings) status of the forests
  - Production of forest products, income and employment generations

Study Area

- Rupandehi District (The Birth place of Lord Buddha, Lumbini)
- Lies in central terai Region of Nepal
- Area : 130522 ha
- Forest Area : 25105 ha (19.23%)
- Population : 880196 (3rd highly populated district in Nepal)
- Households : 163916



contd...

Forest Management Regime of Rupandehi District

S. N.	Forest Management Regime	No.	Area		HHs Benifitted
			ha	%	
1	Community Forest	99	15882.53	63.20	64410
2	Collaborative Forest	2	2253.48	8.97	50456
3	Religious forest	3	27.57	0.11	-
4	Government managed forest	-	6956.15	27.71	-
	Total		25105	100	114866

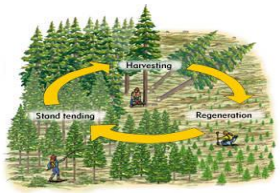
contd...

- Out of 15 scientifically managed community forest in the district, following seven community forest were selected for study based on availability of regeneration survey, income, expenditure, employment generation data.

Name of CF	Address
Kanchan	Saljhandi 3
Shaljhandi	Saljhandi 4
Shanti	Saljhandi 6,8,9
Singhadarja	Saljhandi 2
Rajapani	Saljhandi 5
Pragati	Devdaha
Janapriya	Devdaha 10

Silviculture system adopted

- Silviculture system is a method of silvicultural procedure worked out in accordance with accepted sets of silvicultural principles, by which crops constituting forests are regenerated, tended and harvested by new crops of distinctive forms.



contd...

- Irregular shelterwood system is adopted.
- A method in which few mother/shelter trees will be kept and remaining trees will be removed in regeneration felling operations and existing regenerations and poles will be kept for future crops resulting a irregular crops and so called irregular shelterwood system.
- Irregular shelter wood system is one of the prescribed silviculture system for Sal (*Shorea robusta)* forest in scientific forest management in Nepal.
- Regeneration felling operation is the main intervention in forest management

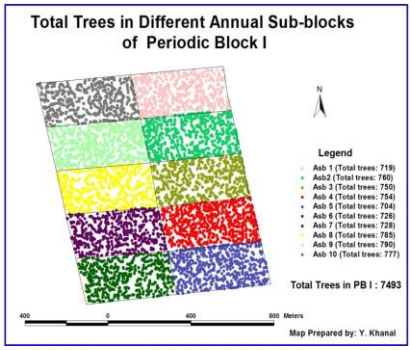
contd...

For Terai Sal Forest,

- Rotation : 80 years
- Regeneration Period : 10 Years
- No. of Periodic Blocks : 8
- Yield Regulation : Area Control Method

- Regeneration felling in PB I for first 10 years
- **Stem Mapping of PB I** : Information of individual trees (Tree /tag number, Species, DBH, Ht., class, Health condition, location (X ,Y co-ordinates using GPS) collected and tree distribution map prepared.

E.g. Stem Map of PB I of Lumbini CFM



contd...

Criteria for selection of Mother Trees:

- 15 – 25 trees per ha
- medium age
- medium crown
- solid and straight bole
- good health condition
- majority of Sal and its associated species
- uniform distribution

Remaining trees will be harvested during regeneration felling operation

Data collection and Analysis

Sampling for Forest Invenory

- Regeneration survey before and one year after regeneration felling operation (in March 2014 and March 2015)
- Six systematic sample plots with nested plot design
- 5 m × 5m square plots for saplings (DBH <10 cm and height >1.3 m)
- 5 m × 2m rectangular plots for seedlings (height <1.3 m)

Contd...

- Production of forest products, income and employment generation data were collected from office records of respective CFUGs.

Data Analysis

- Descriptive statistics like summation, average and percentage were calculated using Microsoft excel spreadsheets.

Results and Discussions

1. Basic information of case study forests

Name of CF	Address	Area of the forest (ha)	Handed Over as CF (Year in AD)	HHs benifitted	ScFM Plan approved (FY in AD)
Kanchan	Saljhandi 3	131.6	2009	278	2013/14
Shaljhandi	Saljhandi 4	149.1	2002	193	2013/14
Shanti	Saljhandi 6,8,9	165	2003	**599**	2013/14
Singhadarja	Saljhandi 2	**75.22**	2001	**166**	2013/14
Rajapani	Saljhandi 5	270.6	**2001**	381	2013/14
Pragati	Devdaha	**284.73**	2009	350	2013/14
Janapriya	Devdaha 10	237.16	2009	428	2013/14
Total		**1313.41**		**2395**	

contd...

2. Regeneration status before and after one year of regeneration felling operation

Name of the CF	Annual coupe Area (ha)	No. of Seedlings per Ha (Before and after RF)		No. of Saplings per Ha (Before and after RF)		Change in number (in multiplication)	
		Seedlings before	Seedlings after	Saplings before	Sapling after	Seedlings changed	Sapling change
Kanchan	1.22	7833	**34833**	1533	2800	4.4	1.8
Saljhandi	1.7	5333	21833	**200**	1760	4.1	**8.8**
Shanti	1.99	**1200**	28800	1360	1520	**24.0**	**1.1**
Singhadarja	**0.68**	7600	34600	300	2240	4.6	7.5
Rajapani	3.16	1666	**7834**	800	**1333**	4.7	1.7
Pragati	**3.18**	13000	19600	2880	4640	1.5	1.6
Janapriya	3.15	**17800**	21000	4400	**5760**	**1.2**	1.3
Average	**2.15**	**6804**	**21063**	**1434**	**2507**	**6.4**	**3.4**

contd...

3. Forest products production, income and employment generation from per unit area

Name of CF	Production per Ha		Income (in N.Rs [1].) per Ha	Investment (in N.Rs.) per Ha	Employment Generation (Mandays/ha)
	Timber (C.Ft.)	Fuelwood (Chatta)			
Kanchan	**1677.8**	**8.2**	**1527844.3**	**951400**	**1492**
Shaljhandi	1053.7	3.5	823243.5	516291	1162
Shanti	808.0	3.0	723119.1	494066	813
Singhadarja	1088.2	5.1	879329.4	453182	1219
Rajapani	**755.2**	4.7	**714656.6**	272214	612
Pragati	1253.2	**3.2**	1039369.8	**151415**	**399**
Janapriya	970.4	3.3	480856.2	358182	503
Average	**1086.6**	**4.5**	**884059.8**	**456678.6**	**885.8**

[1] US $1 = NRs.107 in October, 2016 foreign exchange rate.

Conclusion

- Silviculture system based forest management is a new practice in community forestry in Rupandehi and in Nepal.
- After one year of implementation of ScFM plan seedlings and saplings number increased 6.4 and 3.4 times after regeneration felling which indicate better forest in future.
- CFUG can obtain income of NRs 884,060.00/ha and employ 886 man days/ha annually in average during implementation of ScFM plan.
- ScFM not only improve forest condition but also increase inocome and employment opportunities.

Thanks for your patience !

Querries and Suggestions are heartly welcome.

Welcome Everyone To Forestry And Rural Livelihood Development Workshop

Forestry & Rural Livelihood Development

Outline

1. Overview of Forestry & Rural Livelihood Development In PNG
2. Sustainable Forest Management
- 2.a. Logging Activities
  - Natural Forest Land
- 2.b. Rehabilitation Programme
  - Logged Forest land
  - Grassland
  - Fire Hazard Areas

Outline continue…

3. Approaches
4. Benefits for Livelihood Development
5. Strength & Weakness
6. Way forward

1. Overview of Forestry & Rural Livelihood Development

Papua New Guinea is situated between the stable landmass of Australia and the deep ocean basin of the Pacific. The island of New Guinea is the second largest island in the world, is divided politically into Irian Jaya (Indonesia) and PNG. Papua New Guinea is administered twenty two (22) provinces and the capital is Port Moresby. Although the population is seven (7) million is small in relation to the land area of (462, 000 sq. km). Over 95% of land is held under customary tenure and most of the rural people rely to some degree on natural resources for their livelihood.

1. Overview of Forestry & Rural Livelihood Development in PNG Cont…

The people of Papua New Guinea particularly depend on forestry in different geographical zone. The landscape of PNG is vary from one place to another where most of the people live in most remote parts of PNG in rural communities. They need to live a better life but the government services are lacking because of national government could not adequately fund them through the national budget to cater for their life development in rural communities so they live a poverty life.

1. Overview of Forestry & Rural Livelihood Development in PNG continue...

The PNG Forest Authority manages the forestry in PNG sustainably to benefit the rural communities in a very difficult circumstances in bringing logging operation & rehabilitation programme to reduce poverty and elevate economy in rural community and abroad. The people can only see the real development in their life through the forestry activities which brings about social change, economical benefits, infrastructure development and access to modern world today.

2. Sustainable Forest Management

2.a. Logging Activities

- **Natural Forest Land**

The forest is developed in a sustainable manner throughout PNGFA by carrying out Selective Logging Operation under the Forestry Act 1991 of PNG.

The logging operation project basically occur in the heart of the people mostly in rural communities which brings about development into the livelihood of the people through the infrastructure development like building roads, building schools, Aid posts, power supply and building the landowners' permanent houses & improvement on households.

The rural people mostly involve on business activities and some of them are employed by developer to earn their livings through a paid jobs & even they go to further trainings and studies to advance their lives in the rural communities for reduction of poverty & improvement of economy.

2.b. Rehabilitation Programme

- **Logged Forest Land**

The sustainable Forest Management is maintained at this stage after timber is harvested and carry on with rehabilitation programme right after the logging operation taken place. For example, the timber permit was issued to harvest trees at Mt Giluwe from 1988 – 2008 of 10,032 ha. However, the PNG Forest Authority by then carried out rehabilitation programme since 1988, 1, 600 ha of *Pinus patula* and *Eucalyptus grandis* were planted.

- In 2002, 500 ha of *Pinus patula* & *Eucalyptus grandis* were planted.
- In 2008, 400 ha of *Pinus patula* were planted.
- In 2010, 300 ha of *Pinus Patula* & *Eucalyptus grandis* were planted
- In 2011, 100 ha of *Pinus patula* & *Eucalyptus grandis* were planted

The column graph below shows the years and hectares of tree planting on the logged forest land.

There were total of about 1,600 ha of *Pinus patula* & *Eucalyptus grandis* were planted for future generation but it is currently involving people in the community to benefit on the rehabilitation programme.

2.b. Rehabilitation Programme Cont...

- **Fire Hazard Areas**

The rehabilitation programme was carried on the rural communities which were destructed by fire especially in Southern Highland Province that includes;

- 180 ha of *Pinus patula* & *Eucalyptus grandis* were planted in Imbagae District.
- 200 ha of *Pinus patula* & *Eucalyptus grandis* were planted in Mendi Muhino District of Upper Mendi LLG.
- 120 ha of *Pinus patula* & *Eucalyptus grandis* were planted in Bush Koriz of Mendi Muhino District.

The total of 500 ha were planted with *Pinus patula* & *Eucalyptus grandis* on destructed land by bush fire for the rehabilitation programme, involving people on rural communities earn their living by participating on forestry activities carried out by PNG Forest Authority.

The total of 500 ha were planted with *Pinus patula* & *Eucalyptus grandis* on destructed land by bush fire for the rehabilitation programme, involving people on rural communities earn their living by participating on forestry activities carried out by PNG Forest Authority.

2.b. Rehabilitation Programme Cont...

- **Grassland**

The grassland is converted into artificial forestry land by planting the tree seedlings of *Pinus Patula* & *Eucalyptus grandis* for extensions or woodlot to improve the livelihood of the people in the Southern Highland Province which includes;

- 100 ha of *Pinus patula* & *Eucalyptus grandis* were planted in low valley Mendi Muhino District for the purpose woodlots or extension.
- 150 ha of *Pinus patula* & *Eucalyptus grandis* were planted in upper Mendi of Mendi Muhino District for the purpose of woodlots & extension.
- 350 ha of *Pinus patula* & *Eucalyptus grandis* were planted in Imborger District for the purpose of woodlots & extension.

Shows the PNGFA Officers on the project site

Grassland cont...

- 200 ha of *Pinus patula* & *Eucalyptus grandis* were planted in Kagua District for the purpose of extension & woodlots.
- 50 ha of *Pinus patula* & *Eucalyptus grandis* were planted in Bush Koriz of Mendi Muhino District.
- 50 ha of *Pinus patula* & *Eucalyptus grandis* were planted in Nipu Poroma District for the purpose of extension & woodlots.

The extension & woodlots were planted on grassland upon the request from landowners purposely to harvest for timbers & logs to build their own houses and sell to other interested group of people and rural communities to earn their living in the future after some 20 – 30 years time.

3. Approaches

The approaches taken to improve & develop the rural livelihood of the people through forestry sector may subject to the following initiatives of PNG Forest Authority;

- ✓ **Carry out awareness throughout the region to promote rehabilitation programme and conduct trainings.**
- ✓ **Awareness is importance for releasing of ground/grassland and other unwanted land to plant the tree seedlings.**

3. Approaches cont...

- ✓ **Provide technical advice to local communities for preserving & developing of forestry programme.**
- ✓ **Providing materials, tools & other resources to boost and manage successfully through manpower provided.**
- ✓ **Trained more officers to do the work to carry out the programme more effectively.**
- ✓ **The partnership approach should be taken into account with other organizations and stakeholders like Agriculture & Livestock Department & National Agriculture & Research Institute to incorporated on rehabilitation programme.**
- ✓ **Bring in some good & quality logging companies to develop the Forest Management Area (FMA) in PNG for selective logging on the natural forest area.**

4. Benefits For Rural Livelihood Development

There are two types of benefits;

1. **Short term benefits**

Example

a. **National Agriculture & Research Institute has its programme to benefit people on the rural communities by introducing its food crops within the rehabilitation programme site partnering with PNG Forest Authority.**

b. **Agriculture & Livestock Development may also raise cattle, cows, goats & sheep to benefit the rural communities partnering with PNG Forest Authority in the forest rehabilitation programme to benefit the rural communities.**

c. **Small and medium term entrepreneur (SME) can also come into bring other small business activities into the forestry programme partnering PNG Forest Authority within both rehabilitation programme & logging areas to benefit the rural communities.**

4. Benefits For Rural Livelihood Development cont...

2. **Long Term Benefits**

Example

a. **15 – 20 years time the harvesting of timber on plantation and natural forest brings benefits to rural communities in terms of economical, infrastructure & social development.**

b. **Harvesting of timbers on extension or woodlots may also brings the similar changes which can directly benefits people on the rural communities.**

5. Strength & Weakness

During the project implementation, we faced a lot of challenges or weaknesses but we pursued With great determination & eventually we achieved the goals and aims is our strength.

Table below shows the strength & Weakness

Strength	weakness
* Manpower is provided	* No adequate funding from National Government to implement the projects.
* It is a paid job	* Political manipulation of the project.
* Accommodation is provided.	* Project is affected during the changing of political head.
* Vehicle is provided	* Project is affected by land dispute
* It is a permanent job.	* Project is affected by tribal fight.

5. Way Forward

- ❖ **In line with the national agenda & PNG Forest Authority's Corporate Plan to boost the rural livelihood development programme, the most useful tools which can be used to carry out awareness to secure land to plant the tree seedlings on customary land.**
- ❖ **The rural livelihood development can be backed up with the provincial government, district & local level government, Non Government Organization (NGO) Private sector, business house, stakeholders & other donor agencies hand in hand to put adequate funding to carryout the programme more effectively.**
- ❖ **The national government should make this priority one for its national budget so the sustainable forest management under taken by PNG Forest Authority which can be beneficial to the rural communities in terms of economy, infrastructure & social development and not only that but most importantly, the world is looking at how to tackle the cross cut issues of climate change effects that affects peoples life.**

5. Way Forward Cont...

- The next important aspect is to equip and up skill the human capacity building to implement the rural livelihood development programme through sustainable forest management with wide range of skills and experiences.
- The main focus now is to change of key directions at the policy level and adopt in more effective way should be considering self financing or financial autonomous to carry out the programme. The policy direction currently under taken is unstable and changes at any angle when successive government gets into power to make decision for the nation which affects most of the programme and projects.
- The rural livelihood development can be seen through a new technology which is greatly needed to drive the programme more effectively so the developed countries should help the developing countries with their knowledge, efforts, technical skills, instrument, equipment , financial aid to manage the programme.
- The agriculture and livestock should also put its effort in align with natural goals to achieve long & short term benefits through agro – forestry in order to develop the rural livelihood of the people.

The end!!!

Thank you!!!

"Community forest management "
The Vicos Community Case in Peru

Erica Castro Aponte
Forest and Wildlife Service (SERFOR)
2016

I. INTRODUCTION

During the last years communities around the world are playing a more central role in the management of local forest and in ecosystem conservation.

At the moment, successful initiatives in community forest management exist in countries like Guatemala, Mexico, and Nicaragua.

In the Andes of Peru communities have long tradition of management and conservations of local forest.

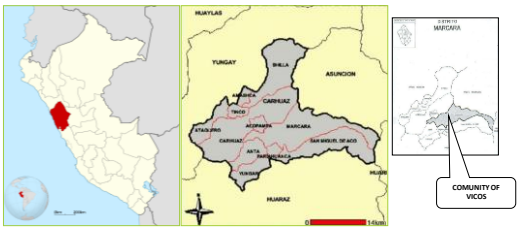
➢Social practices: solidarity, reciprocity, collectivity and equity

➢Organizational management strategies: organization and communication

➢Quechua community

1.1. Area of study

The community of Vicos is located in northern Peru in the Recuayhuanca microbasin, district of Marcara, province of Carhuaz, and department of Ancash.



The forests in the mountain

II. Objective of investigation

The general objective
➢Role of social practices and organizational community of Vicos

The specific objective
➢The strategies of organizational management

➢ The techniques of forest management that the community uses,

➢The forms of collaboration between public institutions, companies and NGOs for community forest management,

➢Economic and non-economic benefits,

➢Model of sustainable forest management

III. METHODOLOGY

Qualitative research

Peasants, public agency officers and local NGOs representatives were interviewed in depth.

Interviewed actors	Nº
Peasants/community members	30
Directive committee	7
Forest comittee	3
Institutions	10

Total interviewed: 50

Nº	Name of the Sectors of the Community of Vicos (Quechua)
1	Ulmay
2	Punko koral
3	Wikus Pachan
4	Tampu
5	Paltash
6	Kullwuash
7	Kuyruqshu
8	Ukushpampa
9	Kachipachan
10	Wiyash

Research Framework

- Social practices of the comunity Vicos
  - Reciprocity
  - Solidarity
  - Collectivism
  - Equity
  - Cultural identity
- Social actors and their roles
  - -Governing
  - -Trading
  - -Training
  - -Promoting
  - -Financing
- Strategies of management organizational
  - Organization
  - Comunication
  - Techniques of management forest

DATA COLLECTION







IV. RESULTS

The organization that the community of Vicos shows is based on the social practices identified, like the reciprocity, solidarity, collectivism.

The community has a culture of reciprocity and respect

The community does collective work enter forest and agriculture. Example: Reforestation

Social actors and their roles in the Community forest management

Community members/peasants: They do agriculture, ranching and, forest in the community.

NGOs National and International
- Training
- Promoting
- Financing

Public Institutions of the State
- Promoting

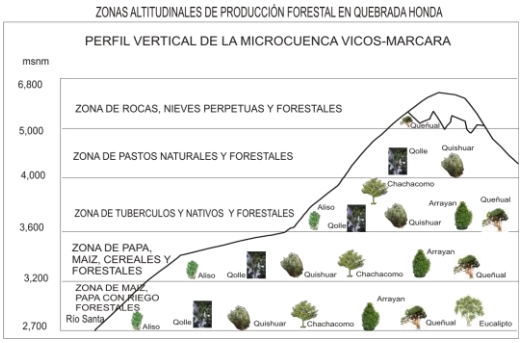
Mining and wood-yielding Company
- They buy wood
- Promoting



Tools for plow



ZONAS ALTITUDINALES DE PRODUCCIÓN FORESTAL EN QUEBRADA HONDA



Source: Own elaboration on the basis of the data of the workshop: The Group Development Plan (2011-2016) of Vicos's community, 2011

Timber-yielding and not timber yielding products generate economic benefits

wood

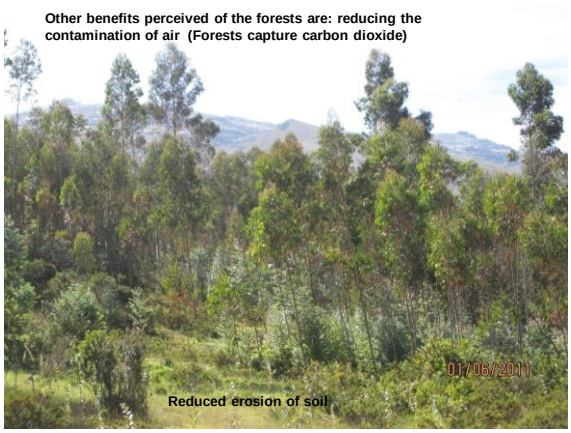
Firewood

Fruits

seeds, dyes, medicine, crafts manship, latex, resin

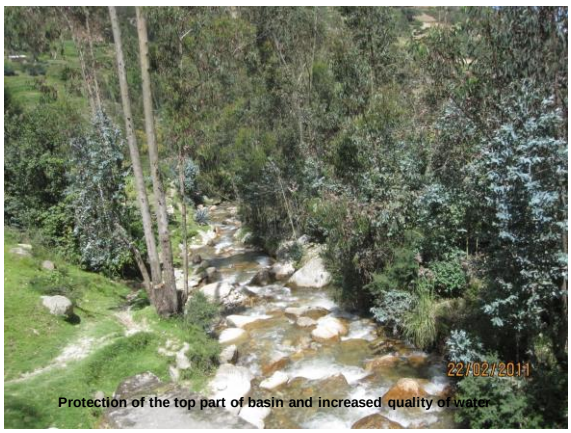
Landscape

Other benefits perceived of the forests are: reducing the contamination of air (Forests capture carbon dioxide)



Reduced erosion of soil.

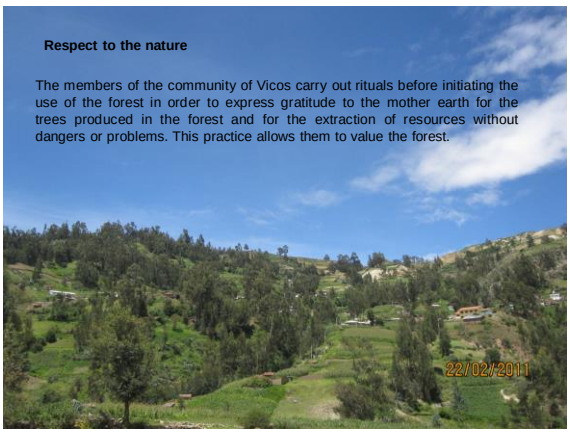
The economic o benefits the communities enjoy are: They have achieved an increase in their income by $30.00 per tree and timber-yielding products, and by $10.00 for no timber-yielding products, it is dyes.



Protection of the top part of basin and increased quality of water

Respect to the nature

The members of the community of Vicos carry out rituals before initiating the use of the forest in order to express gratitude to the mother earth for the trees produced in the forest and for the extraction of resources without dangers or problems. This practice allows them to value the forest.



Main forest species used in the community of Vicos

"Quinual" (*Polylepis reticulata*)

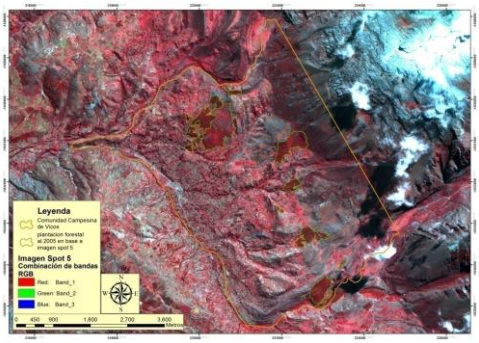
"Chachacomo" (*Escallonia resinosa*)

"Nogal" (*Juglans neotropica*)

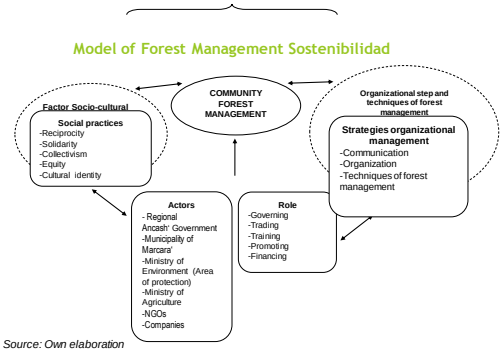
"Colle" (*Buddleja sp*)

"Aliso" (*Alnus acuminata*)

Forestal Map of Vicos Community



Source: Own elaboration on the basis of images Landsat of the 12/05 2011 – 12/08/2012; Google Earth. (increase in 94,64 there is to 183,00 there is of forest)



Source: Own elaboration

	V. CONCLUSIONS
1	The research concludes that social practices such as solidarity, reciprocity, collectiveness and equity are key to manage the forest sustainably by the Vicus community and that those practices condition the organizational structure, power relationship and collaboration schemes in the community.
2	The research suggests a model of sustainable forest management at community level worldwide based on the Vicus community case.
3	The model of community forest management is relevant because it allows integrating the form of organization, the social practices and the techniques of management a community.
4	The research suggests a model of sustainable forest management at community level worldwide based on the Vicus community case and the monitoring of organizational and cultural aspects beside of ecological ones for a sustainable community forest management.

In Peru in the new regulations as state policy reads as follows:

The policy of the Peruvian state considers that the participation of indigenous and rural communities was crucial in the process of consultation for law and approval of the respective forest regulations.

In cooperation with the Forest and Wildlife Service (SERFOR), the Forest and Wildlife Law No. 29763 with its regulations (approved this year) are being implemented in the community. The regulations and guidelines were drafted after consulting with the Peruvian indigenous communities about the use and management of forest resources.

The participation of indigenous communities is required in the implementation of regulations based on the participatory development of guidelines and / or supplementary regulations.

¨ THANKS ¨

"Palugahawela" – Sri Lanka Community Forestry Program Site (A Case Study on Forests and Livelihood)

D.M.B.M.Bandara
Assistant Conservator of Forests
Forest Department
Sri Lanka

Background

- **SLCFP;**
  - Implemented by FD since 2012
  - Funded by AusAID
  - Funds transfer through UNDP

Background

- **The Goal;**
  - To improve the management of natural resources to support livelihoods and contribute to poverty reduction in 18 districts of dry and intermediate zones of Sri Lanka

Background

- History;
  - 1980 – National Forest Policy - "to involve local communities in development of private woodlots and forestry farms through programs of Social Forestry"
  - 1995 - National Forest Policy – "incorporate development of partnerships with local communities, community management of forest resources and benefit sharing with them"
  - 1995 - The Forestry Sector Master Plan – "partnerships and empowering rural communities to manage and protect forest resources, and also to involve communities in forestry development activities and share benefits"

Background

- **Objectives;**
  - To reduce deforestation and forest degradation by involving communities in forest management
  - To build the capacity of the Forest Department so community forestry approaches can be implemented nationally

Background

- **Expected Benefits for the Forest;**
  - Reducing deforestation and forest degradation
  - Enrichment of forests and improving species composition
  - Strengthening buffer zones
  - Enhancing bio diversity and carbon fixation
  - Soil and water conservation and maintaining soil fertility
  - Enhancing Non Timber Forest Product (NTFP)

Background

- **Expected Benefits for the Communities;**
  - Increase water availability for cultivation and home needs
  - Provide timber resources through farmers woods lots and home gardens
  - Income generation from inter cropping of cash crops, home gardens and small industries
  - Enhancing the capacities, skills and leadership qualities through training
  - Improvement of rural infrastructure facilities

Background

- **The Process of SLCFP;**
  - Suitable program sites identified
  - Community groups formed and capacity enhanced
  - Community Forest Management Plans prepared which address the leading causes of deforestation and forest degradation at each site
  - Community Forest Management Plans implemented in partnership with other government and potentially non-government organizations
  - Home garden development program implemented in other/conflict affected areas, as the opportunity arises

Background

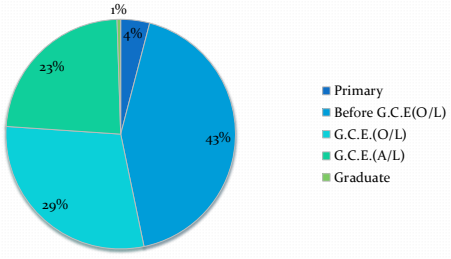
- **The Location;**
  - Province: *Sabaragamuwa*
  - Administrative district: *Ratnapura*
  - Forest: *Palugahawela Talawa*
  - Forest type: Dry monsoon
  - Extent: 1,002 ha
  - Elevation: 300 – 500 m
  - Climatic zone: Intermediate
  - Temperature: 25 - 35 °C
  - Annual rainfall: 1,000 – 1,500 mm (Rains - Nov. to Feb.)
  - Soil types: Loam and Reddish Brown

Background

- **Use of Forest;**
  - Catchment area of *Palugahawela* tank
  - Extraction of timber, fuel wood and NTFP (sand & gem mining)
  - Facilitation for traditional *Chena* system
  - Cultivation of annual agricultural crops
  - Hunting purposes

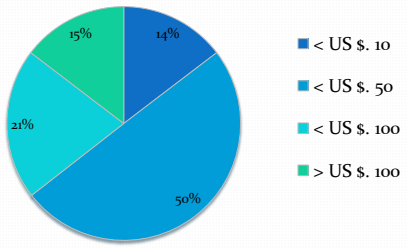
Background

Education



Background

Monthly Income of Families

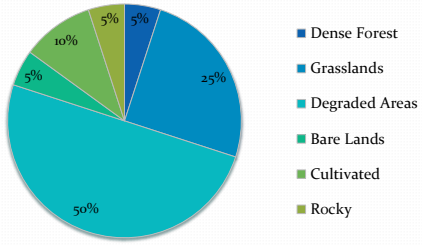


Background

- **Reasons for Selection;**
  - Forest degradation
  - Illegal encroachments for cultivations
  - Unregulated extractions of forest products (timber, sands)
  - Hunting wild animals
  - Annual manmade forest fires
  - Human – elephant conflict

Background

Land Use Pattern of the Forest



Key Elements

- **Identified Issues through PRA;**
  - Insufficient monthly income
  - Lack of education
  - Irregular and illegal land use
  - Income by illegal ways
  - Less awareness of the importance of forests
  - Destruction of forests
  - Lack of updated knowledge about environmental issues

Key Elements

- **Suggested Solutions by the Community;**
  - Establishment of proper income generation path ways
  - Gain the awareness about forest protection
  - Establishment of forest plantations
  - Vocational trainings
  - Provide school education for all children
  - Regulate the land use pattern

Key Elements

- **"*Palugahawela Thuru Saviya*" Community Based Organization (CBO)**
  - Representation of the community
  - Responsibility on CFP activities
- **An opposition group**
  - Enforce others
  - Engaged with illegal activities

Key Elements

- **Community Forest Management Strategies in the Management Plan;**
  - Selection of economically valuable timber tree species for forest plantations
  - Conserve the soils
  - Establishment of mixed species plantations
  - Application of silvicultural treatments
  - Prevention of forest fires
  - Conserve and improvement of water streams and catchment areas
  - Grant a responsibility on the community through the agreements for cultivation in forest lands

Key Elements

- **Proposed strategies to improve the forest cover;**
  - Establishment of enrichment plantations
  - Establishment of buffer zone between forest and the village
  - Development of home gardens

Key Elements

- **Formation of committees at the CBO;**
  - To manage the issuing of medicines from the forest
  - To regulate the sand mining by granting only for permit holders at the decided areas
  - To control illegal encroachments, illegal tree felling and manmade forest fires


Key Elements

- **Improvement of Infrastructure;**
  - Renovation of community hall
  - Designing and landscaping of courtyard of pre school
  - Providing of rain water tanks
  - Construction of a public cemetery
  - Reconstruction of roads
  - Construction of a pipe water system
  - Construction of a public play ground




Key Elements


- **Capacity Building;**
  - Fire protection campaigns
  - Vocational trainings
    - Driving
    - Beauty culture
    - Bee management
    - Mushroom production
    - Pepper cultivation
    - Tailoring
    - Flower cultivation



Key Elements


- **The Agreement;**
  - 10 ha extent
  - 25 farmer families
  - 0.4 ha per each family
  - 30 years
  - To cultivate annual agricultural crops while establish and manage timber trees

Commitment < 50%

Focused only on cultivation of annual crops

Key Elements

- **Home Gardens;**
  - Distributed plants among 30 families
  - 15 plants for each family including timber and fruit species

Plants were established under supervisions of forest officers

Key Elements

- Was it achieved?
  - Rehabilitation of degraded forest
  - Control of illegal cultivations, felling & sand mining
- Caught the chairman of CBO against a forest offence
  - Sawing timber inside the forest by using a mobile timber depot


Key Elements

- Then,
  - A manmade forest fire partially destroyed the forest plantation sites...

Key Elements

- Key issues behind the failure...
  - Poor attitudes of the community
  - Lack of institutional support
  - Insufficient field staff
  - Restriction to transfers of funds between categories

Key Elements

- Finally,
  - Decided to construct an elephant fence around the forest with facilitating access elephants in to the forest from *Udawalawe* national park
  - Access of mankind in to the forest will be limited by only authorizing to the farmers who managed well their wood lots

Lessons Learnt

- **Community component > 90%**
- **Forestry Component < 50%**
- **Attitudes...?**

Way Forward...

- Enforce the forest law toughly
- Sacking of illegal encroachments
- Strengthening the field staff

At least to save the forest as it is....!!!