

Summary Report on

Knowledge Exchange Workshop between the Chindwin and Mekong River Basins on Mainstreaming Biodiversity and Ecosystem Service Values into Development Plans

Date: 18-19 September 2017

Venue: Win Unity Hotel, Monywa, Sagaing, Myanmar

A two-day workshop was organized by SEI at Monywa, Sagaing Region of Myanmar inviting around 65 participants. The main objective of the workshop was to provide a platform to exchange ideas between the researcher and stakeholders of Chindwin and Mekong region on mainstreaming biodiversity and ecosystem valuation. The participants comprised from diverse background and organization including government sectors, NGOs, INGOs, academia and media. Translator with a headset was used to communicate with stakeholder in local language so as the information exchange was smooth and efficient.



Participants of Exchange workshop

Day 1:

First day of workshop was divided into four sessions. In session 1: Opening and Introduction, the workshop kickoff with a welcoming remark from Dr. Myint Naing, Minister of Sagaing Region. He stated that biodiversity in Chindwin is very important and abundant and hosts around 38 endangered species within the basin. He also urges the participants of the workshop to share and discuss the information among themselves. Representing MEI, Prof. Win Maung welcomed the participants, giving the importance of biodiversity and the services it provides. Similarly, representing SEI, Niall O'Connor welcomed the participants. In his speech, he said that SEI has been working in Myanmar for over 4 years and will continue to work in the future for a long term sustainability of Chindwin River. Dr. Thanapon then introduces the participants about the project and objectives of the workshop. The key note speaker, Prof. Maung Maung Aye from MEI discuss about the policies and strategies related biodiversity in Myanmar. He also mentioned that Chindwin River Basin Organization is in progress and will can be used as an example to establish RBOs for other major rivers in Myanmar.

Key Message:

- There are four types of ecosystem services: Provisioning services, Regulating services, Cultural services and Supporting services.
- Climate change, mining activities, illegal wildlife trading, logging affects the biodiversity, ecosystem services as well as livelihoods of the Chindwin Basin.
- Prevention and protection of biodiversity area is a must and media can help to circulate and disseminate the information regarding the importance of the biodiversity.
- This workshop is bringing together key stakeholders, decision makers, media, international experts and try to look into these issues, and exchange knowledge and develop best practices.

Session 2: Knowledge exchange on assessments was divided into two parts. The first part was exchange knowledge on impact assessment of development and climate change on biodiversity and ecosystem services and livelihood. The first speaker was Dr. Cong Nguyen Dinh from Mekong River Commission (MRC). His presentation topic was "Basin-wide assessment of climate change impact on ecosystem services". MRC had conducted a research on identifying the impact of climate change on four ecosystem services – water yield, sediment retention, nutrient retention and carbon sequestration using InVEST model and presented how to address the negative impact of climate change. Second speaker was from Nakhon Phanom University, Thailand, Charlie Navanugraha. He presented a case study on utilizing floodplain forest of the people in Srisingkhom District, Nakhon Phanom province. He conducted household survey and found that floodplain forest provides 20 times more income than double crop field at household level. Prof. New New San from Taunggyi University presented her findings on species composition and seasonal variation of bat species from National Kandawgyi Garden. She presented that species like bats are bio indicators and good population of bats indicates healthy environment, however, there is a huge threat to bat population due to the impact of heavy metals from mining and heavy use of pesticides.

Key lesson learned:

- Ecosystem services like water yield, sediment retention, nutrient retention and carbon sequestration can be quantified using the InVEST model.
- The water availability of the MRB is likely to decrease a changing plantation schedule and introducing alternative crops and drought tolerant crops are few of the adaptation measures.
- In some areas the economic value from the ecosystem is 20 times more than double crop field at household level.
- Species like bats can be used as bio indicators and good population of bats indicates healthy environment.
- Modeling tools can be used to quantify ecosystem services at larger scale and social survey can be conducted at a local scale.

Followings are key questions and response

Question: How to evaluate the resources extracted from forest?

Response: Dr. Charlie – The products that are traded in the market like herbs and forest products like mushroom and bamboo shoots were considered using a social survey.

Question: What are the development activities that affect the species richness?

Respond: Dr. Nwe New – Increased heavy metals from mining sites, use of pesticides and loss of habitat are the major activities that affects the species richness. Also changing climate can have a negative impact

The second part of session 2 was exchange knowledge on natural capita and biodiversity and ecosystem services valuation, Miss Pianporn Deetes from International Rivers presented her study about valuing biodiversity and ecosystem from point of view of communities: lesson from the Mekong River Basin. She presented that dams build in the rivers are disturbing the fish migration and food production in addition to holding half of the sediment essential for agriculture. She concluded by recommending the involvement of Mekong communities in decision making. Miss Hanna Helsingen from WWF, presented the project of WWF on mapping natural capital in Myanmar. The result suggested that Chindwin region consist of highest service provided by the ecosystem based on the result from InVEST tool. The project also worked with stakeholders for capacity building and consultations through trainings and meetings. The lesson learned from the project was to work closer with local partners and local media from very beginning of the project. The last presenter for the session was Prof. Saw Win from MEI. Prof. Win presented on indigenous medicinal plants of Salween River of Shan State in Myanmar. He concluded that Myanmar has huge species for medicinal plants but is very hard to access due to lack of infrastructure and security issues.

Key lesson learned:

- When valuing Ecosystem Services in the dry season, agriculture practice is one of the most valuable service next to the fisheries.
- Hydropower development have blocked the fish migration blocking the food production.
- The main concern regarding the hydropower dams in the Mekong River is the absence of a transboundary impact assessment.
- Identify the relevant policies or decisions you need to influence or to use the information for it would impact the way you proceed the study.
- Conserving KBA areas under climate change conditions are more important as Myanmar being a vulnerable country to climate change.
- For conservation awareness raising in academics, communities, local authorities, regional authorities up to Union Government level is important

Followings are key questions/concerns and response

Question: Has there been any provision of fish passage in the Mekong dams?

Response: Miss Pianporn – There are no measures of fish passage developed in the dams.

Question: What recommendation can be given to avoid the problem of transboundary issues?

Response: Miss Pianporn – Few powerful people make plans which are biased and not benefitting everyone when you should be taking all stakeholders into consideration in decision making. China-ASEAN conference can be platform to discuss about the transboundary issues responsibilities of member countries.

Question: What were the main finding from the interview Salween River Basin?

Response: Dr. Saw Win – Information on which kinds of plants they are using for herbal medicine and how to use these kinds of plants for diseases from their local knowledge.

Session 3: Group exchange. The participants were divided into 3 groups. The participants rotated around each of the table every 15 min to discuss with the experts on assessing development and climate change impact on biodiversity and ecosystem, assessing livelihood impact of changing biodiversity and ecosystem services and determining ecosystem values of biodiversity and ecosystem services and livelihood. They discuss about how to implement assessment, what tools to use, how to collect data and what are the challenges and difficulties they can encounter during the assessment.



Group work on exchanging knowledge on valuing ecosystem services

How to do assessment:

- Identify the scope, study area, stakeholders and policies to be influence.
- Collect both secondary and primary data
- Primary data can be collected by conducting Participatory Rural Appraisal (PRA) tools and focus group discussion
- Secondary data can be collected from government departments and non-government organization
- Analyze the data developing different future plausible scenarios

Challenges and capacity needs:

- Financial needs, lack of infrastructures and security, data sharing issues, lack of communication and public participation
- Lack of instruments and skill manpower

Session 4: training need assessment on impact assessment and biodiversity and ecosystem services valuation. After the coffee break, the participants were again divided into three groups. The exercise was conducted to identify, capacity needs, the current capacities and

gaps and to identify the training needed for valuing the eco system. From this exercise, the stakeholder had a gap on conceptual knowledge about ecosystem calculation, EIA tools, M&E and reporting and communication.

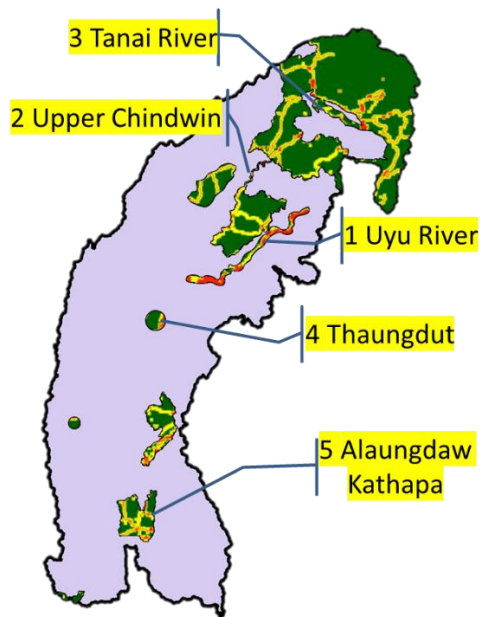
<p>List of capacity needs</p> <ul style="list-style-type: none"> ○ Environment Impact Assessment tools ○ Understanding the concepts and knowledge on biodiversity ○ Good collaboration between organization ○ Remote Sensing and GIS analysis ○ Hydrological and hydrodynamic modeling ○ Stakeholder mapping ○ Proposal and report writing ○ Gender assessment ○ Collecting and monitoring quality data 	<p>Main actors in impact assessment</p> <ul style="list-style-type: none"> ○ Forest Department ○ Environment Conservation Department ○ Directorate of Water Resources and Improvement of River Systems ○ Irrigation department ○ Mining department ○ Agriculture department ○ Fishery department ○ Planning department ○ Universities ○ NGOs ○ Media
<p>Priority training needs</p> <ul style="list-style-type: none"> ○ Hydrological and hydrodynamic modeling ○ Stakeholder mapping ○ Understanding the concepts and knowledge on biodiversity 	



Group exercise on training need assessment on impact assessment and biodiversity and ecosystem services valuation

Day 2:

Session: 5 was on Preliminary threat assessment and prioritizing key biodiversity areas in Chindwin River Basin. The second day of the workshop was also divided into four sessions. Day 2 of the workshop started with a summary of first day of workshop by Dr. Clemens Grunbuhel from SEI, followed by presentation by Dr. Thanapon Piman on Preliminary threat assessment and prioritizing key biodiversity areas in Chindwin River Basin. He presented GIS base multi-criteria analysis method and initial results on rank of biodiversity hotspots in Chindwin River Basin. Group exercise was conducted dividing the participants into three groups, where they were asked to discuss and come up with weights and ranges for each of the development sectors that have a negative impact on biodiversity. From the exercise, it was found that mining, dams and logging has the highest potential to impact biodiversity.



Preliminary result of ranking and group exercise on assigning weights to development sectors

No.	Maps	^a Weight				Remarks
		Group A	Group B	Group C	Average	
Development sector						
1	City & Urbanization	7	5	8	6.7	Human settlement will have high impact
2	River Navigation	6	3	5	4.7	No huge navigation sites in CRB
3	Railway	5	2/4	0	2.5	Less significant as no railway in KBA
4	Road	5	6	7	6.0	loss of habitat
5	Agriculture	7	7	7	7.0	loss of habitat and pesticides
6	Logging and forest product	9	7	7	7.7	loss of habitat & Impact on micro climate
7	Mining	9	9	10	9.3	loss of habitat, pollution and pits after mining can have negative impact (needs detail study)
8	Dam (Hydropower and Irrigation)	9	7	10	8.7	loss of habitat due to inundation, sediment
Climate change factor						
9	Rainfall	9	9	8	8.7	Flood and droughts
10	Temperature	9	8	5	7.3	Droughts

Session 6 was on knowledge exchange on developing conservation action in key biodiversity area and mainstreaming conservation into development planning. The first presenter was Mr. Vannak Un from Culture and Environment Preservation Association, Cambodia. He started his presentation with a video on Partners for Forestry and Fisheries (PaFF) project that supports communities involved in forestry and fisheries in Stung Treng and Kartie Province of

Cambodia. His presentation was on community based fishery management. He provided an insight about the establishment, legal framework and key issues of Community Fishery (CFi) in Cambodia. He further suggested that accountability, transparency, clear structure and planning of CFI is needed in for proper functioning of the organization. The second presentation was a case study from Vietnam on Promoting local participation in conservation and development of aquatic resources in mountainous areas of northern Viet Nam by Miss Lan Nguyen Thi Ngoc from Center for Water Resource Conservation and Development. Her research concluded that there are many socio - economic plans of the development in the province, but only very few things are mentioned about conservation. Raising awareness of people about the impacts of poor environmental management and the value of environmental services provided by water, biodiversity and forests is very important. And the best way for communication is the strengthening of Community Based Organizations involving in environmental governance. The last presenter for this session was Mr. Hla Naing, from Wildlife Conservation Society-Myanmar Program. His presentation was on predict habitat occupancy and distribution of principal tiger prey using sign surveys. The survey was conducted using a grid based system at Hukaung Valley Wildlife Sanctuary of Chindwin to see the occurrence of four tiger prey. It was found that the concentration of tiger prey was higher near ranger station whereas it was lower near the village area. From 2001-2010 prey abundance has been decreasing and Chindwin watershed should greatly focus on conservation activities.

Key lesson learned:

- Accountability, transparency and a clear structure within the Community Fishery led to more effective leadership and management
- Community based network can bring grass root level sound to national level
- Apply participatory approach in conservation and development activities
- Driving factors on species occurrence and distribution: Forest type, topography, Atherogenic factors: road and village development, petrol stations

Followings are key questions and response

Question: After policy gap has been identified how often you meet the policy maker

Response: Mr. Vannak – Both national and community level have a regular three month meetings

Respond Miss. Lan – We have a co-management group organized by the community meeting every month for last two years to discuss about the problems and tries to find solution.

Session 7 was on Challenges faced by the media in raising public awareness on environment and biodiversity conservation. Miss Piyaporn Wongruang from The Nation journal, shared her experience working as a reporter in Mekong region. There is rarely any news published reflecting biodiversity. One of the major constrain is the knowledge gaps of the reporter, trying to communicate with policy makers and public. There are lot of jargons in communications between policy makers, researchers and public. Another obstacle working in Mekong is the geography as Mekong is a large area many resources are required to cover this whole area. However, online platforms and social media are new opportunities for journalists to explore for their stories. The final presentation for the workshop was from Mr. Ko Aung Min Naing from Action Aid. He presented about Myaing community based tourism pilot project where the tourists were exposed to local culture in a tangible manner and not limited to watching and seeing. Created accommodation for visitors with basic facilities which also created job opportunity for locals. In addition, tt is a must for a visitor to grow a tree and they are charged

5 dollars for a tree thereby conserving ecosystem and help combat climate change. There is also a community run universities, which teaches dry land farming, women's leadership, governance, community based tourism and management and so far, there are 400 students from Denmark have participated.

Key lesson learned:

- Journalists need to keep improving their journalistic skills as well as increasing knowledge in the issues they work on
- Get adjusted to face obstacles in regard to differences in geography or politics and never give up reporting the issues
- Mekong is a large area so reporters need to network and connect with each other to have a complete report
- Chindwn Basin has a huge potential for tourism.
- Linkages with different sectors such as agriculture, fishery and other services are needed to achieve the conservation of environment or making alternative ways of livelihoods.
- Empower community before start of such projects is crucial to ensure that community are capable enough to protect themselves from any potential harm.

Followings are key questions and response

Question: Have u ever seen a newspaper article published on Ecosystem Service? Public might not be aware of these critical issues.

Response: Miss Piyaporn - These issues get rarely published

Question: About networking with other Mekong countries. Does Nation Newspaper has contacts or networks with other organizations, particularly in Myanmar?

Response: Miss Piyaporn - Nation cofounded Asia News Network but that is for sharing stories that are already published. There is rather informal communication no office policies.

Question: As a journalist, which social media is strongest in getting news out?

Response: Miss Piyaporn - Personally prefer Facebook

Question: How to promote the media influence in Myanmar?

Response: Mr Ko Aung - We have always providing the training to the youth to improve their capacity, they do the project very well but they can't express it well, but proving the training to them will increase the ability to improve.

Session 8 was a group exercise where participants were divided into two groups to identify the capacity needs, gaps and prioritize training needs and target groups for training on mainstreaming into planning and raising public awareness. The group came up with needs on understanding the policy and how to create the policy demand. They also provided recommendation that information on biodiversity and ecosystem services should be introduced from the early stage of education in Myanmar. The workshop ended with a wrap-up from Dr. Clemens Grunbuhel of SEI followed by closing remarks from MEI and SEI.



Identifying the capacity needs on mainstreaming into planning and raising public awareness

<p>List of capacity needs</p> <ul style="list-style-type: none"> ○ Participatory planning ○ Understanding the policy environment ○ Understanding knowledge demand ○ Creating policy demand ○ Creative reporting ○ Early stage education ○ Monitoring and evaluation ○ Capacity building for public awareness ○ Community center 	<p>Main actors in impact assessment</p> <ul style="list-style-type: none"> ○ Government departments ○ Universities ○ NGOs ○ Media
<p>Priority training needs</p> <ul style="list-style-type: none"> ○ Understanding the policy environment and capacity building ○ Monitoring and evaluation ○ Capacity building for public awareness 	

Annex A: Workshop schedule



Knowledge Exchange Workshop between the Chindwin and Mekong River Basins on Mainstreaming Biodiversity and Ecosystem Service Values into Development Plans

Date: 18-19 September 2017

Venue: Win Unity Hotel, Monywa, Sagaing Region

Participant: 60 people

Objectives:

1. To exchange knowledge, lessons learned and good practices on the following topics
 - Impact assessment of development and climate change on biodiversity and ecosystem services and livelihoods
 - Biodiversity and ecosystem valuation, natural capital and payment for ecosystem services
 - Developing conservation actions in Key Biodiversity Areas and mainstreaming conservation into development planning (bridging science and policy)
 - Raising public awareness on biodiversity conservation
2. To carry out training needs assessment of targeted stakeholders of the project
3. To build new networks between the Chindwin and Mekong River Basins
4. To raise public awareness on biodiversity conservation and protection

Tentative Agenda

Time	Session and description	Speakers
18 Sep 2017		
8:30-9:00	Registration	MEI staff members
Session 1: Opening and Introduction		
09:00-09:10	Welcoming remarks by the Sagaing Regional Government	Minister of Sagaing Regional Government
09:10-09:20	Welcoming remarks by Myanmar Environment Institute (MEI)	Prof. Dr. Win Maung, MEI
09:20-09:30	Opening remarks, Stockholm Environment Institute (SEI)	Niall O'Connor, SEI
09:30-09:40	Introducing the Chindwin Biodiversity and Ecosystem Services (CBES) project, and the objectives and agenda of the knowledge exchange workshop	Dr. Thanapon Piman, SEI
09:40-10:15	Keynote speech: Framework and good practices in mainstreaming biodiversity and ecosystem service values into planning (20 mins) - Q&A (15 mins)	Prof. U Maung Maung Aye, MEI
10:15-10:45	Group photo and coffee break	
Session 2: Knowledge exchange on Assessments		
Session 2.1: Impact assessment of development and climate change on biodiversity and ecosystem services and livelihoods		
10:45-11:00	Case study from the Mekong River Basin	Dr. Cong Nguyen Dinh, Mekong River Commission (MRC)

11:00-11:15	Utilization of floodplain forests by people in Srisongkham District, Nakhon Phanom Province, Thailand	Charlie Navanugraha, Institute of Research and Development, Nakhon Phanom University, Thailand
11:15-11:30	Species composition and seasonal Variation of Bat species from National Kandawgyi Gardens, Pyin Oo Lwin	Prof. Dr. Nwe Nwe San, Zoology Department, Taunggyi University
11:30-12:00	Q&A	All
12:00-13:00	Lunch break	
Session 2.2: Biodiversity and ecosystem valuation and natural capital		
13:00-13:15	Valuating biodiversity and ecosystem from the point of view of communities: Lessons from the Mekong River Basin	Pianporn Deetes, International Rivers
13:15-13:30	Mapping natural capital in Myanmar	Hanna Helsingen, Green Economy Programme Manager, WWF
13:30-13:45	Studies on some Indigenous medicinal plants of the Salween River Basin, Lashio District, Northern Shan State, Myanmar	Prof. U Saw Win, MEI
13:45-14:00	Q&A	All
Session 3: Group exchange (How to do the assessment?)		
14:00-14:45	Small group discussion: Divide into 3 groups to discuss in-depth on the following topics with presenters (15 mins/group and rotate) - Assessing development and climate change impacts on biodiversity and ecosystem services - Assessing livelihood impacts of changing biodiversity and ecosystem services - Determining economic values of biodiversity and ecosystem services and livelihoods	Facilitators Myanmar resource persons Prof. Dr Nwe Nwe San Prof. U Saw Win Prof. Dr. Su Su Prof. Dr. Win Maung Khin Ohnmar Htwe U Hla Naing International resources persons Dr. Cong Nguyen Dinh Charlie Navanugraha Hanna Helsingen Pianporn Deetes Lan Nguyen Thi Ngoc Vannak Un
14:45-15:00	Debriefing by each group (5 mins/group)	Resource persons
15:00-15:15	Coffee break	
Session 4: Training needs assessment on impact assessment and biodiversity and ecosystem services valuation (What is the capacity needed for the assessment)		
15:15-16:00	Divide into 3 groups - Identify capacity needs - Assess current capacities - Identify gaps between capacity needs and current capacities - Prioritize training needs and target groups for training	Facilitators Myanmar resource persons Prof. Dr. Su Su Prof. Dr. Win Maung Khin Ohnmar Htwe International resource persons Hanna Helsingen Pianporn Deetes Dr. Thanapon
16:00-16:15	Group presentations	
16:15-16:30	Wrap up day 1	Dr. Clemens

18:00-19:30	Dinner	
19 Sep 2017		
8:30-9:00	Registration	
Session 5: Preliminary threat assessment and prioritizing key biodiversity areas in Chindwin River Basin		
09:00-09:30	Presentation on the assessment results (20 mins) - Q&A (10 mins)	Dr. Thanapon
09:30-10:00	Divide into 3 groups - Assign weight and rank to calculate level of threats from key development sectors and climate change factors	Facilitators Myanmar resource persons Prof. Dr. Win Maung Khin Ohnmar Htwe Prof. Dr. Kay Thwe Hlaing International resource persons Dr. Thanapon Dr. Clemens Manish Shrestha
10:00-10:15	Group presentations	
10:15-10:30	Coffee break	
Session 6: Knowledge exchange on developing conservation actions in Key Biodiversity Areas and mainstreaming conservation into development planning (How to bridge science and policy?)		
10:30-10:45	Case study from the Mekong	Vannak Un, Deputy Director, Culture and Environment Preservation Association, Cambodia
10:45-11:00	Promoting local participation in conservation and development of aquatic resources in mountainous areas of northern Viet Nam	Lan Nguyen Thi Ngoc, Center for Water Resource Conservation and Development (WARECOD), Viet Nam
11:00-11:15	Case study from Myanmar: Developing conservation actions in key biodiversity areas and influencing policies and plans	U Hla Naing, Wildlife Conservation Society-Myanmar Program
11:15-12:00	Q&A and discussion (plenary) - Developing policy ideas - Translating science to policy - Influencing positive policy change	All
12:00-13:00	Lunch break	
Session 7: Challenges faced by the media in raising public awareness on environment and biodiversity conservation		
13:00-13:15	Experiences from the Mekong	Piyaporn Wongruang, Political News Editor, <i>The Nation</i> , Thailand
13:15-13:30	Experiences from Myanmar	Ko Aung Min Naing, Action Aid, Myanmar
13:30-14:15	Q&A and discussion (plenary) - What are the main challenges and constraints faced by media in Myanmar/Mekong region - What kinds of resources are needed by media to do their work better - How can media and scientists work together to raise public awareness on environmental issues/biodiversity conservation?	All
14:15-14:30	Coffee break	

Session 8: Training need assessment on mainstreaming into planning and raising public awareness

14:30-15:30	Divide into 3 groups - Identify capacity needs - Assess current capacities - Identify gaps between capacity needs and current capacities - Prioritize training needs and target groups for training	Facilitators Myanmar resource persons Prof Dr. Win Maung U Hla Naing Ko Aung Min Naing International resource persons Vannak Un Lan Nguyen Thi Ngoc Piyaporn Wongruang
15:30-15:45	Wrap up and next steps	Dr. Thanapon
15:45-16:30	Closing remarks	MEI and SEI

