The Role of Research for a Sustainable Salween River:

Salween Studies Research Workshop

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ABSTRACT BOOK

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Preface

This research workshop on “Salween Thanlwin Nu Studies” (“Salween Studies”) builds on the work and momentum of previous Salween Studies meetings (Mawlamyaine 2013, Chiang Mai Experts Meeting 2013, Salween Studies Conference at Chiang Mai University 2014, and Salween University Network Meeting 2016). We aim to bring together researchers to: share the state of knowledge, identity research gaps, and to set a research agenda for a “Sustainable Salween River”.

What we plan to highlight in this meeting are the social, cultural, political, and ecological facets of the basin, and to also consider the various tool that can be used for research and learning about the Salween. There are multiple approaches to research about or related to the river, and multifaceted systems of governance of this river basin, and this is an important time to consider the insights of our research, the tools we use, and the systems in the larger context of development of the basin, and the region.

This research workshop also represents the final meeting of the Salween Water Governance Project and as such, represents the culmination of three years of research and collaboration among the “Salween University Network.” The research workshop will be fully funded with support from the Water, Land and Ecosystems in the Mekong Region Research Program (https://wle-mekong.cgiar.org/).

The following have been identified as the specific objectives for this conference:

- Share state of knowledge
- Identify research gaps
- Identify research projects going forward
Keynote Speakers

Keynote Day 1

A Reflection on the Role of Researchers and Research on the Salween River: Past, Present and Future

Maung Maung Aye

Professor Maung Maung Aye is a well-known expert in fluvial geomorphology and has served various University positions, including as the Rector-in-Charge (Retd.) at the Yangon University of Distance Education (YUDE) as well as a former professor and head of department for Dagon University. He is also a member of professional associations including the Myanmar Academy of Arts and Science (MAAS), and the International Geographical Union (IGU) Commission on Hazard and Risk, and he has also served as the president of the Myanmar Geographical Association (MGA). As a driving force in the field of Geography in Myanmar, he holds positions as the steering committee member of the Department of Geography at the University of Yangon and a member of national curriculum committee. Outside academia, he is also Patron and Chief Advisor to the Myanmar Environment Institute, a member of the National Commission of Enquiry on the Myitsone & Related Hydropower Projects, part of the Advisory Group for the National Water Resources Committee (NWRC), and a member of the Union Peace Conference (UPC)-21st Century (Pang Long).

Keynote Day 2

States of knowledge and geographies of ignorance of/in the Salween Basin

Chayan Vaddhanaphuti

Professor Chayan Vaddhanaphuti is the founding Director of the Regional Center for Social Science and Sustainable Development (RCSD) in the Faculty of Social Sciences at Chiang Mai
University, Thailand. He has degrees from Chulalongkorn University and Stanford University in Anthropology and in International Development, and has been teaching and advising students in the Department of Social Sciences and Development at Chiang Mai University for several decades. He is a renowned advocate for the rights of marginalised communities and ethnic or indigenous people in Thailand and across Southeast Asia, working hard to ensure that their voices and knowledges are part of broader academic and policy conversations which affect their lives and livelihoods.

**Closing Day 2**

**Closing Remarks and Synthesis: “Research and Policy Making on the Salween River: How should they be related?”**

*Khin Maung Lwin*

Dr Khin Maung Lwin is a water expert, medical doctor, and current advisor to Myanmar’s National Water Resources Committee (NWRC). He is also a former Myanmar Ministry of Health Director and has worked to secure access to sanitation and safe drinking water for Myanmar’s people for over 20 years.
Organising Committee

Professor Htun Ko is the head of the Department of Geography at the University of Yangon.

Dr Vanessa Lamb is a Lecturer in the School of Geography at the University of Melbourne, and a Research Associate at YCAR, York University.

Dr Carl Middleton is the Director of the Center for Social Development Studies (CSDS), Faculty of Political Science at Chulalongkorn University, Bangkok, Thailand.

Professor Saw Win is retired Rector of Maubin University, an Executive Director of the Renewable Energy Association Myanmar (REAM), a Director of Myanmar Environment Institute (MEI), and as a Senior Research Associate with Chulalongkorn University’s CSDS program, he has helped coordinate the Salween fellowship program.
Subnational conflict, development and the Salween River

Adam Burke, PhD

For most of its path across Myanmar, the Salween River flows through contested territory on the peripheries of the nation. ‘Subnational conflicts’ have persisted in these and other parts of Myanmar, in cases since the country’s independence. The Asia Foundation’s recent report, Contested Areas of Myanmar (2017), describes the roots of these conflicts in the highly centralized and extractive nature of the State at the national level. A limited shared sense of common citizenship and pronounced notions of ethnically defined territoriality that stem largely from decades of military rule have exacerbated the problem. These subnational conflicts remain active today and tensions persist even in those areas where ceasefires limit overt violence.

Development projects and investments are shaped by, and in turn shape, the wider context of subnational conflict. Competition over natural resource wealth has fueled conflicts, and dams or proposed dams in the Salween basin have for decades been sites of violence and sources of grievance. Globally, development initiatives have long been applied by governments as tools of pacification. This process continues in Myanmar, where new roads, government health and education services, and dams all serve to extend the reach and influence of the central state in conflict affected areas. Many such initiatives have further exacerbated tensions.

As Myanmar’s recent reforms have encouraged investment and economic growth, new plans for dams on the Salween River have multiplied. It is inevitable that contest over territory and resources will continue to affect much of the Salween River’s basin into the future. Debate over the potential pros and cons of proposals, and wider research on natural resource management, need to integrate a strong understanding of subnational conflict into their analysis. The implications for natural resource management both locally and at the national level have rarely been fully thought through.
Since the transition to a quasi-civilian government in 2011, there have been significant political and economic shifts in Myanmar with implications for the governance of the Salween River basin. These include renewed momentum behind the peace process, deepening economic trade and investment with neighboring countries, and new possibilities for the pursuit of longstanding plans for large hydropower dams. In this paper, we present a political economic analysis of water governance of the Salween Basin in Myanmar. We frame our analysis utilizing a “pathways approach.” Our analysis of a development pathway entails analyzing how different actors’ visions for the basin are being formulated and acted upon, including the narratives produced, and the decision-making processes invoked. We draw on an extensive literature review, expert interviews conducted over 2016 and 2017, and participatory engagement in meetings.

We analyze four divergent pathways in this paper: 1) Hydropower dam pathway, pursuing hydropower dams before a political agreement for peace between the central government and ethnic groups is complete; 2) A second pathway that involves political dialogue and genuine peace followed by deliberation on resource governance which may (or may not) include hydropower dams; 3) Energy reform pathway, includes the promotion and development of decentralized energy alternatives to large scale projects like hydropower dams, but often within the limitations of current political framework such as the constitution; and 4) Local development pathway, such as the Salween Peace Park, is built through community based water governance processes and the integration of ethnic customary practices and management structures into devolved federal policy and institutions.

In light of these divergent visions for the future of the Salween in Myanmar, we argue that there is a need for careful consideration of multiple policy goals, including related to: peace and security; decentralization and community participation; and food, water and energy security.
Repositioning the Salween Basin in a Critical History of Burma/Myanmar

Alec Scott and Carl Middleton

In this paper, we critically assess and position the history of Salween basin within the broader political history of Burma/Myanmar. Whilst the Salween basin is often narrated to be a periphery border area, we aim to develop an argument that the Salween basin has in fact long stood at the centre of Myanmar’s political history. To do this, we consider how key moments in the country’s contemporary history have roots in the places, politics and peoples of the Salween basin. We narrate this history from the first phase of British colonial Burma, when Moulmein (Mawlamyine) was established as the colonial capital, through to the parliamentary period when the Panglong Agreement was signed in Southern Shan State in 1947, and since then the significance of the “Federal Movement” that began in Shan State in the early 1960s, and the role of Manerplaw from the mid-1970s until the mid-1990s in the federal and pro-democracy movement. More recently, we consider the implications of the cease fire agreements since the 1990s and the current Northern Alliance for the overall peace process. Drawing attention to the significance of the Salween basin in the political history of Burma/Myanmar, we suggest, is important to appreciate current challenges in the peace process and analysis of contesting claims for territory and legitimacy that have produced the fragmented sovereignties that characterize the basin today.
Water Quality of the Thanlwin and Attaran Rivers

Dr. Aye Aye Nwe

Water has existed on earth as early as 3000 million years ago. It is the commonest fluid in nature. Water pollution may be divided into five categories on the basis of sources and storage of water: ground water pollution, surface water pollution, lake water pollution, river water pollution and sea water pollution. Today the accelerated pace of development rapid industrialization and population density have increased demand of water resources. Water quality refers to the chemical, physical, biological and radiological characteristics of water. It is a measure of the condition of water relative to the requirements of one or more both species and or to any human need or purpose. This report presents water quality data collected two locations from March 2015 to April 2016 and analyzed by using eleven parameters at the water quality laboratory, Mawlamyine University. The results were discussed in three parameters such as pH, turbidity and electrical conductivity. The water quality of Attaran River was good characteristics than Thanlwin River. So, raw water from Attaran River could be used for producing tap water in Mawlamyine, Mon State.
The Role of Environmental Impact Assessment in the Governance of Nu-Salween River: A Comparative Study of the Chinese and Myanmar Approaches

Dr. Bian Yongmin

The Nu-Salween River flows from China to Myanmar and Thailand. Both China and Myanmar have proposed hydropower projects on this shared river. On China’s side the hydropower projects are all on the tributaries of the Nu River while on Myanmar side the planned hydropower projects are on the main watercourse of the river. This paper investigates the role of environmental impact assessment (EIA) in the governance of Nu-Salween River in order to find ways for the riparian states to improve their EIA practice. The paper finds the potential role of EIA in facilitating decision-making towards sustainability has not yet been fulfilled either by China or Myanmar. China’s EIA law is week compared with Myanmar’s EIA law in standards, scope, and transparency. It can be observed that in practice both China and Myanmar EIA reports of hydropower projects often downplay the environmental impacts. Chinese investors in Myanmar are endeavoring to improve EIA after encountering challenges to their environmental protection measures for several projects from hydropower to mining and pipelines. This paper argues China should learn from Myanmar to improve the transparency of its EIA, take more social issues into its EIA assessment and justify mitigation measures based on science strictly. As an upstream state, China should take transboundary impacts into consideration in EIA of hydropower projects on Nu River if China plans to develop hydro-projects on Nu River. Downstream Myanmar may learn from China the experience and lessons in administrating and supervising the EIA of hydropower projects as China may have the richest experience and lessons in developing hydropower projects today in the world.
Salween Pathways and the Role of Thailand

Dr. Carl Middleton

Although only five percent of the Salween basin lies within Thailand, decisions taken by state and non-state actors in Thailand could have profound implications for the future of the basin. Thailand’s economy is significantly dependent on resource extraction and use, both within the country and via trade and investment in neighboring countries. This paper adopts a “pathways” conceptual framework to render visible a range of possible futures for the Salween basin, and Thailand’s role within it. Each pathway entails a different set of actors, visions, policy and/or practices. Four pathways are analyzed: 1) Plans for large dams associated with regional economic integration and power trade from Myanmar to Thailand; 2) Alternative possible pathways for Thailand’s electricity sector, with a greater role for energy efficiency, demand side management, and other renewable energy; 3) Plans for water diversion, either from Thailand’s tributaries or the mainstream, to address water scarcity in Thailand’s central plains; and 4) Plans for local-level development building upon existing local community livelihoods alongside the river.
From Hydropower Development to National Park Conservation: Changing Pathways of the Nu River

Dr. Carl Middleton, Chen Xiangxue & Dr. Yu Xiaogang

After the decision-making of the West-East Power Transmission strategy in 2000, China began a large-scale hydropower development boom in the southwest. The Nu River experienced several important turning points. Despite the 13 proposed mainstream dams on the Nu River was suspended in 2004, the decision-making process became more complicated and confusing. It was frequently included in the list of key hydropower development during China’s 11th and 12th five-year planning period. But this river keeps free flowing because of Chinese civil society’s successful campaign. With the Chinese government’s emphasis on ecological civilization construction and green development concept, the Nu River is embarked on the national park development pathway.

This chapter aims to analyze the transformation of China’s development thinking from GDP-oriented development concept to ‘lucid waters and lush mountains are invaluable assets’ behind this changing from hydropower to national park, then discuss development pathways of the Nu River which mainly include hydropower development pathway, free flowing pathway and national park pathway.
Assessing Potential Threats to Fisheries and Socio-Economy in the Thanlwin Estuary, Mon State, Myanmar

Dr. Cherry Aung

The purpose of this research is to study the status of fishery resources and socio-economic implications on the fishery communities in the Thanlwin River Estuary. The research had been carried out in four villages located in tributaries of the Thanlwin Estuary: Khayar Village at Gyaing tributary, Kau-mu-pon Village at Mawlamyine tributary, Khin-tan Village at Dayelbauk tributary and KyoneSein Village at Attran tributary. The estuary is well known for its fresh, brackish and marine water fisheries as the area receives fresh water discharge from rivers and tributaries along with tidal intrusion from the sea. The quantitative and qualitative data was collected from the four villages and surroundings areas. A total of 72 species of fishes including fresh, brackish and marine fishes were recorded from the estuary. In the past ten to fifteen years, the local fishermen have faced the problem of declining fish catches in the rivers and sea. According to the local people, some of the fish species are now extinct and some are on the verge of extinction. It is observed that over fishing; illegal fishing using small-sized mesh, bottom trawls, and poison; and illegal catching of the spawning fishes in the inner creek are the major threats that contribute to the depletion of fish species in these areas. These along with increasingly higher sedimentation, more shallow river depths in downstream areas and more intense dynamic rhythm flows are also important potential threats to the loss of fishing grounds, habitats and migratory disturbances for some commercial fish species. Mass erosion, sand collection, construction of large bridges across the river and the changing of water flow conditions may cause the creation of a high accumulation of sediments in downstream areas of the rivers. Accordingly, local people are trying to adapt to the environmental, socio-economic and livelihood changes.
Physicochemical Investigation of the Salween River

Dr. Daw Than Than Myint

In this study, physicochemical investigation has been made to assess the quality of the Salween (Than Lwin) River water near Hpa-an Township. The water samples were collecting from two sampling sites. Physicochemical parameters conducted on the water samples were determined by using conventional methods and modern instrumental techniques. The resulting data indicated that all the parameters of the water samples were within the allowable limits, EPA standard values except alkalinity and total hardness. Thus, the body of water of the studied area was not safe to drink but clean to use for multiple purposes after proper treatment.
Measuring What Matters: Assessing and Weighing Socioeconomic, Biophysical, and Geopolitical Impacts from Widespread Dam Development in the Salween Watershed

Dr. Darrin Magee

Dam development in the Greater Mekong Subregion has proceeded at a rapid pace over the past two decades. Much of this development has been concentrated in the watersheds of major regional rivers such as the Lancang-Mekong, Ayeyarwady, and Nu-Salween, with hydropower as the primary goal. Until the late 1990s, most dam development occurred on tributaries of these rivers rather than on their main stems, even as scholars have tended to focus on major existing or planned dams on the upper Mekong (Lancang) and upper Salween (Nu) in China, both of which are important transboundary regional rivers. But those large dams tell only part of the story; several hundred small and medium dams already dot the landscape of the region’s watersheds, and while some may bring real benefits to local communities, all of them contribute to habitat fragmentation, disruption of human and non-human communities, and increased uncertainty among populations dependent on the rivers for their livelihoods.

The most acute negative impacts of dams tend to be spatially concentrated near the dam and reservoir, while benefits tend to be much more diffuse. This paper argues for a multidisciplinary approach to studying dam impacts that attends to both the magnitude of the impacts and the importance (salience) of each impact. The paper briefly explores such a model for a Chinese river, then examines the data needs for conducting a similar assessment for rivers in the Salween watershed, including the Salween itself. Careful and honest assessments are crucial if the region’s most glorious rivers are to retain their life-giving capacities even while humans exploit their electricity-generating potential.
Transferring Lessons Learned About Environmental Security from the Mekong River to Benefit Salween Studies

Dr. Edward Grumbine

Unlike the Salween River where there is a relative lack of information, there are a plethora of ecological and social studies from the Mekong Basin that reveal multiple ways to support more equitable and adaptive transboundary river management and decision making. I will summarize important lessons learned from work done in the Mekong that may have particular value for Salween studies. I will pay particular attention to six stressors that will have to be cooperatively managed to bolster environmental and human security in the Salween: ecosystem degradation, food, energy, water, human development, and climate change. Spotlighting lessons learned about these stressors, I will identify critical data gaps that influence ecological and social drivers of change. The goal will be to outline an agenda for future research that fills in these gaps, and recommends actions that may help to maintain critical ecosystem functions while supporting peoples’ capacity to adapt to change in the Salween.
Gender Inclusion Is Key to Social Justice: A Case Study of Two Villages Downstream of the Proposed Mongton Dam, Shan State

Hnin Wut Yee

This paper focuses on ethnic rural women in Southern Shan State, Myanmar and their access to and control over livelihood opportunities and involvement in decision making processes. It aims to analyze their vulnerability, especially within the context of the proposed mega Mongton dam project, from the perspectives of social justice and gender equality. This study used the ‘gender impact assessment’ tool developed by Oxfam and surveys with individual households and focus groups with mixed and women-only groups.

The study concluded that at the national level, policies are not gender inclusive, although a few legal frameworks are starting to include gender in their content. At the household and community levels, women, to a much greater extent than men, are more subjected to poverty, have restricted access to natural resources, and a lack of (or) inadequate access to education and health services. This, in addition to traditional and cultural barriers and compounded by a lack of gender sensitive policies, lowers them to disadvantaged positions where their voices are rarely heard. Therefore, in regards to the proposed Mongton Dam, this paper aims to inform relevant policy makers of the importance of an inclusive approach that considers vulnerable groups, such as ethnic rural women, in making decisions that impact their lives.
Creeping over-shoot: Some lessons on river management from other river basins

Dr. Ian Rutherfurd

Managing water quantity and quality in river basins is a huge social and political issue in Australia, China, the USA and Europe (leaving aside Cape Town running out of water). The Murray-Darling Basin Plan in Australia, the Yellow River in China (including the South North Water Transfer), and many other examples, might provide some lessons for managing the Salween River.

Large river systems are too large and complex for humans to contemplate, let alone manage and value. In particular, the connections in the system (of water, sediment, carbon, organisms) operate at large scales. The result is that cumulative impacts on water quantity and quality, and sediment extraction, always seem to build-up across these large basins, to the point that there is suddenly a crisis of over-exploitation. Thus, most management in major river basins is about ‘over-shoot’ where millions of small decisions have crept up on managers, such that communities now rely on the over-exploitation of the water, fish or sediment. The policies are then dominantly about the ridiculously expensive business of clawing back that over-exploitation, and managing the dislocation of communities that results (note that Australia has spent 10% of Myanmar’s annual GDP on buying back water in the MDB). The main lesson from most basins is how can the Salween avoid the disasters that they have experienced? Here are a couple of suggestions.

1. Icons matter. The foundation of river management is values: environmental, social and economic. Humans find it hard to contemplate and value a large basin, but they can value special parts of that system, or specific threatened animals. Recording the natural and social values in the Salween is the foundation of preventing creeping destruction. Naming those values provides simple credibility (e.g. “XXX is a site of international significance under the Ramsar convention”). Political processes respond much better to simple goals. The Salween has many candidates for such iconic values.
2. Know the flows. Without basic data on flows of water, sediment and organisms, in the basin, creeping over-exploitation is much more likely.

3. Predictions through conceptual models. All management is based on how values (especially the iconic values) will be affected by a set of decisions. Package the science (especially the flows information that has been gathered) into conceptual models that connect the elements, and make predictions about actions across the basin. “How will dams XYZ change the flow and sediment such that sediment extraction will now effect iconic value Z”. These models are never ‘true’ but they provide the only basis for negotiation about cumulative effects. The focus of these models has to be the connections across the basin, and identifying thresholds at which harm is too great.

4. Provide a venue or place where trade-offs around these values can be debated. This could be the development of a ‘basin-plan’, it could be a basin council of some sort. Fragmented decision making is usually at the heart of creeping over-shoot.

5. Explore novel management. It is usually assumed that controlling the creeping exploitation of river basins is more regulation. Huge creativity has been brought to the problems of regulation, including market mechanisms of all sorts. Experience in other basins provides rich, culturally appropriate ideas for managing competing demands.
Redefining the rules of water: Contestation and the production of scale in water governance in Myanmar

Johanna M. Goetz

Against the background of ongoing political and economic transformations, Myanmar’s natural resources – including water – have come under renewed contestation from both within as well as outside the country. Rapid changes in agriculture, industry, energy demand and financialization, amongst others, influence water and society around it. Myanmar with its diverse society is thus at a crucial point of negotiating the ways and scales at which water will be governed in the future. With clear rules and laws around water yet to be established, different narratives around water governance become prevalent. Various networks of actors become visible that promote different entry levels of water governance, including in terms of scale. While at the Union level, the National Water Resources Committee and its Advisory Group are leading the initiative to create unified policy arrangements at a national scale, the Salween Peace Park in Karen/Kayin State poses a localized initiative for community-led, bottom-up water governance. Drawing on semi-structured interviews with relevant stakeholders, document analysis and a media discourse as well as participatory observation in Karen State, this paper reveals that the scales and rules of water governance are currently being (re)negotiated and that this struggle has fundamental implications for future water-related decision-making including the relative distribution of authority, legitimacy and power amongst actors. Against the background of a complex history and the political and economic transformations within the country, this paper concludes that it is the currently contested production of scale in water governance in Myanmar that will be a defining feature fundamental to how the future rules of water governance will be defined.
Analysis on the Impact of Land Cover Changes on Socio-economic Conditions of Bawlakhe District

Dr. Khin Sandar Aye & Khin Khin Htay

The causes of land cover changes are many and varied. A common factor is human activities such as lumbering, shifting cultivation and extraction of forest products and fuel wood. The purpose of this paper is to analyse how land cover changes related to socio-economic conditions of Bawlakhe District, Kayah State. This study used both quantitative and qualitative tools in data collection and analysis, and Geographical mapping tools such as the GIS and RS technologies use. According to field survey, questionnaires and satellite image analysis, land cover conditions of this area have dramatically changed from 1995 to present, especially after 2010. Before these periods, Kayah State had no peaceful and not easy to assess in this area. This paper suggests that local and regional decision makers needs to provide accurate information to the public and guidelines for sustainable development of this area.
Forest Governance in the Nu-Thanlwin-Salween River Basin of Shan State, Myanmar

K.B. Roberts

Forests and river resources in the Shan State of Myanmar provide the base for livelihood security among rural populations, providing food, shelter, and medicine to regions where markets, clinics, and schools are scarce. The traditional and resilient form of agriculture known as shifting cultivation utilizes the landscape as a mosaic of forest and upland fields. Moreover, the Salween River - known as the Thanlwin in Myanmar - provides fish, riverbank vegetables, river gold to sell for currency, water for drinking and household needs, and power for micro-hydro generators. The Thanlwin River is the longest free flowing river in Southeast Asia, but a cascade of six proposed dams threatens to change that. In the Shan state, early stages of construction for the Mong ton dam have already prohibited local communities from accessing the forest and river resources they rely on and threatens to evict over 50,000 individuals with little consultation or compensation.

Current national policies such as the 2012 environmental conservation law favor business interests of the needs of local communities and laws such as the 2012 farmlands law and the 2012 vacant, fallow, and virgin lands management law allow for the removal of over 50,000 people, the loss of local medicinal and foraging knowledge of watershed resources, through the dam’s reservoir and logging, the destruction of over 600 km2 of watershed and its subsequent loss of biodiversity. The construction of the dam has already allowed the logging of nearby teak-dense forests and the presence of Burmese Tatmadaw and Lahu Militia in territory that previously was held by the Shan State Army. Through the lens of two communities along the Thanlwin river, this article discusses the salience of forest and river resources and the fragmented governance that influences access against the backdrop of the current and future effects Mong ton Hydropower Development Project. This research concludes that the discrepancies that occur between local governance and a centralized Myanmar government and the politics that surround resource use and access will increase local communities’ vulnerability.
The Role of Community Participation in Decentralized Energy Solution in Part of Thanlwin River Basin: A case of Community-owned Energy Solution in Ywar Ngan Area

*Kyi Phyo*

The Thanlwin River Basin is a host of large-scaled hydropower dam projects which could create more conflicts and displacement for communities and destroy natural and social environment. Thanlwin has its own characteristics with unite situation which deserve higher priority and also many alternative options for sustainable electricity development for local people.

The current generation facility of power in Myanmar is dominated by hydropower, which generate more than 3000 MW, followed by gas & stream and coal. The off-grid generation capacity in Shan State is a huge opportunity and also leading among other states and divisions. When implementing off-grid projects such as mini-hydro (like REAM’s partners are doing), it is of utmost importance that the community in question initiates the project and that the community members are participating through the entire project period. It is necessary to discuss and decide on a feasible management system of the watersheds; to ensure that the distribution of energy and resources consider the impact on users from others communities; and to unsure there are technicians who can operate and maintain the system. Villagers should also invest in the mini-hydro equipment themselves as part of the community development context to avoid it becoming a top down engineer project. One of very clear point is that community-approached research can integrate local communities and commons resource governance issues, in responding to basin wide situation and changing, by participatory research approve, activist approve for change and bottom up democracy for policy change.
Shan State is the mountainous state in Myanmar with the huge Thanlwin River flowing from the northern China border to the southern Gulf of Mottama. To the west of the river lie the high Shan Plateau with the renowned Inlay lake, and to the east the fabulous Golden Triangle Region which only in recent years has been opened up to tourism. Moreover, it is indeed a fascinated place- a land of 35 ethnic groups and peoples with various traits and customs living in great harmony. Hpekone Township- one of the townships, still strong with traditional forest land management practices. Moreover, traditional land management and land use management decision are still strong with their identity on vegetation cover changes. Furthermore, individual land-use decisions produce land-use/ cover changes at higher spatial levels. Based on the facts that, the objective of the study is to explore the traditional land management practices of the Kayan indigenous people group in Hpekone Township that contribute positively to the conservation of the forest resources and to advise means of utilizing these practices to conserve the remaining natural vegetation of the locality.
Kun Lone Township is very diverse region. It is located between 23°25’02.5”N and 098°39’34.7”E. Especially the various valuable medicinal plants are widely distributed in this area. Most of local people who live in villages rely on herbal medicinal plants for their treatment of aliment diseases. However, this knowledge is shared by oral communication. The documentation was not yet. In this study, ethnobotanical study on four selected villages of Kun Lone township, Lashio District. In these villages are home of various ethnic groups, such as Shan, Wa, Kokant, Larr Hu and Kachin. These villages are selected for the research within a 79-mile radius around Lashio, such as Yaelei Kyun, Tone Kyat, Wa Soke, and Ohn Tone. The first two are located on the banks of the Thanlwin River in Kun Lone. Yaelei Kyun houses a total population of about 200 people of Shan ethnicity, made up of 36 households. In Tone Kyat, there are 170 households and total population of about 1288 people of Kokant and Shan ethnicity. About twenty medicinal plants were collected and identified with taxonomists in Department of Botany, Lashio University. Out of collected medicinal plants, forty percent were wild plants and sixty percent were both wild and cultivated. The local names, habit, wild plants, availability of medicinal plants, need of conservation and efforts made by inhabitants and traditional medicinal uses of plants were mentioned. Both qualitative and quantitative analysis methods are used in this study. In gender analysis, female populations were more than male who are depend on herbal medicinal plants.
Ecofeminism Evolution Readiness of Gender Evolution in the Case of Mong Ton Dam Project

Nang Shining

This paper aims to analysis the gender roles in water management in Wan Sala village, Mong Ton Township and to examine the motivation and discouragement of women in the three-targeted townships along the Than Lwin River basin to be engaged in campaign against the Mong Ton hydropower project on the Than Lwin River in Shan State. The findings and analysis can assist related institutions and stakeholders broaden their understanding, consider gender relationship, the main factor of power inequality into water related development project, and address the gender gaps in the water governance system. My research sites are located where the potential affected communities living along the Than Lwin River consists with Mong Ton, Mong Pan and Kun Heng townships. Given the social, political and geographical context, the methodology are a non-traditional research approaches which employs previously inexperienced local youth as principle researchers as important part of data analysis and, capacity building and awareness rising are considered equally important as research as research findings, and a hybrid of academic research and fact findings strategy which employs video as a tool. The finding reveals that even though labor division is obvious between men and women, the decision-making processes within the family towards water management are equal. The gaps between the motivation and discouragement of women to be engaged in campaign against the Mong Ton dam project are depending on information accessibility, their knowledge and capability, their previous experiences engagement with outsider, the location of the meeting, and the political openness.

Therefore, the finding suggests that women need to empower themselves through provide the sufficient information on the Mong Ton dam project, encourage them to have exchange trips with outsider, provide a space for them to raise their voices, in order to involve in campaign against the Mong Ton dam project and protect their community and ThanLwin River Basin.
Social welfare of Burmese refugees and human security

Dr. Naruemon Thabchumpon

The situation of displaced persons from Myanmar living in the temporary shelters in Thailand has been described as the largest protracted refugee situation in Southeast Asia. This is an understudied topic within the broader context of displacement within the Salween basin’s development which has focused more on displacement and resettlement as linked to large-scale development proposals. In the case of Karen refugees at the Thai-Myanmar border along the Salween River, residents are basically dependent on external assistance for the funding of basic needs and services since they are not allowed to leave or work outside the shelters. Basic needs are provided by non-governmental organizations for essential food and non-food items as well as support for education and healthcare services. Security and legal protection is addressed by the community-based justice systems in the shelters. Legal Assistance Centre in three out of nine temporary shelters provides legal protection services for displaced persons.

This paper investigates the social welfare and human security situation of Burmese refugees living in temporary shelters along the Thai-Myanmar border. The study applies human security framework, rights to education and health accesses to analyze findings from both documentary and field research in order to examine the accessibility and availability of existing welfare services, as well as to identify the potential implications and the sustainability of access to local education, health, and judicial services of these refugees in the future.

To find alternative and sustainable solutions for the current and future situation, the study assessed the availability of existing welfare services, such as food/shelter, education, healthcare and legal protection for displaced persons and evaluated the extent to which these services are meeting the needs of displaced persons. It examined the potential implications and sustainability of access to local Thai education, health, and judicial services as well as identified possible social tension and conflict between displaced persons and local communities in relation to access to social welfare services. The Human Security Framework and Right to Education framework were used to analyze empirical data.

Overall, the paper argues that under the Human Security framework, finding sustainable solutions to the current protracted situation may need to go beyond the host country’s traditional
responsibility, and responsibility for the sustainable social welfare and protection of displaced persons should be equally shared among international agencies, the host country, and civil society.
Not only anti-dam: Rendering complex local communities in their negotiation for development in the Salween Borderlands

Dr. Paiboon Hengsuwan

The purpose of this chapter is to analyze, on the one hand, how the Salween dams have been framed through the states/capitalists collaboration as hegemonic discourse of development. The hegemonic discourse is that dams are development and villages are anti-dam. Therefore, the villagers are anti-development. On the other hand, how local communities at the Thai-Burmese border have articulated with the states/capitalists around development production. The main argument of this chapter is the anti-dam movement is one of the arena avenues through which communities are seeking local development. Rather than looking at the nexus between state and community on development projects will be imposed on the Salween borderlands, communities have engaged in states/capitalists’ development by proposing local development, according to their lives and inquiries of the access to government services, especially, land rights and citizenship entitlement. In this sense, it is too simplistic the EGAT said that these communities just anti-dam. Actually, the Salween dam is one of their concerns that local communities are engaging when they think about future livelihoods. They also engage with land networks, community rights, and citizenship rights. Likewise, the government cannot be issue-based, because the government has to think about many things at the same time. This work suggests that we should repositioning and reframing the anti-dam movement, which is not singular by itself, but somehow wider network of movements about local development. Whereas campaign groups have luxuried just speaking on single issue, local communities are not issue-based that can also elastic thinking in the same ways of the government is. Then we can see the anti-dam campaign in relation to other initiatives of community. In doing so, it is simplistic framing of community as anti-dam, but it is complicated that community is so much more sophisticated than that. I carried out ethnographic research during 2007–2010. There are border villages located along the stretch of the Salween River where it forms the border between Thailand and Burma. Recently I re-visited these communities in 2016.
Trans-boundary Rivers and Justice in Relation to the Salween Dams and Thailand's Water Diversion Plans

Pai Deetes

The Salween River holds a unique place among the world’s great rivers, not only due to its vibrant ecosystem and the rich biodiversity that it supports, but also because it remains largely untouched by human interventions, including dams. The majority of the river continues to flow freely. The Salween is home to a large number of diverse ethnic communities. Despite decades of armed conflict and forced displacement, the Salween River has remained a constant home and a source of livelihood, food security, culture and identity for thousands of communities.

A cascade of seven dams is planned along the mainstream of the Salween River in Myanmar. Many of the proposed dam sites are in areas of active armed conflict due to ongoing clashes between the Burmese military and ethnic minority forces. The dams threaten the already delicate state of the region, and there is widespread concern about the potential human rights and environmental impacts if the projects move forward. To date, the Kunlong Dam in Northern Shan State and the Mong Ton Dam in Central Shan State are the most advanced. Communities along the length of the river have expressed their strong opposition to hydropower development, and are calling for the rights of local people to lead in decision making over the management of their natural resources, their livelihoods, and their future.

Little is known about plans for hydropower development on the Salween River. Communities have received limited information, and have not been consulted about planned construction, which greatly concerns the hundreds of thousands of people who do not know what their future holds. Similar concerns around a lack of information disclosure surround Thailand’s plans to divert water from the Salween. In the dry season, serious water shortages are expected in Thailand, especially in the central part where water demand is high. The shortages are the result of expanded commercial plantations, urbanization and industrialization. The Thai government recently initiated a plan to divert water from the Salween River basin. The government has studied 19 options, and it will likely choose the Yuam River— a tributary of the Salween— for the water diversion project.
The plan consists of three major elements: a dam on the Upper Yuam River in Sob Moei District, Mae Hong Son Province; a storage tank on the hill above the confluence of the Ngao and Moei rivers; and a 63-kilometer-long concrete tunnel through the hills to the Ping reservoir (the Bhumibol Dam).

Civil society groups warn that the water diversion project will impact the livelihoods of farmers along the Yuam River and damage the fragile river ecology. Construction of a complex of tunnels and irrigation canals would destroy large forested areas and cause environmental and health impacts on nearby communities. Villagers living near the convergence of the Salween and Yuam rivers, many of whom have fled the ethnic conflict in Myanmar, would suffer water shortages in the dry season. Local groups are calling for improved transparency and information disclosure around the Yuam River water diversion project.
Salween Movement: Lessons learnt from local-led responses

Paung Ku (Presented by Ma Doi Ra)

Water grabbing involves the capturing of the decision-making power around water, including the power to decide how and for what purposes water resources are used now and in the future, with no regard for the indigenous communities and the impact on environment. The scenario is further fueled as part of the ‘development’ complex traditionally spearheaded by the international financial institutions such as the World Bank Group, Asia Development Bank, Japan International Corporation Agency, which encourages mega hydropower dams. Similarly, Government traditionally views large-scale hydropower projects as vital to advance economic development. The key question however is economic development for whom? Despite many formidable challenges, local communities and civil society organizations in Myanmar have continued to assert their right to water by using different tactics and connections as their movement evolves and local empowerment gets stronger. Since 2014, Paung Ku had the privilege to work with a wide range of actors to contribute to the Salween movement. These are some of the lessons-learnt. Enhancing capability of local CSOs (what they are able to do) in addition to their capacity (what they already have) has been the most effective, which in one way translates to building alliances within the country and along the Salween-Thanlwin-Nu River for knowledge sharing and collaborative advocacy. Raising awareness on United Nations Declaration on the Rights of Indigenous People (UNDRIP) (particularly on Free, Prior and Informed Consent), Universal Declaration of Human Rights and Environmental Impact Assessment Procedure helps build community mobilization, which has been the key to stopping or at least stalling dam construction in a number of cases. Initiative such as partnership between academic institutions and local civil societies to conduct Salween-related research has proven to work well. It was mutually beneficial because academics could better understand the traditional practices of natural resource management while CSOs could learn the systematic way of conducting research. In summary, as the drivers pushing for big hydro dams and other forms of water grabbing are coming from ‘outside’, it is crucial to provide support which aim to strengthen and amplify local responses.
Rights and Rites for Water Justice: A Case Study of the Proposed Hatgyi Dam on the Salween River

Saw John Bright

The Salween River flows through China, Myanmar and Thailand, and is an invaluable resource to the millions of ethnic people who live along it. The Hatgyi Dam is one of five controversial hydropower dams planned to be built in Myanmar territory that would affect the livelihoods and cultural values of local communities. To date, there have also been questions of community involvement in decision-making regarding the Salween dam projects, and therefore there is an issue of justice in the water governance of the Salween River. Focusing on the Hatgyi dam as a case study, this study uses the concepts of “Rights” and “Rites” as analytical tools to examine community expectations and the decision-making process over the Salween dams to date. According to this framework, a “Rights-based approach” is a formalized and legalistic approach to water governance normally recognized by the state. Meanwhile, a “Rites-based approach” is a locally-defined natural resource management approach that centers around cultural norms and local knowledge.

The purpose of this paper is to evaluate how both approaches - “Rights and Rites” - could work together to help ensure inclusive decision-making and to ensure a full consideration of justice with regards to the Salween River. The paper claims that the issue of justice is not yet fully considered in the current development policy agenda in water governance in Myanmar. Furthermore, the paper claims that decision-making over the Salween dams has been highly centralized and without community participation. The paper suggests that there is an opportunity to recognize both the “Rights” and “Rites” approaches to water governance in Myanmar, and this could result in a positive step towards inclusive decision-making and ensuring justice in water governance on the Salween River.
The Global Environmental Crisis You’ve Probably Never Heard Of: Sand, Gravel, and Sediments on the Lower Salween and in a Global Context

Dr. Vanessa Lamb

Globally, sand is “running out” and has been declared by the UNEP a “scarce resource” (UNEP 2014). While it might seem impossible to run out of sand, the rates of extraction far exceed rates of renewal, with the Ecologist recently declaring "Sand mining is the elephant in the room of environmental issues” (Ecologist 2017) with the Guardian declaring it “the global environmental crisis you’ve probably never heard of” (Guardian 2017). However, while sand mining continues to attract international attention across the globe, we know very little about the practices of sand and gravel extraction in Myanmar and this is one of the issues I would like to consider for moving towards a “Sustainable Salween River”. Thus, in this presentation I will share preliminary findings on the scope and scale of sand extraction on the Lower Salween River, and position this in discussion of how sand mining is seen and framed internationally. In particular, I highlight two key omissions in these debates: the links to urbanisation (with particular focus on Myanmar and Singapore) and the ways that the “other” values of sand are overlooked.

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