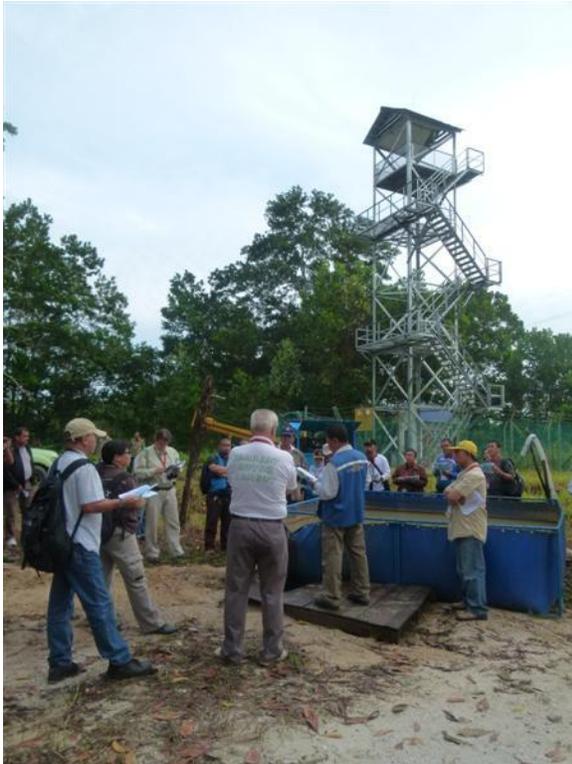




Apfp-SEApeat



Technical Meeting on Integrated Management Plan for Peatlands Management in Southeast Asia

Legend Hotel, Cherating, Pahang,
MALAYSIA

9-10 July 2012

Project funded by



Enabling poor rural people
to overcome poverty



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Introduction

This meeting, held from the 9th to 10th July 2012 in Cherating, Pahang, was attended by 40 participants from the Malaysian, Indonesian, Vietnam and Philippine APFP components. It was also attended by staff of the Pahang State Forestry Department, Forestry Department of Peninsular Malaysia, Department of Drainage and Irrigation, Department of Environment Malaysia, and the Department of Geology and Minerals.

The key objectives of this workshop are:

- To share experience on integrated management of peatlands from the region
- Identify strengths and weaknesses and gaps for implementation of existing plans.
- Identify good practices and lessons learned
- Identify key principles to guide future integrated management measures

The meeting was made possible by funding from IFAD/GEF and the European Union through the APFP and SEApeat projects.

Day One: 9th July 2012

On 9th July, a field visit was held, taking the participants first to Penor, where they were briefed on the operation of a tube well, fire tower and check dams in the area.

Fires happen in this area every year, which is why control measures are necessary. The main reasons for fire in this area is usually natural (lighting strikes) and man-made (cigarette butts, camping fires). The problem requires inter-agency cooperation to be kept in check.



Briefing by Mr Wan Saifubahri Wan Zain from Department of Geology and Minerals. The tube well was put in by the Drainage and Irrigation Department, and managed by the Department of Geology and Minerals. The water level is checked once a week using a water level detector (pic). In dry seasons, generally from April to September, the water level is checked daily. The yield of this tube well is 70 m³

per hour. The amount extracted is adjusted to suit the yield to avoid over-pumping of the ground-water, which will cause other environmental problems. The water at this site is not suitable for long-term consumption due to a high level of Mg and Fe, but is acceptable for short term use and fire-fighting.

The department demonstrated the operation of the tube well. The well is operated by electricity, supplied from a mobile generator. The water is pumped into a canvas/geotextile tank, and the overflow fills up canals that connect to the surrounding areas. Water is taken up by fire trucks from either the tank or canals when there is a fire in surrounding areas.



Briefing by Mr Rozaimi bin Mat Zin, Head of Open Burning Unit from DOE Pahang.

The 25m high fire tower is managed by the Pahang State Department of Environment, and manned daily by volunteers from the Malaysian Volunteer Corps (RELA). Volunteers are equipped with binoculars (power 15 x 70) and a compass to assist in detecting fires in surrounding areas. When fire is detected, the person on duty will inform DOE and the Fire Department for immediate assistance.

To increase the effectiveness of fire detection, effort is under way to requisition another tower which will complement the existing one.



After visiting the tower, participants visited 4 check dams built to control the water level in 2 canals nearby. The briefing was made by En. Hasnan bin Hj Senik from the Pahang State Drainage and Irrigation Department (DID). 2 of the older dams were made from sand bags, while the other 2 are concrete. The cost of the 2 concrete dams was RM20,000; they were completed in June 2012 so their efficacy has not yet been proven. Area behind is plantations on state land.

The group then proceeded to a logyard/ former matau in Pekan Forest Reserve, where they were briefed on the operations of Reduced Impact Logging (RIL) in the area by Pahang Forestry Department.

Haji Abdul Khalim bin Hj. Abu Samah, Deputy State Director for Pahang Forestry Department and Mr. Mohd Khairul Anuar bin Rahim, District Forestry Officer of Pekan, Maran & Kuantan districts then briefed on the development of logging in Peat swamp areas in Pahang.

There is 1.47 million hectares of forest in Pahang with 520,000 ha of Forest Reserve managed using sustainable forestry methods (SFM). The area is divided into 7 districts managed by District Forestry Officers. Of this area, 200,000 ha is peat swamp forest, located in 4 Permanent Forest Reserves namely Pekan, Nenasi, Kedondong and Resak. PSF makes up About 60 percent of protection forests and 40% of production forest in the state.

The IMP project was run with LESTARI (UKM) from 2008. Logging is done using Selective Management System (SMS). Logged areas are replanted (enrichment planting) after logging, including the buffer zone area (20m). SFM areas are audited and certificate can be retracted should they fail to fulfill the requirements.

According to Dr Khali, the buffer zone extends 1 km into state land, where controlled activities are allowed. However, there is also titled and alienated land in the buffer zone area which makes the control more difficult. The life cycle of the 100,000 ha Forest Management plan is 10 years and reviewed after 5. From the review, short term and long term management action is taken. For example, HCVF areas have been added to the original plan after review.

After lunch, participants were taken to a site in Pekan Forest Reserve to watch a demonstration of Reduced Impact Logging using a modified grabber and crane to extract felled timber from the peat swamp forest. A 'merawan siput jantan' tree was felled and extracted via the special path made by the

grabber. The crane uses its 'arm' to navigate the soft peatland. The log was then taken to the access road, which was constructed using compacted sand for cutting and loading to a transport.

Between 2-8 logs are able to be harvested per day using this system. The high cost and strict regulations for sustainable logging in peat swamp areas has resulted in low logging activity in the area, lower than the allowed coupe of 500 ha/yr. There is also an area allocated for carbon offset projects, one of them for the Malaysian Airline System.



The group next proceeded to visit a rehabilitated former logging area referred to as Bangkung. The briefing was made by Mr. Edevaldo J. Yapp, District Forest Officer. The area was logged using RIL methods in 2000 and it has regenerated after 12 years. The stand has regained much of original vegetation; however, stands of *Macaranga*, a pioneer species, indicated logged over zones. The Sustainable Forestry Management cycle for peatlands is 55 years, by which time young timber trees will be large enough for another round of harvesting.

The field visit was closed with an appreciation speech by Mr. Faizal Parish, director of Global Environment Centre.

Day 2 – 10th July 2012

Welcoming address – Dr Raman welcomed the participants to Cherating, Pahang. He expressed thanks to Forestry Department Pahang and hoped everyone had a fruitful visit to Pekan the previous day.

Dato' Masran, Deputy DG of FDPM thanked the Global Environment Facility and other donors for funding this project. He hopes that the participants had a fruitful technical visit. He encourages everyone to actively take part in the technical meeting.

The Programme for this Meeting can be found in Annex 1 and the list of Participants in Annex 2.

Session 1: Chaired by Mr. Hermono Sigit, KLH Indonesia.

Paper 1: Introduction to the Technical Meeting on Integrated Management Plans on Peatlands in Southeast Asia

– Mr Faizal Parish, Director, Global Environment Centre

Mr Parish highlighted the importance of Peatlands as Peat Swamp forest is the main wetland forest type in SE Asia and plays a critical role for climate regulation, water supply and livelihood support.

By 2010, only 34% of PSF remain in relatively intact albeit harvested form. 20% of peatlands have been converted to plantations and balance is degraded or fragmented. The key drivers of degradation are agriculture, logging and fires. Due to the upcoming El Nino period, he warned of the need for added caution in protecting peat swamp forests.

Unless the situation can be changed, the long term scenario is of continuing degradation and fires and large-scale land subsidence. However, there have been recent positive changes in enhancing regional cooperation and partnership between governments, the private sector and local communities. Regional cooperation such as the agreement on Transboundary haze APMI, APMS and others have increased the efforts to reduce the problem of fire in the region.

IMP is a key element in the APMS. Critical that new strategies for integrated management are implemented in partnership with all stakeholders to conserve remaining intact forest, rehabilitate or better use degraded land and improve management on plantation land and bring benefits to local community. To prevent fires, abandoned drains should be blocked and the area rehabilitated. Conscious fire prevention efforts can help further control the risk of fire.

Paper 2: Management of Southeast Pahang Peat Swamp Forests for Conservation & Sustainable Use – an Integrated Approach.

- Dr Khali Aziz, Forest Research Institute of Malaysia

This project was initiated by the Malaysian Government with UNDP/GEF in 1999; it started in June 2002 and completed in 2007.

Its objectives were to promote conservation & sustainable use of PSFs and associated wetlands ecosystems, by demonstrating this at three project sites; develop & implement plans, which encourage processes to ensure conservation of globally significant biodiversity; and contribute towards better understanding of PSFs in Malaysia as well as the region.

There 3 project sites were in Pahang, Sabah and Sarawak. In Pahang, it concentrated in 4 Production Forest Reserves in Pekan, Nenasi, Kedondong and Resak FRs; covering 230,256 ha in Pekan and Rompin districts of Pahang. At 160,000 ha, it is the largest intact PSF area in mainland tropical Asia.

The threats to this area are 1. Fragmentation of the peat swamp complex; and 2. Protection of the river systems, namely Sg. Bebar & Mercong which affects the overall ecosystem. The water table was being affected by logging in state lands, drainage where canals were dug to extract timber and land conversion

in areas surrounding the Forest Reserves. These lead to increased fires in the area. Other challenges are unsustainable NTFP collection, poaching, livelihood of Jakun (local communities), absence of IMP + specific mgmt. prescriptions and technical guidelines and inter-agency coordination.

To overcome these problems, the project took the Ecosystem approach to manage the PSF. The approach considers land use patterns, ecosystem, flora & fauna diversity, local community and hydrological characteristics.

Project activities include landscape assessment and development of socio economic strategies to improve the livelihood of the Jakun community.

The IMP plan was prepared using a consultative planning approach, involving various agencies and stakeholder workshops. After one year, the output was a development and management guidelines which was endorsed by the state authority and attached to the local District plan.

Among the actions is Zonation of the FR based on environmentally sensitive areas and enforcement of forest Management Plan, such as using RIL in the areas. After 5 years, the IMP was reviewed in early 2012. This is important to ensure that the document remain relevant, referred to and the guidelines followed.

Paper 3: Conservation and Sustainable Use of Tropical Peat Swamp Forests and Associated Wetland Ecosystems at Loagan Bunut National Park, Sarawak

- Assoc. Prof. Dr Alexander K. Sayok, Universiti Malaysia Sarawak (UNIMAS)

The project in Loagan Bunut, Sarawak was part of the same UNDP/GEF project done in Pahang. It started in 2002 and completed in 2008.

This area is rich in biodiversity, having 25,000 flying foxes, sambar deer, barking deer, monkeys, other mammals, various reptiles, amphibians, birds, bats, fish, moths and butterflies in its midst.

However, there are threats and issues too, such as water pollution, sedimentation, decrease in fish catch and species as well as encroachment. The lake is in danger of disappearing due to increased sedimentation and drying during drought periods.

There are 3 conservation targets, i) peat swamp forests; ii) riverine and lake areas; and iii) mixed dipterocarp forests which are all under various types of stressors coming from logging, land development and activities in the zone.

The Strategies in place at landscape level is to ensure sufficient ecotype areas are maintained. At local level, action is taken to minimize land clearance and control water quality. And at park level, they work with the management to establish management systems and develop recreational activities.

A number of strategies has been proposed to address conservation management objectives in this area such as development of SOPs, promote alternative income sources, mark and maintain park boundaries; etc.

6 Outputs were identified for PSFs in the LBNP Action Plan; 3 for lake and rivers, and another 6 for the dipterocarp forest.

Some Impacts from the project are 1) IMP and its implementation; 2) Addressing of Native Customary rights; 3) Revival of Community Fishery regulations for sustainable fishing; 4) LBNP Special Park Committee; 5) Addressing lake pollution with the introduction of grey water treatment for discharge; and 6) Addressing lake sedimentation through multi-stakeholder action.

Paper 4: The Conservation of Peatswamp Forest In Sabah: The Klias Forest Reserve

- Mr. Christopher A. Matunjau, Sabah Forestry Department

The Klias Forest Reserve covers an area of 3,630 hectares in the interior of Sabah. The key attribute to this area is its unique forest type, which is very distinct from any other ecosystem. Large ramin and kapur paya trees have been recorded here. There is a high potential for ecotourism, research and other academic activities at the site. It is one of the few PSFs which have been intensively and extensively studied. The management issues and threats here are land development, drainage canals, idle land (fire-risk; excessive drying) and fires.

This is the 3rd site of the UNDP/DANIDA project which ran here from 2002 to 2006. The outputs are water management strategies and a Klias Site Conservation Plan. Some of the Conservation Strategies include promoting the development of adjacent alienated lands, initiating critical reforestation on 300 ha of burnt areas, extending the protected area boundary, coordinating drainage plans and blocking abandoned drainage canals. The project also enhanced the local knowledge base by encouraging research. The Klias Peat Swamp Forest Field Centre is one of the facilities built to facilitate research and create awareness among the public.

Paper 5: Integrated Fire and Water Management for Ecosystem Restoration in U Minh Peatland Region

- Dr. Le Phat Quoi, Institute for Environment and Natural Resources, Vietnam National University

The U Minh Ha and U Minh Thuong areas are important for agriculture and fertilizer production from peat. The ecosystems in this region are Melaleuca forest, seasonal grassland and aquatic swamp. There is high biodiversity in this area.

Due to limited knowledge in the past, inappropriate management actions had increased the incidence of fires and peat decomposition. However, deep flooding for fire control slowed down Melaleuca forest growth and development.

Another water management problem is that the canals which supply water were depleted in the dry season of 2002. A large fire burned 80% of U Minh Thuong National Park that year. 4000 ha of *Melaleuca* burned, damaging its ecosystems and biodiversity. About 3500 ha of peat soil was lost in fires from 2000-2002.

Generally, canals and dykes are used to prevent fires. The problem with high water level is the slow growth of Melaleuca forest and damage to peatland ecosystems. Seasonally inundated grasslands became immersed under water. To correct this, integrated fire and water management was discussed in 2009. Lack of data proved to be a problem.

Through APFP funding in 2010-2011, maps were produced to indicate topography, peatland distribution, peat layer thickness and land cover. Fire and water management was adjusted based on peat and mineral soil characteristics, topography, hydrology and canal systems.

The area was divided into 3 water management zones according to its topography. Dike, sluices, check dams and water level monitoring systems are used to control the water level at suitable levels which is 50 cm from surface during the dry season. A water management regime was developed by Assoc. Prof. Dr. Vuong Van Quynh from the Vietnam Forest University. After its implementation, ecosystems have restored to a more natural state.

Q & A Session

1. Q: How do you control the water level in the area?

A: Dr Quoi: Check dams were constructed to control the water level. Previously, there was no control and water can completely dry up in the dry season.

2. Q: Faizal Parish:

The short term measures have more or less been implemented but the long term measures are still in progress. Do you see particular challenges in 2-3 years that need to be addressed for Sustainable management in Southeast Pahang?

A: Dr Khali: Yes, 76% of Medium term actions have been implemented but another 13 actions have not. It will take another 2-3 years to complete these. The constraint is mainly financial as the financing aspect was not clearly determined in the IMP. The lesson learnt is that financing should be indicated in future plans. The state has allocated some resources, but priorities differ among stakeholders.

Session 2: Chaired by Dr Khali Aziz, FRIM

Paper 6: Efforts Towards Integrated management of Peatlands in Agusan Marsh, Philippines

- Mr. Leonardo Ramirez Sibbaluca, Regional Executive Director, Department of Environment and Natural Resources (DENR), Philippines

The Agusan Marsh is located in the Agusan River Basin in northeast Mindanao. It is one of the most important freshwater marshland in Philippines along with Ligawasan marsh in Mindanao and Candaba Marsh in Luzon. It is believed to form 15% of the country's freshwater swamp forest and resources. Agusan is an Important Bird Area (IBA) and is a Key Biodiversity Area (KBA); forming part of the Eastern Mindanao Key Biodiversity Corridor (EMBC). The Marsh has been listed as a RAMSAR Wetland of International Importance. The area is the only remaining example of intact stunted peat swamp forest in the country.

There are 7 habitat types in Agusan Marsh - open water, flowing water, scrub swamp, herbaceous swamp, river bank, inundated forest and swamp forest. Some unique features in the area include a methane spring, bat roosting area (in Caimpugan), woodpecker park, pitcher plants and others. A plant species, *Tristaniopsis sp.*, which may cure cancer is currently being researched.

Threats to this area include conversion to agriculture, large scale development, erosion, siltation and sedimentation, timber poaching; and proliferation of unwanted and poisonous janitor fish. In 2006, there were efforts to plant rice, but this failed and the farmers abandoned the denuded area. Due to ignorance, the clearing and subsequent abandonment resulted in widespread fire and floods.

With the APFP project, effort is being taken to build capacity among key agencies and stakeholders in the region. The second effort is mapping and assessment of peatlands, trying to increase the area protected under the Agusan area. The Third effort is zoning and land use planning. A Workshop in determining the best land use was held in May 2012. Inclusion of recommended land uses will eventually be translated into a Zoning Ordinance. The fourth is an information, education and communication campaign. Fifth is Ecotourism planning and Sixth is the implementation of a Demo farm and rehabilitation of degraded peatlands. Other efforts include policy improvement and identification of sustainable financing options.

Paper 7: Implementation of Sustainable Peatland Ecosystem Management in Riau

- Mr. Manipol Ginting, BLH Riau

Riau covers 107,932.71 km² on Sumatera Island. The latest Indonesia Spatial Use plan for Riau was made in 1994.

The key elements of the environmental policy in Riau are:-

- a. Restoring and conserving water resource, air, forest, land and coastal ecosystem as well as sea.
- b. Increasing management capacity and environmental quality.
- c. Forest land rehabilitation and protection.
- d. Strengthening mitigation actions of negative environmental impact and anticipating global impacts

A Profile of Riau's peatlands:-

- About 5.7 million hectares of Riau's area belongs to peatland hydrological area (Master Plan of Riau's peatland ecosystem management) or about 64% of Riau's area
- There are 23 peatland hydrological areas in Riau
- Riau's peatland hydrological area consists of 1.7 million hectares of peat dome protected area and 4 million hectares of silvicultural area
- Peatland hydrological area is a hydrological ecosystem unit. Disturbance toward one of the subsystems of the ecosystem will result in impacts on other ecosystems. Forest plantation and estate, fire, emission, canals, decrease vegetative cover Protected peat dome area of about 30% of the peatland hydrological area

- Silvicultural peat area belongs to peatland which is potentially to be utilized and is located in protected peat dome area

Issues for peatlands in Riau are:-

- Peat land utilization for plantation forest and estate crops
- Peatland and forest fire
- Peatland emission
- Canals in peatland
- Decreased peatland vegetation cover

The benefits of peatland management include improvement of ecology and socio economy.

The implementation of a Sustainable Peatland Management Plan in Riau involves the following:

1. Proposed protected peatland area in the new revised spatial use plan of Riau)
2. Peatland spatial use plan of Riau
3. Water management especially in plantation forest
4. Encouraging biosphere reserve of Giam Siak Kecil Bukit Batu management (peat swamp forest conservation area)
5. Zero burning in peatland
6. Carbon conservation and green house gas emission mitigation resulting from peatland through REDD+ and establishment of Riau's climate change center information
7. Research on alternative livelihood options for people around biosphere reserve of Giam Siak Kecil Bukit Batu under the ASEAN Peatland Forests Project (APFP)
8. Conservation information dissemination toward local people around conservation forest which have peatland ecosystem, for instance biosphere reserve of Giam Siak Kecil Bukit Batu

Challenges for implementing this plan are:

- The revised spatial use plan for Riau has not been completed.
- Greenhouse gas emission from peat fire continues
- Peatland utilization for palm oil is still high compared to other commodities
- The use of environmentally-friendly peat land and technology at community level is still low

Paper 8: The Implementation of Master Plan of Sustainable Peatland Management in Central Kalimantan

- Mr. Mathius Hosang, BLH Central Kalimantan, Indonesia

Central Kalimantan, covers 153,567 square kilometres. Here, the population density is low. The provincial spatial plan indicates that forest cover is about 67% while the rest is non-forested area. There is over 3 million hectares of peatlands in Central Kalimantan. About one third of this is peat exceeding 3 metres which should be protected. The Sebangau and ex-MRP areas alone contain 5-6 Gigatonnes of Carbon. In 2003, a large fire raged in the Ex-PLG area in Sebangau Lake area.

The main threats in Central Kalimantan are land conversion, forest fires, illegal logging and peatland degradation in ex-MRP area.

The largest programmes and projects in Central Kalimantan are:

1. Rehabilitation and Restoration of 1 million Ha peatlands (the actual size of this programme was 1.4 million Ha)
2. Kalimantan Forest and Climate Partnership (KFCP), as REDD+ Demonstration activities at Blok A of Ex-MRP area (130.000 Ha).
3. Rehabilitation of Sebangau National Park (DA REDD+) with size of 568,700 Ha.
4. Laboratorium Alam Hutan Gambut (LAHG) on 50,000 Ha of land
5. Concession of Peatland Restoration by PT. RIMBA MAKMUR UTAMA in Katingan District and East Kotawaringan (217.00 Ha).
6. Rehabilitation of Peatlands at Blok B and C Ex-MRP through Bilateral Mechanism- Credit Exchange (BOCM – Bilateral Offset Credit Mechanism) Indonesia – Japan on 158.552 ha of land
7. REDD+

The action plan for implementing IMP involves a government programme as the basic guidance to implement peatland management in Central Kalimantan. All stakeholders, NGOs, privates, or community should refer to this programme.

Paper 9: The Implementation Master Plan for Sustainable Peatland Management in West Kalimantan, Indonesia

- Mr Karsono Rumawadi, Provincial Environmental Board of West Kalimantan, Indonesia

West Kalimantan covers 146,807 km² with a population density of 28 persons per km².

The Regional Development Concept in the province has designated 4 areas with various future projects. A Middle-Term Development Plan spells out the Vision and Mission of the province to improve services to the public. The Peat Management Masterplan considered the environmental value of peat and its potential for human development, guided by existing policies and laws of the land.

Problems faced are: i) - Peat ecosystem management is not based on Peat Hydrological Unity (PHU); ii) Ecosystem management and Spatial planning that do not consider the nature and characteristics of peat; iii) Lack of data and information; and iv) Absence of laws that regulate the management of peatland ecosystems.

The principles of the peatland policy are: i) to control the damage of peatland ecosystems; ii) cooperation between province and existing authorities; and iii) active community participation and avoidance of flammable plants.

Zero burning agriculture is practiced in the province. Traditional farming produces vegetables, corn and pineapple. Danau Sentarum is a lake surrounded by peatlands. The area is planted with corn, rice and aloe vera. The lake also provides fish for the community.

Q&A Session

1. Comment from JAS Pahang officer: In my view, there is a task force to control peatland degradation. I believe it can become an international issue when there is a fire. Please send information to small committees with a small budget. E.g. need check dam or tube well, can put in structure with low cost, but we need data, background and history.

>> asking committee to send data to federal or state departments.

Response: (Mr. Chee) Going down to the local level, information can be sent via websites, but we'll need to link to them. For example, the ASEAN Secretariat is driving the haze issue and forum. Countries need to move the relevant information down the line. The impacts – may need to co-relate to cross institutional work e.g. in Malaysia

Develop policies – impact. The information is available on www.aseanpeat.net, please share this among your colleagues and spread the message
2. Q: (Faizal) Pak Karsono, the masterplan for West Kalimantan shows that 900,000 has been reserved for conservation. But there is also a land use plan. How does the land use Masterplan fit with the existing plan for IMP?

A: The plan has not yet started, it is still in process. It is easier to input the Management Masterplan, but it is still in the making.
3. Q: (Azura) Isn't aloe vera, a desert plant with long roots, detrimental to peatlands in the long run?

A : At the moment, there are no rules regarding crop selection. In cultivation, fire is the 2nd consideration, the 1st consideration is cultivation. There are ponds and water gates to control the water level, but not for fighting fire. This is only practiced in plantations. Aloe vera is not good for the environment, but it has high economic value. The water level is controlled, not for fire control but for cultivation. Especially in poor areas, people do not consider conservation like in Jakarta. The focus is on economy and survival, the activities don't consider environment.
4. Comment: (Mr Chee) Pak Karsono, other than economics and protection, we must consider environmental needs. We need to look at an IMP that fulfils the need to conserve and also for local benefit because we need a balance. To fulfil economy needs, we should find out how to fulfil it after research. We can look at economy, but degradation will affect livelihood. For example, Dr Khali mentioned short term and long term actions. Poverty is an issue, but we also need to look at the future to ensure that the problem does not get worse. There is a need for balance, but we can discuss this in afternoon session.

A: I agree fully. The election is coming up, so this is also being considered by the decision makers. But Local budgets for the environment are very small. Only 4 billion rupiah (4,000,000,000) was allocated for environment, vs. 1.5 trillion for development in the province.

Breakout groups

Both groups were instructed to develop recommendations for best practices in the 1.5 hours given. The aim is to recommend BMPs for future use and the way forward.

Group A – IMP for Malaysia

Moderators : Faizal Parish & Balu Perumal

Strengths

- Multi-stakeholder approach
- Adequate information to assist in development of plan
- Assessment of issues and threats
- Collaboration to develop management prescriptions
- Endorsement by state agencies

Weaknesses/Challenges

- Lack of funds for implementation
- Continuity of personnel from planning to implementation
- Expanding threats to sites – pressure for land development
- Challenge for Private sector engagement
- Problems are particularly in the boundary area or areas outside of agency control – e.g. stateland / abandoned land
- Cannot deal with stakeholders at only one level.
- Need to ensure implementers have enough info and resources to proceed.
- Inadequate monitoring of implementation,

Solutions

- Central coordination – national and state
- Adequate resource allocation
- Good information and monitoring
- Adequate mechanisms for stakeholder involvement
- Linkage to local state and national policies and plans
- Review by national mechanisms – e.g. national land council, National Peatland Steering committee
- Continuous follow-up
- Capacity building – especially at local level – tools, info
- Providing feedback on the positive results.

Key principles for future IMP development

1. Multi-level stakeholder involvement including – community involvement/awareness
2. Look at the whole peatland landscape and understanding ecosystem nature and functions

3. Set the management objectives according to the suitability /natural functions of the area.
4. Water management system is fundamental to peatland management -look at hydrological units for mgmt. including transboundary management
5. Detailed management prescriptions to be spelled out
6. Need short medium and long term planning horizons
7. Ensure measures are in place to prevent damage e.g. – fire/ degradation/ drainage
8. Legality of document – formal endorsement by authorities
9. Adequate resources must be available for implementation over full time period
10. Linkages must be made to existing policies, plans and mechanisms

Implementation

In order to support implementation, there is a need for

- Continuous capacity building for staff
- Adequate Resources including incentive system for engagement of community and private sector
- Long term Monitoring
- Regular Review/update of the IMP
- Linkage to National action mechanism e.g. NAP and Nat Wetlands policy
- Stakeholder – engage w private sector

Enhance profile of issue by Linking to key issues such as:

A) Prevention of fire and haze

B) Fulfilling Malaysia's pledge for a 40% reduction in GHG emissions (possible resources from links to REDD – emission reduction)

C) Link to monitoring and prevention of subsidence / issue of shallow peat – acid sulphate soils

GROUP B - IMP in ASEAN Region

Facilitator: Mr. Chee Tong Yiew

PARTICIPANTS

- Participants:
 - Indonesia (Mr. Hermono Sigit, Mr. Muslihudin, Mr. Mathius, Mr. Karsono, Mr. Manipol, Ibu Lailan)
 - Philippines (Ms. Armida, Mr. Sibbaluca)
 - Vietnam (Dr. Le Phat Quoi)
 - ASEAN Secretariat (Nathalia)
 - RPEA (Ms. Yun, Ms. Serena)
- What has been the experience with development of master plan for peatlands in Indonesia and management plans in Philippines and Vietnam ?

GAPS/WEAKNESSES

- Finance
- Master plan for 10 years, action plan short term put priority on peatland in national development (Vietnam case)
- Institutions arrangement is not clear
- Coordination among sectors and among regions, among projects (Dutch, Norway, Australia, WWF, private sectors, Japan)
- Existing peatland uses
- Acceptance of community

STRENGTHS

- Multi-stakeholders approach (Philippines)
- Good Environmental budget support (Vietnam)
- Regulation (Government policies) (Indonesia)
- Peatland issue is international (climate change)
- Fire management in Central Kalimantan
- What are the good practices and lessons learned can be recommended future work on IMP in the region?
- Philippines:
 - Education and engagement of stakeholders (local government), bottom up approach
 - Convergence
 - Land use
- Vietnam:
 - Land use approach-importance of each specific use
 - Involvement of Stakeholders
- What are the good practices and lessons learned can be recommended future work on IMP in the region?
- Indonesia:
 - National policy: 30 % of peatland hydrological unit should be under protected area
 - Strengthen communication between Central and Local government and among sectors
 - Awareness materials for importance of peatland need to be disseminated
 - Inclusion to provincial spatial plan
 - Global society pressure to take appropriate actions
 - Rehabilitation of Ex-mega rice project of 1 million hectare (degraded peatland) can be use for carbon trade
 - Need strong national support
 - Specific institutions to oversee, implement, and enforcement
 - What are the key principles which should be used to guide future integrated management measures for peatlands in ASEAN?

What are the key principles which should be used to guide future integrated management measures for peatlands in ASEAN?

1. Policy
 - a. Land use
 - b. Political will
 - c. Governance
2. Multi-stakeholder/multidisciplinary approach/convergence
3. Socio economic
 - a. Acceptability
 - b. Economic
 - c. Livelihood
4. Capacity and awareness
 - a. Information dissemination
 - b. Education
5. Science based approach for decision
 - a. Thru research
 - b. Needs assessment
6. Financially sustainable
 - a. Identify specific uses/action
 - b. Identify financial source
 - c. Identify incentive options
7. Management
 - a. Identify Priorities,
 - NAP, Local Action Plan
 - National and local regulation
 - a. Institutional responsibility/arrangement
 - b. Synergy between central and local government
 - c. Adaptive management
 - d. Best management practices (BMP)
 - e. Regulations/Enforcements

Summary Statement

The workshop on Integrated Management Plans (IMP) for Peatlands in Southeast Asia was held from 9-10 July in Cherating, Pahang, Malaysia and attended by 40 participants from four countries, namely Malaysia, Indonesia, Philippines and Viet Nam. The meeting was organised by the Global Environment Centre, ASEAN Secretariat and the Forestry Department of Peninsular Malaysia. The meeting was undertaken in the framework of the ASEAN Peatland Forests Project (APFP) and the SEApeat Project, and supported by IFAD-GEF and European Union respectively. The meeting was officiated by Dato' Masran bin Md Salleh, Deputy Director General of Forestry Department of Peninsular Malaysia (Forest Policy and Planning).

A one day field visit was made to the South East Pahang Peat Swamp Forest on 9 July with support of the Pahang State Government, where briefings were provided by a range of agencies on forest and water management, and fire prevention and control. On 10 July, nine presentations were made on various topics including Master Plan development for peatland-related provinces; development of management plans for peatland forest reserves and national parks. Breakout groups discussed the experience and lessons learned from initiatives for integrated peatland management and proposed future directions.

Conclusions

The main conclusions included:

- Peat swamp forest is the main wetland forest type in Southeast Asia – originally covering about 25 million ha and this provides many socio-economic and environmental benefits for water resource management, climate regulation, biodiversity conservation, timber and non-timber forest products and local livelihoods
- The remaining area of peat swamp forest in Southeast Asia has been significantly reduced in the last 30 years with an estimated 34% remaining in relatively intact condition in the western part of the region; 46% being in fragmented or degraded situation and about 20% converted to forest and oil palm plantations.
- Significant subsidence has been recorded in some areas as a result of drainage and fires which has important implications for the future management of both drained and adjacent areas.
- In order to maintain the remaining peat swamp forest and to support sustainable management of other peatland areas – it is essential that an integrated approach to management is used with a focus on ensuring coordinated management of each individual peat dome or hydrological unit.
- Significant progress has been made in the ASEAN region in recognising the need for integrated management of peatlands and developing master plans and strategies for peatland management and detailed management plans for specific sites. However challenges still remain for further development and implementation of such plans.
- Water management is the critical issue for management on peatlands: drainage of natural forest should be avoided and existing drains blocked; the water level in adjacent areas should be

maintained as high as possible to reduce the rate of subsidence and optimise production and prevent fires in the peatland areas and adjacent areas.

Recommendations

The meeting urged action by the governments and other stakeholders to work together to:

1. Manage all peatlands in an integrated manner for each peatland hydrological unit and enhance water management to maintain and enhance natural functions and values and to reduce subsidence, GHG emissions and fire risk.
2. Collate best practice and experience for integrated peatland management and develop guidelines for development and implementation of integrated management plans (IMPs) in peatland areas.
3. Develop IMPs for all significant/large scale peatland ecosystems and enhance the availability of resources for the implementation of the existing IMPs including development of incentives and financing mechanisms.
4. Strengthen the linkage and coordination between IMP activities with implementation of the national and regional mechanisms such as the ASEAN Peatland Management Strategy and associated National Action Plans for Peatlands as well as linking to national policies and local plans.
5. Improve the engagement of key stakeholders including national and local government agencies, private sector, and communities in the development and implementation of the IMPs for peatlands.
6. Enhance regional and national cooperation and exchange among related stakeholders to advance the integrated management of peatlands.
7. Monitor and report regularly at local, national and regional levels on the status and trends in peatland protection and management and the implementation of IMPs for key areas.
8. Strengthen the institutional & regulatory framework for peatland management at national and local levels and assign clear responsibilities for peatland protection and management.
9. Link IMPs for peatlands with ongoing work on climate change, REDD, subsidence control and community development.
10. Strengthen capacity for integrated peatland management through training and awareness programmes as well as Research and Development (R&D) activities.

Some additional specific recommendations were made on principles and approaches for enhancing integrated management planning for peatlands.

Annex 1 - Programme

Tentative Programme	
DAY 0 – Sunday, 8 July 2012	
PM	Arrival of all participants (NCs, NEs and invited guests for IMP) and Registration
DAY 1 – Monday, 9 July 2012 (Technical Visit)	
07.00	Gather at Hotel Lobby
07.30	Leave for Penor, Pahang
09.00	Arrival at location (Penor, Pahang). Briefing sessions by relevant agencies at site - fire tower (by Department of Environment) - tube well (by Mineral and Geoscience Department) - check dam (by Drainage and Irrigation Department)
11.00	Leave for Pekan Forest Reserve (Compartment 74)
12.30	Lunch
13.10	Briefing sessions by Pahang Forestry Department on Pekan Forest Reserve
13.30	Site visit to Pekan Forest Reserve (Compartment 74) for demonstration of tree felling
15.00	Leave for Bukit Bangkung for ex-logging area practiced Reduced Impact Logging technique
16.00	Arrival at Bukit Bangkung
17.00	Leave for Hotel
19.30	End of DAY 1 programme
Tuesday, 10 July 2012 (Technical Meeting on IMP)	
08.30	Registration
09.00	Welcoming Remarks by ASEAN Secretariat
09.05	Opening Remarks by Dato' Masran Bin Md. Salleh, Deputy Director General of Forestry Department Peninsular Malaysia (Forest Policy and Planning)
09.15	Introduction to Technical Meeting on Integrated Management Plans on Peatlands in Southeast Asia <i>by Global Environment Centre, Regional Project Executing Agency of APFP & SEApeat Projects</i>
Moderator: Mr. Hermono Sigit, Ministry of Environment, Indonesia	
09.30	Management of South East Pahang Peat Swamp Forests for Conservation and Sustainable Use – An Integrated Approach <i>by Dr. Khali Aziz, Forest Research Institute of Malaysia (FRIM)</i>
09.45	Conservation and Sustainable Use of Tropical Peat Swamp Forests and Associated Wetland Ecosystems at Loagan Bunut National Park, Sarawak <i>by Assoc. Prof. Dr. Alexander Kiew Sayok, Universiti Malaysia Sarawak (UNIMAS)</i>
10.00	The Conservation of Peatswamp Forest in Sabah: The Klias Forest Reserve <i>by Mr. Christopher A. Matunjau, Sabah Forestry Department</i>

10.15	Integrated of fire and water management for ecosystem restoration in U Minh Peatland region <i>by Dr. Le Phat Quoi, Institute for Environment and Natural Resources, Vietnam National University</i>
10.30	Q & A
10.50	Tea break
Moderator: Dr. Khali Aziz, Forest Research Institute Malaysia (FRIM)	
11.10	Efforts Towards Integrated Management of Peatlands in Agusan Marsh, Philippines <i>By Mr. Sibbaluca, Leonardo, Ramirez, Regional Executive Director, Dept. of Environment and Natural Resources</i>
11.25	Implementation of Sustainable Peatland Ecosystem Management, Riau <i>by Mr. Manipol Ginting, BLH Riau, Indonesia</i>
11.40	The implementation of Master Plan of Sustainable Peatland Management in Central Kalimantan <i>by Mr. Mathius Hosang, BLH Central Kalimantan, Indonesia</i>
11.55	The implementation of Master Plan of Sustainable Peatland Management in West Kalimantan <i>by Mr. Karsono Rumawadi, BLH West Kalimantan, Indonesia</i>
12.10	Q & A
12.30	Lunch
14.00	Break-out Group Discussion Group A <i>Facilitators: Mr. Faizal Parish</i> Group B <i>Facilitators: Mr. Chee Tong Yiew</i>
15.45	Tea break
16.00	Group Presentation and Wrap-up Discussion
17.30	End of DAY 2 programme

Annex 2 – List of Participants

	Participant's name	Role	Location	Organization/Dept.	09 July 2012	10 July 2012
1	Dr. Raman Letchumanan	Project Director	Jakarta, Indonesia	ASEC	-	X
2	Ms. Nathalia Marthaleta	ASEAN Project Officer	Jakarta, Indonesia	ASEC	X	X
3	Mr. Hermono Sigit	NC Indonesia	Jakarta, Indonesia	MoE	X	X
4	Mr. Muslihudin Rajimun	Project coordinator	Jakarta, Indonesia	MoE	X	X
5	Dr. Lailan Syafina	NE Indonesia	Jakarta, Indonesia	IPB, Department of Silviculture, Faculty of Forestry	X	X
6	Mr. Mathius Hosang	IMP Central Kalimantan/observer	West Kalimantan, Indonesia	BLH	X	X
7	Mr. Karsono Rumawadi	IMP West Kalimantan/observer	Central Kalimantan, Indonesia	BLH	X	X
8	Mr. Manipol Ginting	IMP Riau/observer	Riau, Indonesia	BLH	X	X
9	Ms. Armida P. Andres	NC Philippines	Manila, Philippines	PAWB	X	X
10	Mr. Sibbaluca, Leonardo, Ramirez	IMP Philippines/observer	Butuan, Philippines	DENR	X	X
11	Dr. Le Phat Quoi	NE Viet Nam	HCMC, Viet Nam	Institute for Environment and Natural Resources	X	X
12	Mr. Hamdan Napih	NC Malaysia	KL, Malaysia	FDPM	X	X
13	Mr. Balu Perumal	NE Malaysia	KL, Malaysia	GEC	X	X
14	Mr. Noradli Bin Parsada	Assistant NC Malaysia	KL, Malaysia	FDPM	X	X
15	Mr. Mohamad Roslan Bin Abd. Rahman	Assistant - Malaysia Component	KL, Malaysia	FDPM	X	X
16	Mr. Azid Bin Adam	Assistant - Malaysia Component	KL, Malaysia	FDPM	X	X
17	Dr. Khali Bin Aziz	IMP Peninsular	KL, Malaysia	FRIM	X	X
18	Dr. Alexander K Sayok	IMP Sarawak	Sarawak, Malaysia	UNIMAS	X	X

	Participant's name	Role	Location	Organization/Dept.	09 July 2012	10 July 2012
19	Mr. Christoper A. Matunjau	IMP Sabah	Sabah, Malaysia	SFD	X	X
20	Mr. George Angampun @ Hamzah	IMP Sabah	Sabah, Malaysia	SFD	X	X
21	Ms. Nor Nadyrah Bt. Ab Wahab	Secretariat	KL, Malaysia	FDPM	X	X
22	Ms. Aimi Aiza Bt Mohd Tusin	Secretariat	KL, Malaysia	FDPM	X	X
23	Mr. Mohd Amir Ismail	JAS HQ	Malaysia	DOE	-	X
24	Mr. Ezwan	JMG	Malaysia	MGD	X	-
25	Mr. Faizal Parish	Snr Technical Advisor, RPEA	PJ, Malaysia	GEC	X	X
26	Mr. TY Chee	Project Manager, RPEA	PJ, Malaysia	GEC	X	X
27	Ms. Chin Sing Yun	Project Coordinator, RPEA	PJ, Malaysia	GEC	X	X
28	Ms. Noor Azura Ahmad	Regional Project Officer, RPEA	PJ, Malaysia	GEC	X	X
29	Ms. Lew Siew Yan (Serena)	Regional Project Officer, RPEA	PJ, Malaysia	GEC	X	X
30	Mr. Badrol Hisam Bin Abdul Rahman	FD Selangor	Selangor, Malaysia	FD Selangor	x	X
31	Mr. Mohamad Shahrizal Hashim	JAS Pahang	Pahang	DOE Pahang	x	-
32	Dato' Ir. Lim Chow Hock	JPS HQ	Kuala Lumpur, Malaysia	DID HQ	-	X
33	Mohd Salleh		FDPM HQ		X	X
34	Abd Razak		FDPM HQ		X	x
35	Mohd Hafiz b Samsudin	DFO	Temerloh,	Forestry Dept Pahang	X	X
36	Mohd Khairul b Abdullah	DFO	Bentong	Forestry Dept Pahang	X	X
37	Norddin bin Noor	DFO	Jerantut	Forestry Dept Pahang	X	-
38	Abd. Rahim b Omar	DFO	Lipis	Forestry Dept Pahang	X	-
39	Wan Saifulbahri Wan Mohd		Pahang	Jabatan Mineral & Galian	X	-

	Participant's name	Role	Location	Organization/Dept.	09 July 2012	10 July 2012
40	Hj Abd Khali b Hj Abu Saha				X	-
41	Mazlan Mat HI		Pahang	JAS/ DOE	X	-
42	Mohd Sam		KL	FDPM HQ	X	X
43	Norhaidi Yunus		Pahang	Forestry Dept Pahang	X	X
44	Mohd Khairul Anuar bin Kasim		Kuantan/ Pekan	Forestry Dept Pahang	X	X
45	Mohd Hakimi Zakaria		Rompin	Forestry Dept Pahang	X	X
46	Zainal Abidin b Maskon		Pahang	Forestry Dept Pahang	-	X