

Asia Pacific Forestry Week 2016

15 years of AKECOP: Experiences and Lessons Learned

Developing Human Resources for Forest Restoration through Various Training Programs



Dr. Thaung Naing Oo
Director-Forest Research Institute
Forest Department
Ministry of Environmental Conservation and Forestry

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Holiday Inn, Clark Pampanga, Philippines

Goal of **AKECOP**

Collaborative Research and Partnership

Restoration

Biodiversity Conservation

Agroforestry

Enhancement of capacity of AMS in **restoration** of degraded ecosystems and **biodiversity conservation** and **Agroforestry** for the income source for local community



Progress of **AKECOP**

00' 01' 02' 03' 04' 05' 06' 07' 08' 09' 10' 11' 12' 13' 14' 15'

Phase I

Phase II

Phase III

Annual by annual

Restoration of Degraded Forest Ecosystems in Southeast Asian Tropical Regions

Restoration on Degraded Terrestrial and **Mangrove** Forest Ecosystems in ASEAN Regions

Inclusion of **Biodiversity Conservation**

❖ **2015~2016:**

“Restoration of Degraded Ecosystems and **Conservation of Biodiversity** in the ASEAN Region”





Global Challenges

- ❖ **Deforestation and forest degradation**
 - ❖ **Loss of biodiversity**
 - ❖ **Climate change and natural disasters**
 - ❖ **Drought, land degradation and desertification**
 - ❖ **Scarcity/shortage of water**
 - ❖ **Hunger and food security**
 - ❖ **Poverty**
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Global Forest Cover Change (1990-2015)

Year	Forest area (000 ha)	Annual change (000 ha)
1990	4,128,269	
2000	4,055,602	-7267
2005	4,032,743	-4572
2010	4,015,673	-3414
2015	3,999,134	-3308

FAO FRA 2015





Global initiatives for reforestation

- ❖ Net Zero Emission or Net Zero Deforestation with various means and ways
 - ❖ Decisions of UNCBD, UNCCD and UNFCCC to accelerate reforestation and to enhance and strengthen sustainable forest management
 - ❖ Asia Pacific Rain Forest Recovery Plan
 - ❖ New York Declaration on Forests
 - ❖ Bonn Challenges for reforestation and
 - ❖ Global Landscape Restoration Forum
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Elements of SFM

- 1) **Extent of forest resources**
- 2) **Forest biological diversity**
- 3) **Forest health and vitality**
- 4) **Productive functions of forest resources**
- 5) **Protective functions of forest resources**
- 6) **Socio-economic functions of forest resources**
- 7) **Legal, policy and institutional framework**



SFM and its Contribution to **SDGs**





Developing Human Resources for Forest Restoration through Various Training Programs





Vision

- Update, develop and provide knowledge, skill, technology and experiences to support development in forestry sector in accordance with national priorities

Mission

To generate, preserve, disseminate and advance knowledge, technologies and solutions for addressing the issues related to forests and promote linkages arising out of interactions between people, forests and environment on a sustained basis through research, education and extension.

How to develop human capacity in forestry sector?

❖ Formal forestry education

SFM competencies needed by the new forestry professional could be developed through the following **formal forestry education curriculum development and change strategies**.

Enriching existing courses by integrating sustainable management concepts.

Enriching existing curriculum by instituting new courses in sustainable forest management.

Revision of existing curriculum to re-orient it towards sustainable forest management.

Institution of a new curriculum related to sustainable forest management.





❖ **Non-formal forestry education**

- Capacity building for various stakeholders (from farmers to decision makers)
 - ❖ Various training programmes
 - ❖ Concept of SFM, reforestation and ecological restoration
 - ❖ Reforestation/afforestation techniques
 - ❖ Plantation management
 - ❖ Agroforestry/community forestry/Community based forest management
 - ❖ Cross visits
 - ❖ Study tours
 - ❖ Forestry extension and awareness raising programmes
 - ❖ Workshops
 - ❖ Research activities





Issues gaining importance in the forestry sector:

- ❖ biological record keeping
- ❖ environmental impact indicators
- ❖ biodiversity valuation principles
- ❖ trade and intellectual property rights
- ❖ biopiracy, gene pool management
- ❖ protected area effectiveness, environmental economics
environmental évaluation techniques, forest certification
carbon sequestration and ecosystem services
- ❖ participatory natural resource management
- ❖ bio-economic modeling





Trainings needed for capacity development

- ❖ Reforestation techniques and plantation management (from seed handling, nursery practices to harvesting)
- ❖ Tree growth and yield modeling,
- ❖ Integrated watershed management,
- ❖ Soil and water conservation techniques,
- ❖ Mangrove and coastal area management,
- ❖ Biodiversity and protected area management,
- ❖ Monitoring systems for afforestation and reforestation,

- ❖ Application of geographical information systems,
- ❖ Low impact harvest technology,
- ❖ Wood technology,
- ❖ Cross border marketing of NTFPs,
- ❖ Forest management information system
- ❖ Participatory forest management and land use planning
- ❖ Conflict management related to forest resources and land use



The present-day foresters have to deal with a number of non-technical issues also, e.g.,

- ❖ Intersectoral policy and programme linkages,
 - ❖ Social sciences including conflict management,
 - ❖ community mobilization,
 - ❖ forests as tool for rural development including income generation, micro-credit, microenterprise management,
 - ❖ alternate energy technology,
 - ❖ quality control skills,
 - ❖ accounting and fund management skills.
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Main Research Areas

- ❖ Sustainable Forest Management and Forest Certification;
- ❖ Community Forestry including Joint Forest Management;
- ❖ Participatory Forest Resource Assessment, Monitoring and Evaluation;
- ❖ Legal and Policy Analysis in Forestry;
- ❖ Forests and Livelihood;
- ❖ Renewable energy (biomass energy) and efficient cooking stove
- ❖ Valuation of Forests and Natural Resource Accounting;
- ❖ Remote Sensing and GIS Applications in Forestry;

- ❖ Gender in Forestry;
- ❖ Protected Area and Biodiversity Conservation;
- ❖ Management of Non-Wood Forest Products (NTFP) including Medicinal Plants;
- ❖ Wetlands Management;
- ❖ Trees Outside Forest;
- ❖ Payment for Environmental Services (PES);
- ❖ Timber Utilization and wood-based industries;
- ❖ Climate Change



Visualizing New Paradigm

The new paradigm of training programme would emphasize a number of key elements:

- Learning rather than teaching;
- Building capacity for critical thinking and problem solving;
- Locale specificity in the context of a global vision;
- Multidisciplinary approach;
- Multi-sourced and accessed, rather than top-down, controlled and orchestrated in nature;
- Participatory with broad involvement of peers and the community members;
- Life long and continuous in character;
- Sensitivity to diversity, equity and gender;
- Knowledge generation; and
- Empowerment, rather than indoctrination.





Contributions of AKECOP to ASEAN Member States for Capacity Building

Graduate Degree Programs - AKECOP

A number of young scientists were also granted scholarships for graduate degree programs at SNU. The AKECOP scholars and these grantees are composed of researchers from Indonesia (3), Malaysia (3), Myanmar (4), Philippines (5), Thailand (3), and Vietnam (3).

❖ insuring adequate supply of quality expertise/manpower in forest restoration and sustainable forest management

❖ formal education provides the avenue for rigorous training or production of high quality research and teaching expertise/manpower in forest restoration and sustainable management.



Short-term trainings - AKECOP

- ❖ Short-term trainings organized by AKECOP had been participated not only by its members but also different stakeholders in the country such as government agencies, people's organizations, non-government institutions, and the academe.
- ❖ More than **20 short-term trainings** and training workshops have been conducted and participated by either in groups or individual.

AKECOP responded to the changing environmental demands through packaging capacity-building activities that would empower individuals to move forward to sustainable development amidst the changing times.

- ❖ short term training provides good opportunity to young researches to be exposed to new scientific methods, technologies and equipment for basic forest restoration research.





Contributions of AKECOP to Forestry Sector of Myanmar

Initiative of AKECOP in Myanmar

● History/timeline

- Forest Research Institute (FRI), Forest Department (FD), Ministry of Environmental Conservation and Forestry (MOECAF) joined the AKECOP project in 2003 under Phase I (2000-2005). Since then, FRI has been participating AKECOP Project until Phase VII.

● Milestones

- FRI implemented the following two research projects during the *Phase I (2000-2005)*:
 - Assessment on tree species diversity of Alaungdaw Kathapa National Park **(to record plant biodiversity and ethno-botanical information)**
 - Restoration of degraded forests with special emphasis on enrichment planting **(testing various reforestation techniques)**

Initiative of AKECOP in Myanmar

- AKECOP supported 4 **scholarships** for Ph.D. and MSc. Degrees to study in Seoul National University during *the Phase II (2005-2008)*,
 - **Dr. Thaung Naing Oo** **Director of FRI, Forest Department**
 - **Prof. Ohn Lwin** **Professor at the University of Forestry**
 - **Mr. Aung Naing Oo** **Assistant Lecturer, University of Forestry**
 - **Ms. Yu Ya Aye** **Range Officer, FRI**



Initiative of AKECOP in Myanmar

- *During the Phase III (2009-2011)*, Myanmar implemented **National Programme Assessment** and **Regional collaboration** on forest project of Malaysia-Myanmar.
 - Two junior researchers of FRI were trained at the Forest Researcher Institute Malaysia (FRIM) for two times (28 days, second time 5 days).
 - Exchange visits were also paid between two Myanmar Forest Research Institute and Forest Research Institute Malaysia.



❖ Single year activity for 2011-2012: Forest Research Institute implemented a project entitled “Enhance awareness and participation of local people in restoring and preventing deforestation and forest degradation to support Pilot Project activities; Social Forestry Aspects”.



- *Single year activity for 2012-2013:* a project entitled “Research on Biomass Energy” was implemented under the thematic area of “Restoration of Degraded Terrestrial and Mangrove Ecosystems and Conservation of Biodiversity in the ASEAN Region”.



Single year activity for 2013- 2014 and 2014-2015: Assessment on plant biodiversity of Shwe Set Taw Wildlife Sanctuary is being implemented with the support of AKECOP.

AKECOP Project contributed substantially to the research and development of forestry sector of Myanmar.



- *Single year activity for 2015-2016:* a project entitled “**Upgrading Medicinal Plants Garden and Development of Arboretum of the Forest Research Institute, Myanmar**”



Meetings, Trainings, Workshop, Conference, M.Sc and Ph.D. scholarships provided to Myanmar by AKECOP (2002-2016)

No	Events/ scholarships	No. of events	No. of participants
1	Meetings	6	6
2	Trainings	15	17
3	Workshops	6	5
4	Forum	1	1
5	Conference	2	3
6	Master Degree	-	7
7	Ph.D. Degree	-	1





Contributions of AKECOP to R&D of Forestry Sector of Myanmar

● Research

- Improve research methodology in restoration ecology, soil sciences, biodiversity assessment, non-timber forest products and agro-forestry
- Capacity building
- Model and pilot for developing C&I for SFM

● Institutions

- Strengthen institutional capacity
- Strengthen and promote regional cooperation
- Networking with other renown research institutions

● Policy

- Increase political interest and attention to the SFM
- Increase public awareness about SFM, ecosystem restoration and ecosystem services
- Improve engagement of relevant stakeholders in managing forest

Formal and Non-formal Trainings for Developing Human Resources in Forestry Sector in Myanmar

❖ University of Forestry, Yezin

- ❑ B.Sc. (Forestry) – 6 years
- ❑ M.Sc. (Forest Sciences)
- ❑ Annual intake 100 students
- ❑ Total student = 575 (Undergraduate)



❖ Myanma Forest School, Pyin Oo Lwin

- ❑ Over 100 years old
- ❑ In-service training programme
- ❑ 9 months
- ❑ Annual intake around 90 staff

Formal and Non-formal Trainings for Developing Human Resources in Forestry Sector in Myanmar

❖ **Central Forestry Development Training Centre (CFDTC), Hmaw-bi**

- ❑ Various training programme for different levels of forestry staff (field level to director level)
- ❑ At least 12 training courses organized annually



❖ **Central Forestry Development Training Centre (CFDTC), Patheingyi**

- ❑ Local community and field staff
- ❑ Community Forestry
- ❑ Agro-forestry
- ❑ Nursery practices and reforestation techniques
- ❑ At least 12 training courses organized annually

Formal and Non-formal Trainings for Developing Human Resources in Forestry Sector in Myanmar

❖ Myanmar Timber Enterprise Training Schools (Nanchung, Pyinmana, Alone)

- ❑ In-service trainings for various levels staff
- ❑ Started in = 2008
 - Official = 303
 - Staff = 3394



❖ Myanmar Survey School (Pyin Oo Lwin)

- ❑ 8 months training programm
- ❑ Started in 1947
 - Official = 293
 - Staff = 3394

The Way Forward

- To scale up the capacity building programme
- To strengthen institutional capacity
- To accelerate community based-forest management activities including agro-forestry linked to climate change mitigation and poverty reduction
- To scale up biodiversity conservation and ecotourism linking to reforestation of degraded forest ecosystem
- To develop non-timber forest products
- To promote forestry extension activities for improvement of awareness raising among stakeholders



THANK YOU VERY MUCH!