



ADAPTATION FUND

INCEPTION REPORT

Mekong EbA South : Enhancing Climate Resilience in the Greater
Mekong Sub-region through Ecosystem based Adaptation
in the Context of South-South Cooperation (Year I)



September 2023

Prepared by : Department of Water Resources
Ministry of Natural Resources and Environment, THAILAND
Submitted to : United Nations Environment Programme



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Inception report

Mekong EbA South: Enhancing Climate Resilience in the Greater Mekong Sub-region through Ecosystem based Adaptation in the Context of South-South Cooperation

1. Introduction

The northeast of Thailand is located in the Lower Mekong Basin (LMB) and comprises 3 main river basins; Mekong, Chi, and Mun river basin, with 80 sub-basins of cultivated land. Some basin areas and their inhabitants in the region are often at risk to flood and drought events caused by natural and anthropogenic impacts and changes including climate change impact. The Young River basin is one of the critically vulnerable areas to climate change impact.

Department of Water Resources had submitted the proposal requesting the support to Climate Change Adaptation Fund, United Nations Environment Programme in 2018. After project approval, the Department of Water Resources signed on January 2023 the project coordination agreement “Mekong EbA South: Enhance Climate Change Resilience in the Greater Mekong Sub-region through Ecosystem-based Adaptation in the Context of South-South Cooperation”, with the United Nations Environment Programme, for 4-years implementation. The Department of Water Resources (DWR), Ministry of Natural Resources and Environment, Thailand becomes the executing agency.

The project area is selected to demonstrate in the Young River basin, northeast of Thailand. The Young River basin is a tributary of the Chi River basin and has a land area of 49,273.86 km² covering 5 provinces (Mukdahan, Yasothon, Roi Et, Kalasin, and Sakon Nakhon), 23 districts, 107 sub-districts, and 864 villages. It has a drainage area of approximately 4,145 km² which accounts for 8.38 % of Chi basin area. Most of the Young River basin area is located in Kalasin and Roi Et provinces.

The project is funded by the Adaptation Fund (AF), aiming to strengthen awareness and action of governments and communities in the GMS to adapt to climate change using EbA. The first-year phase, spanning from July 2023 to June 2024, the first phase consisted of three tasks, Task A: Project management arrangements, Task B: Formulation and Implementation of management plans for DWR, and Task C: Project implementation on-the-ground interventions in Thailand project site (Young River Basin).

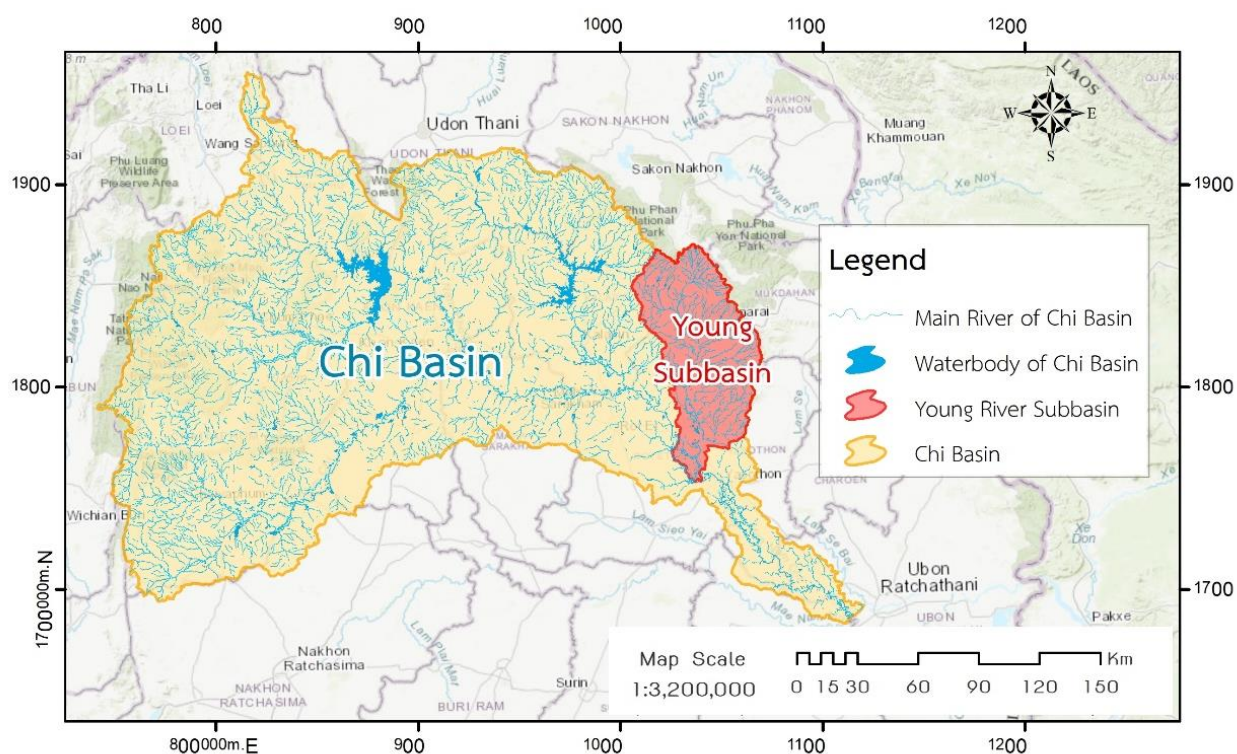
2. Review of Study area: Young River Basin

2.1 River Basin baseline data

The Young River Basin is a sub-basin of the Chi river basin. Its land area covers 4 provinces (Kalasin, Roi Et, Yasothon and Mukdahan province). It has a drainage area of approximately 4,155 km² which accounted for 8.43 % of Chi basin area. It receives an average annual rainfall of 1,390 mm/year. Annual relative humidity and temperature are 71% and 26.7 C respectively in the basin. Young river basin is mostly in Kalasin and Roi Et provinces.

Topographically, the Young River Basin is characterized and surrounded upstream by the Range of Phu Phan. The surface elevation of the river basin ranges between 120-600 meters above MSL. The Young River mainstream and its tributaries flow south passing Kalasin and Roi Et and Mukdahan (very small area) province, and then confluences Chi River at Yasothon province. The topography of Young River Basin shows stream and administrative boundaries in Figure 1. Young River Basin has been impacted and is vulnerable to flooding and drought events.

Frequently, the upper catchment at Kalasin encounters a longer period of drought annually, while the lower catchment is repeated with severe flood during the monsoon period. Flood and drought areas with their frequency is shown in Figure 2 and 3 respectively. Flood and drought events in Young River Basin are recorded at different stream portions; upstream, midstream, and downstream, and resettlement areas are evidently exemplified shown in Figure 4 and 5.



Location of the Young River Basin

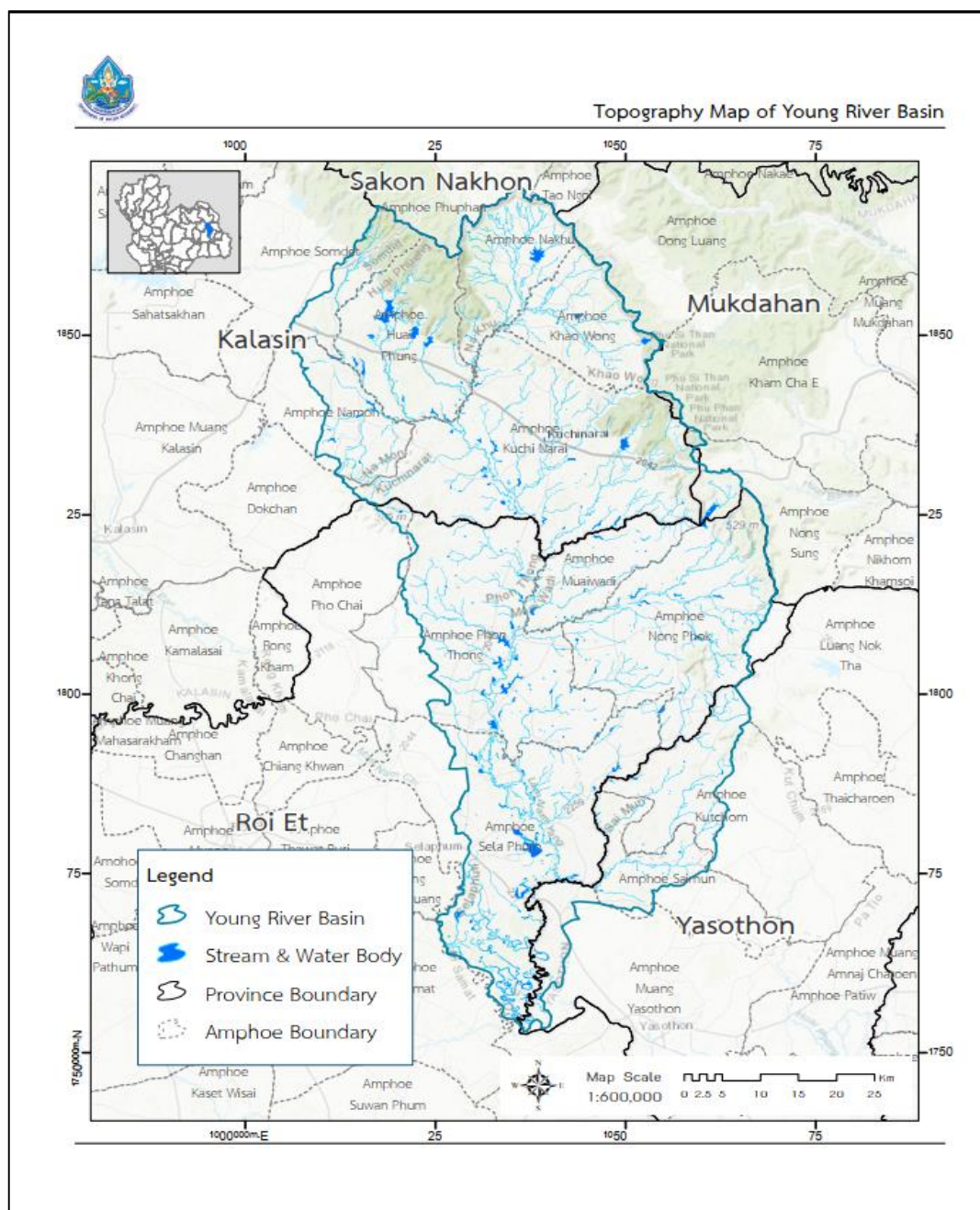


Figure 1 Project study area of Young River Basin with the river system in administrative boundary by districts (Amphoe) and provinces (Source: Department of Water Resources)

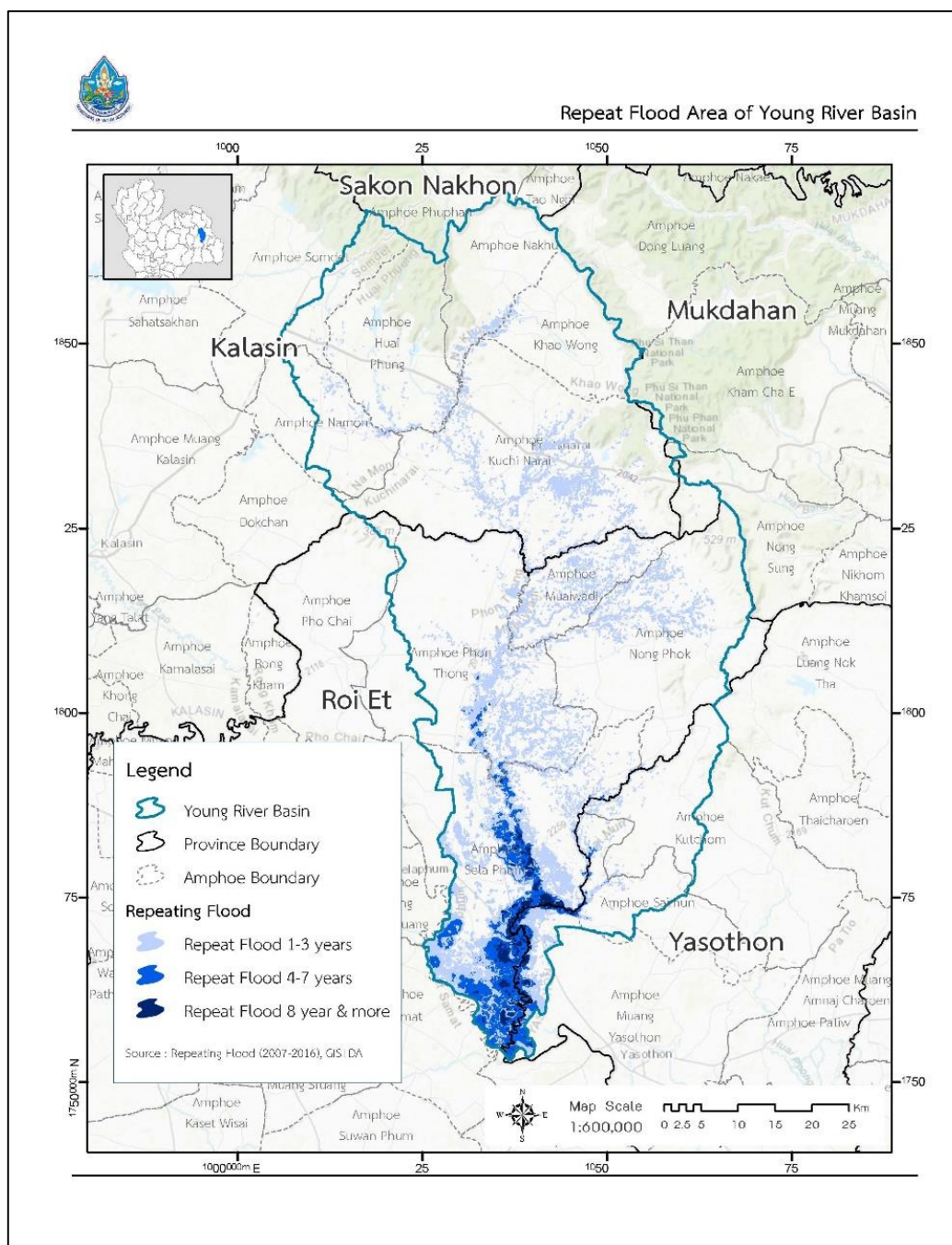


Figure 2: Flood frequency map of Young River Basin (2007-2016). (Source: GISDA)

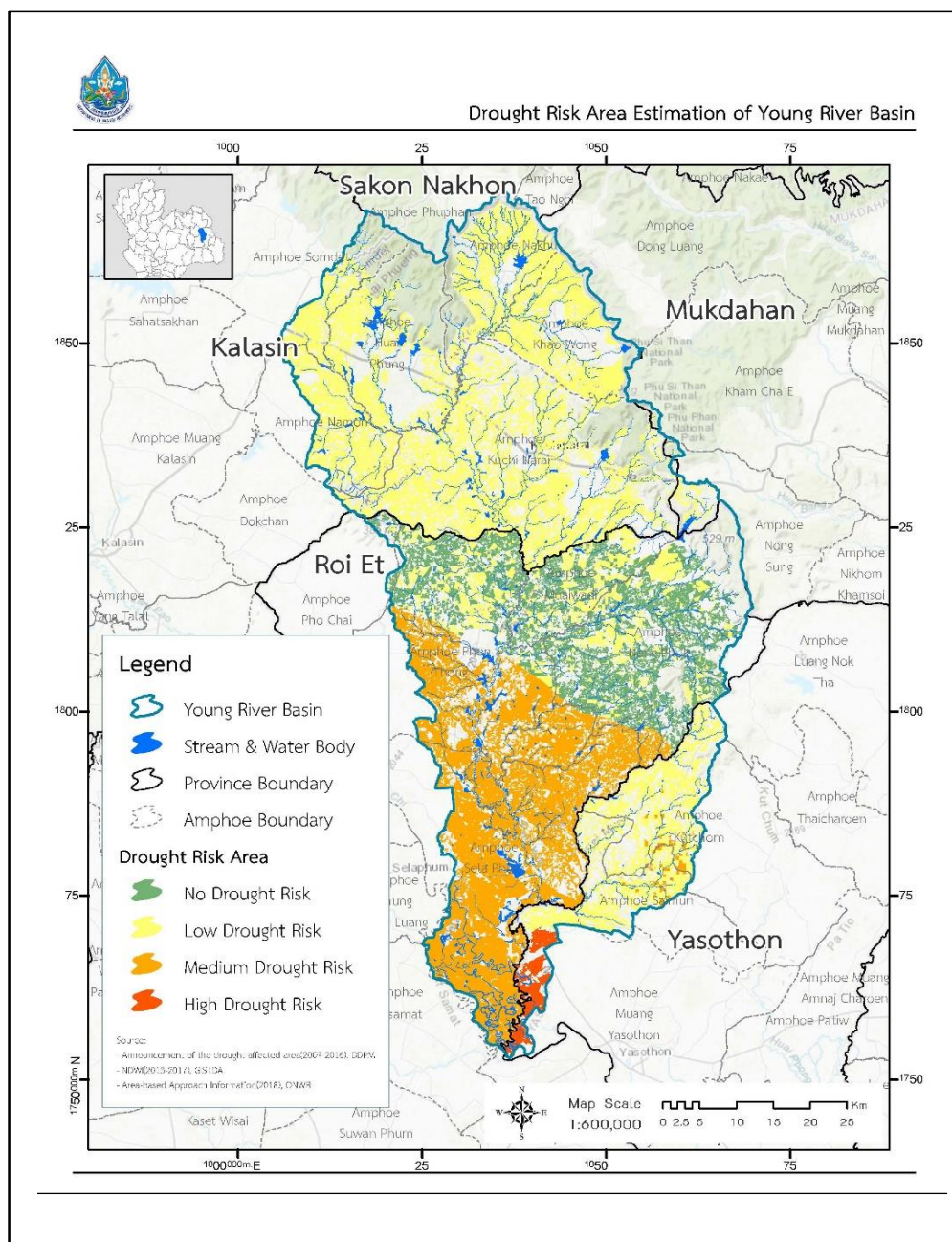


Figure 3: Drought Risk Area of Young River Basin (2013-2017)
 (Source: GISDA and ONWR)

The Young river basin has faced flooding splash and runoff from the Phu Phan Mountain Range. The flow causes an impact in the agricultural areas, especially in the lowlands. Moreover, floods damage the riverbanks and causes soil erosion. Flood situation in the past as shown in Figure 4.



Flood over Noan Chan Village, Noan Chan Subdistric, Na Khoo District, Kalasin Province (2018)



Flood over Noan Sala Village, Phu Lan Chang Subdistric, Khao Wong District, Kalasin Province (2018)



Flood over Chiang Wang Village, Koak Muang Subdistric, Phon Thong District, Roi-Et Province (2011)

Figure 4: Flood events in upper Young River basin



Flood over Bak Village, Lao Noy Subdistric, Selaphum District, Roi-Et Province (2020)



Flood over Tha Yiam Village, Lao Noy Subdistric, Selaphum District, Roi-Et Province (2017)

Figure 5: Flood events in lower Young River basin



Huay Ma No Reservoir,
the upstream river of Young river basin
Na Khoo District, Kalasin Province



Weir Huay Yang creek (Young's tributary),
Na Khoo District, Kalasin Province



Figure 6: Midstream of Young river basin
Kuchi Na Rai District, Kalasin Province and Phon Thong District, Roi-Et Province



Figure 7: Downstream of Young River Basin
Bank erosion during flooding and back water from Chi River
Selaphum District, Roi-Et Province and Mueang District, Yasothon Province

2.2 Preliminary review on current water-related issues in different parts of Young river basin

1) Upstream of Young River Basin

Area Condition

- Located in Phu Phan Mountain Range, covering Na Khoo District, Khao Wong District, Huay Peung District, Somdet District of Kalasin Province

Status of Water User Organization, Water User Group

- Registered as water user organization with the Office of the National Water Resources (ONWR), according to Water Act B.E. 2561, on behalf of Water User Group Network of Sai Na Wang Sub-district; and consists of subgroup networks e.g. Farmers group

Issues	Past and current water-related issues			
	Past		Current	
	Problems	Preliminary Recommendations	Problems	Preliminary Recommendations
1. Water Consumption	- None (Because most of the area used groundwater supply system and had enough water to meet the demand)		- Most of the area uses groundwater supply system (In the future, the amount of water is likely to be insufficient due to the increase of groundwater usage.)	- Find and explore additional water sources - Drill water wells
2. Drought	- None (Because the tributaries of the Young river could store enough water to meet the demand)		- None (Because the tributaries that flow into the Young river contain enough water. The water user group in the area holds a meeting on water management before proposing the meeting's resolution to the Local Administrative Organization and the related agencies to ensure appropriate water usage.)	- Develop water sources to have a larger capacity in order to storage the water to meet future water demands, resulting from the increase of agricultural areas. - Expand the irrigation area of Huay Mano reservoir
3. Flood	- The rapid flood that flowed from Phu Phan Mountain Range caused	- Slowed down the water flow and stored the water	- The rapid flood flowed from Phu Phan Mountain Range causes an	- Slow down the water flow and cut off the water source

Issues	Past and current water-related issues			
	Past		Current	
	Problems	Preliminary Recommendations	Problems	Preliminary Recommendations
	an impact on agricultural areas, especially in the lowland areas of the Upper Young River in Nakhoo District and Khao Wong District. The current flow caused soil erosion and led to the damage of riverbanks.	- The people adjusted their living conditions according to the events.	impact on agricultural areas, especially in the lowland areas at the Upper Young River in Nakhoo District and Khao Wong District. The flood happens in September every year and lasts for approximately a week.	<ul style="list-style-type: none"> - Construct small-scale weirs in 2 tributaries of the Young River, 15 locations in total, for water management before its flow into the Young River. The people, according to the meeting resolution of the water user group, should be assigned to monitor and manage the on-off control system - Construct Huay Mano Reservoir Project as a water catchment area and cut off water source - Early Warning for flood and landslides - Install rain gauge stations - The water user group committee in the area should be assigned to monitor the flood situation and notify the community.
4. Water Management	- Lack of well-established water management	- Promotion of participation	- Lack of integration	<ul style="list-style-type: none"> - Promote and support water user group, integrating with different groups in order to create a concrete networks - The water user groups in the area work with the Utokapat Foundation to gain information for preparing a work plan for the project and receive a budget for implementing activities for developing and solving problems in the Young River Basin.

2) Midstream of Young River Basin

Area Condition

- Located in Kuchinarai District of Kalasin Province and Phon Thong District of Roi Et Province

Status of Water User Organization, Water User Group

- Registered as water user organization with the Office of the National Water Resources (ONWR), according to Water Act B.E. 2561, on behalf of Water User Group Network of Joomjung Sub-district and there is the coordination with other groups in Young River Basin

Issues	Issues			
	Past		Current	
	Problems	Preliminary Recommendations	Problems	Preliminary Recommendations
1. Water Consumption	- None (Because most of the area used groundwater supply system and had enough water to meet the demand)		- Most of the area uses groundwater supply system (In the future, the amount of water is likely to be insufficient due to the increase of groundwater usage.)	- Find and explore additional water sources - Drill water wells
2. Drought	- None (Because the public water sources in the area could store enough water to meet the demand)		- None (Because there are approximately 24 public water sources in the area such as Joomjung brook, swamps and ponds which can store enough water to meet the demand.)	- Develop water sources to have a larger capacity in order to store more water to meet future water demands, resulting from the increase of agricultural areas. - Develop and rehabilitate the public water sources in the area (Hua Haet swamp and the construction of large solar-powered water distribution system in Nong Ban Du)
3. Flood	- The rapid flood caused an impact on agricultural areas, especially in	- Slowed down the water flow and stored the water	- The rapid flood causes an impact on agricultural areas, especially in the lowland areas of Young River	- Clear the waterways for better flow and give the early warning

Issues	Issues			
	Past		Current	
	Problems	Preliminary Recommendations	Problems	Preliminary Recommendations
	the lowland areas of Young River Basin in Kuchinarai District.	- The people adjusted their living condition according to the events	Basin in Kuchinarai District. The impact happens 2 times in approximately 20 years.	- Develop and rehabilitate the public water sources in the area such as getting rid of weeds and barriers in waterways - Install rain gauge stations for monitoring
4. Wastewater	- Industrial factories (sugar production) used water from the Young river and released the water from the factories into the Young river.	- The wastewater treatment system from the factories must be controlled and checked before releasing into the Young river. - The factories and government agency controlled and checked the system.	- Industrial factories (sugar production) use water from the Young river and release the water from the factories into the Young river.	- The water use from the Young river should be controlled. Water use permission should be requested to the river basin committee. - The wastewater treatment system and water quality should be controlled and checked before releasing into the Young river. Responsible government agency should check and certify the water quality.
5. Water Management	- Water management was not good.	- Promotion of participation - Water user group was formed in the area. However, the group was not ready to work and lacked the knowledge.	- Lack of the integration	- Promote the water user group to integrate with other groups to strengthen the capacity in a concrete way - The water user group in the area should work with the Local Administrative Organization such as proposing projects to request for the budget.

3) Downstream of Young River Basin

Area Condition

- Located in Selaphum District, Roi-Et Province and Muang District, Kalasin Province.

Status of Water User Organization, Water User Group

- Registered as water user organization with the Office of the National Water Resources (ONWR), according to Water Act B.E. 2561, on behalf of Water User Group Network for Organic Farming; and consists of subgroup networks e.g. Community Enterprise Group, Several Occupational Groups in the area

Issues	Issues			
	Past		Current	
	Problems	Preliminary Recommendations	Problems	Preliminary Recommendations
1. Water Consumption	- None (Because most of the area used surface water supply system and had enough water to meet the demand)		- Most of the area uses surface water supply system (In the future, the amount of water is likely to be insufficient due to the increase of water usage)	- Explore additional water sources - Dredge public water sources in the area
2. Drought	- None (Because the lowlands at the downstream consisted of public water resources that could store enough water to meet the demand of water usage.)	- Water user groups gathering - The people adjusted their living conditions according to the events.	- None (Because the areas are lowlands, consisting of several public water sources that meet the demand; such as Bueng Kluea Wetland and Nong Pla Koon Wetland in Selaphum, Roi-Et province.)	- Develop the public water sources and construct a solar-powered water distribution system - Collaborative Farming such as large-scale farm - Water-saving and short-term planting - Do organic farming
3. Flood	- The Lower Young River Basin in Nang Ngam sub-district, Selaphum District of Roi-Et Province, and Kho Nuea Sub-district, Muang District, of Yasothon Province were lowlands located at the confluence	- Adjusting living conditions according to the events. - The people adjusted their living conditions according to the events.	- The Lower Young River Basin in Nang Ngam sub-district, Selaphum District of Roi-Et Province, and Kho Nuea Sub-district, Muang District of Yasothon Province are lowlands located at the confluence	- Agricultural areas adjusted their conditions according to the events. - In the flood area, refrain from doing in-season rice field; instead, do off-season rice field

Issues	Issues			
	Past		Current	
	Problems	Preliminary Recommendations	Problems	Preliminary Recommendations
	of the Chi River, causing flood every year due to water rise.		of the Chi River, causing flood over the agricultural areas due to water rise. The flood happens in October every year and lasts for approximately 15 days.	<ul style="list-style-type: none"> - Prevent flooding in the community area - Early Warning - Install rain gauge stations - Establish early warning network
4. Water Management	- Lack of well-established water management	<ul style="list-style-type: none"> - Promotion of participation - The water user group was formed in the area. However, the group was not ready to work and lacked the knowledge. 	- Lack of integration	<ul style="list-style-type: none"> - Promote the water user group to integrate with other groups to strengthen the capacity in a concrete way <p>The water user group in the area should work together with other networks to gather information and then propose to Local Administrative organizations seeking for assistance in problem-solving, or propose to other relevant agencies for requesting further support.</p>

3. Review of relevant best practices and project implementation supporting to flood/drought and climate change resilience and ecosystem based adaptation.

The Department of Water Resources has started developing a mechanism in implementing adaptation to climate change for years. The study area was focused in the Young river basin led by DWR in order to address flooding and drought crisis. In this regard, DWR brought a variety of tools adapted to comply with the context of the area, such as demonstration of ecosystem-based adaptation on living check dam, restoration of forests, integrated farming, stakeholder engagement, etc.

Through the implementation of ecosystem-based adaptation to climate Change and vulnerability impacted areas, there are lessons learnt gained from the activities and projects. Apart from the study area in the Young river basin, DWR has also developed other projects to address the climate change for the areas where they have different problems and challenges.

The following projects are examples of DWR's best practices in implementing climate change resilience measures through ecosystem-based adaptation (EbA) in risk and vulnerable areas.

3.1 Project on Application of MRC Tool and Technical Information for the Management of Flood, Drought, and Climate Change: 1st year (B.E. 2560) (2017)

The Thai National Mekong Committee (TNMC) has selected the Young River Basin as the pilot area to demonstrate activities on climate change adaptation planning and implementation. Upper and lower zones of the Young river basin are Sai Na Wang Sub-district, Nakoo District, Kalasin Province Wang Luang Sub-district, Selapoom District, Roi-Et Province. The project was developed to support the extension of farmers' adaptation activities, to prepare the communities in implementing climate change adaptation activities as well as to establish a network between the government sector and the people for collaboratively solving problems.

Activities:

- 1) Access the vulnerability of the affected communities
- 2) Promote farmers' adaptation activities to cope with climate change due to drought
- 3) Build a strong collaborative network in solving problems among the government sector, private sector, and the people in the community
- 4) Establish a climate change learning center



3.2 Project on Improved Management of Extreme Events through Ecosystem-based Adaptation in Watersheds (ECOSWat)

The ECOSWat project selected Tha Di sub-river basin (Peninsular East Coastriver basin), Huai Sai Bat sub-river basin (Chi river basin) and Lum Pha Chi sub-river basin (Mae Klong river basin) as the pilot sites. The project improved management of Extreme Events through Ecosystem-based Adaptation which was supported by the German Federal Government under the International Climate Initiative (IKI). The Department of Water Resources (DWR) and German International Cooperation (GIZ) were the main implementing agencies during 2013-2017. The objectives of the projects were increasing the capacity of related agencies to prevent the impact of flood and drought through the Ecosystem-based Adaptation in the river basins of Thailand.

Activities:

1. Promotion of participation and understanding on water management during extreme events through the Ecosystem-based Adaptation in river basins
 - Knowledge sharing events, field visits and dissemination of knowledge documents



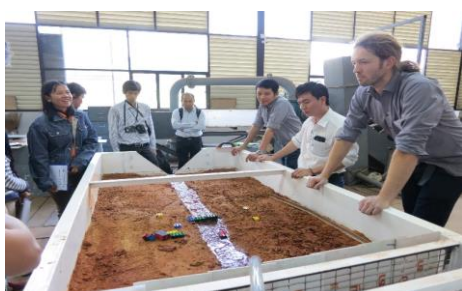
2. Study to identify pilot measures

- Vulnerability assessment in the pilot sites, recommendation of the Ecosystem-based Adaptation measures and implementation in Huai Sai Bat and Tha Di sub-river basins



3. Capacity building for staff

- Supporting staff to participate in capacities building activities on related topics including the Ecosystem-based Adaptation



4. Application of water management during extreme events through the Ecosystem-based Adaptation in river basins to related strategies at other river basins/national level

- Dissemination of project information and presentation of Ecosystem-based Adaptation measures to related agencies.
- Ecosystem-based Adaptation measures were recommended to agencies under the Ministry of Natural Resources and Environment to apply to the formulation of plan and policies as well as the implementation of measures

3.3 Project on Monitoring and Evaluation system on Water Resources Management with EbA (2022)

Project information:

The project was implemented at the same site as the ECOSWat project (KlongTha Di, Kum Loan Sub-district, Nakhonsithammrat, Huay Cheuak-Huay Sai, Huay Sai Bat, Khon Kaen. The objectives were to develop a monitoring and evaluation system on water resources management through EbA, to study and collect literature reviews, including knowledge sharing among government agencies and international organizations for M&E development through EbA. Yet, the project paid attention to the enhancement on the integrated water resources management through EbA and measurement of conservative and rehabilitation as well as strengthening capacity and cooperation for DWR's staff and concerned agencies.

Activities:

- Enhancement of participatory process on monitoring and evaluation of water resources management through EbA
- Formulate technical cooperation network on water resources management through EbA through cross-cutting collaboration among concerned agencies and public sector
- Engagement of knowledge sharing and transferring to their own organizations; database improvement and develop M&E system (with EbA) for their own organization.



Constructed wetland



Constructed bank protection wall



Cover crop for soil erosion protection



Constructed sediment detention weir

Figure 8: Examples of so-called Ecosystem-based Adaptation measures in Young river basin

3.4 DWR's Conservation and Rehabilitation Projects

DWR has also developed other projects adapted EbA to address the deteriorated areas in Thailand. The main objectives were focused on the following areas;

1. To conservation and rehabilitation of natural reservoirs for enhancing aquatic ecosystem diversity
2. To implement nature-based solution for sediment filtration
3. To increase efficiency of flow condition
4. To mitigate bank erosion
5. To prevent the watershed invasion
6. To serve as a recreation area and a natural attractive place
7. To detain water for consumption, agriculture, livestock, and to address flood and drought

The following examples are captured as the completed projects through EbA:

- Nong Bua Prachaoluang Conservation and Rehabilitation Project, Chiangmai Province
- Bueng Kiew Conservation and Rehabilitation Project, Roi-Et Province

- Nong Bua-Loi Conservation and Rehabilitation Project, Phrae Province
- Bueng Sifay Conservation and Rehabilitation Project, Pichit Province
- Huay Luang Conservation and Rehabilitation Project, Udon Thani Province
- Nong Lad-Kwai Conservation and Rehabilitation Project, Sakon Nakhon Province
- Huay Chueak-Huay Ruang Xay Conservation and Rehabilitation Project, Khon Kaen Province
- Klong Tha Di Conservation and Rehabilitation Project, Nakhonsri Thammarat Province



Enhancement of biodiversity



Reservoir improvement



Reservoir for retention



Promote recreational activities

4. Project Institutional Arrangement

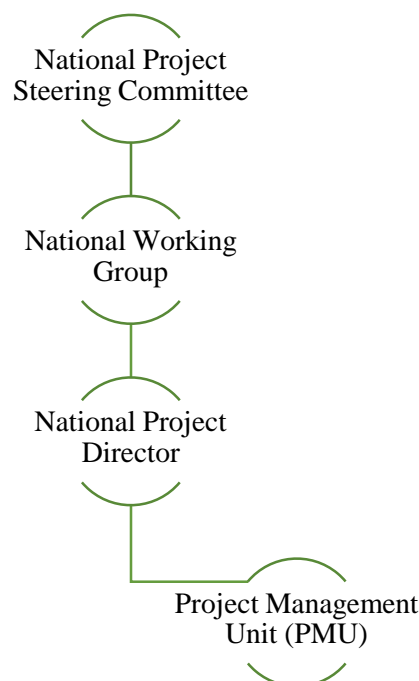


Figure 9: Institutional arrangement for project coordination and implementation in Thailand

The Department of Water Resources (DWR), Ministry of Natural Resources and Environment (MoNRE) is the executing agency for implementing this project activities in Thailand. The DWR will oversee the execution of Output 1.1, and the activities within Output 1.3 and Output 1.4 that will take place within Thailand. For these outputs within Thailand, the DWR will be responsible for coordinating and managing the implementation of national project outputs and activities, monitoring and evaluating national project outputs and activities, ensuring the overall quality and timeous delivery of national project outputs and activities, and coordinating with executing entities in Vietnam and IUCN to implement regional project outputs and activities.

DWR has set up the institutional arrangement as mechanism for implementing the project. The key actors which have significant role in managing and executing the project include National Project Steering Committee, National Project Director, National Working Group and Project Management Unit.

4.1 National Project Steering Committee (NSC)

The Ministry of Natural Resources appoints the National Project Steering Committee (according to the Order of the Ministry of Natural Resources and Environment No. 264/2566 dated 21 July B.E. 2566 (2023) as in Annex 1. The responsibility of National Project Steering Committee is following:

- To consider and provide technical recommendations on the formulation of guidelines for the project implementation and the action plan aiming to achieve the goal of project objectives,
- To oversee the project management and provide suggestions for addressing problems or challenges.

- To appoint the sub-committee or the Working Group to support the project implementation as necessary.

The members of the National Project Steering Committee are following:

- Chairman - Deputy Permanent Secretary of MoNRE
(Head of Inland Water Resources Cluster)
- Vice chairman - Director- General of the DWR
- Representative of National Committee on Climate Change Policy
- Representative of Chi River Basin Committee
- Representatives of relevant government agencies from central offices including the Office of the Permanent Secretary for MoNRE, Office of Natural Resources and Environmental Policy and Planning, Office of the National Water Resources (as Thai National Mekong Committee), Royal Irrigation Department, Department of Groundwater Resources, Department of Environmental Quality Promotion, Land Development Department
- Representatives of relevant government agencies from regional offices located in the Young River Basin including Kalasin Provincial Office of Natural Resources and Environment, Roi-Et Provincial Office of Natural Resources and Environment, Yasothon Provincial Office of Natural Resources and Environment, and Water Resources Office 4
- Water Resources Conservation Division, DWR, acts as secretary of the Committee

(Annex II)

The NSC meeting will be conducted as least twice a year. The first PSC Meeting was scheduled on 1 September 2023 .One or more member(s) of the PSC will be nominated to be a regional project steering committee.

4.2 National Working Group (NWG)

The DWR appoints National Working Group (according to the Order of the Department of Water Resources No. 339/2566 dated 30 June B.E. 2566 (2023)) as core mechanism to mainstream the project implementation and collaborative learning of in-house relevant departments of DWR. The Deputy Director-General is a chairman of the National Working Group. It consists of 25 members including representatives from both the central office and regional offices within the Department of Water Resources namely Water Resources Conservation Division, Strategy and Planning Division, Water Allocation Division, Research Development and Hydrology Division, Water Analysis and Assessment Division, Water Resources Development Division 1, Water Resources Development Division 2, Water Resources Office 4, and Water Resources Office 5. The National Working Group has duties and powers as follows:

- Study the background, agreement, scope of work, regulations, and conditions for the project implementation;
- Develop the plan and manage the project to achieve the goal of the project objectives;
- Recruit the staff and arrange the procurement as necessary to support the project implementation and the Project Management Unit (PMU);
- Coordinate with both domestic and international relevant agencies, organizations, and sectors;
- Report to the Director-General of the Department of Water Resources and the National Project Steering Committee regarding the project performance and preparation of the report on problems and challenges according to the Project Cooperation Agreement (PCA) and related regulations;
- Perform other related duties as assigned.

(Annex II)

To execute the project, 2 working group meetings was already conducted to consider the technical issues regarding the project implementation arrangement as follow:

- 1) The 1st Working Group Meeting was held on 17 July 2023 at DWR.
The meeting discussed and approved on the overall work plan, 1st year project budget and procurement plan and the preparation of the Mekong EbA South Thailand National Inception Workshop held on 17-18 July 2023.
- 2) The 2nd Working Group Meeting was held on 30 August 2023 at DWR.
The meeting considered the procurement, particularly for recruiting key persons in the Project Management Unit and national specialists, preparation of the 1st PSC Meeting, and the Draft Inception Report.

4.3 Project Management Unit (PMU)

DWR appoints a National Project Director (PD) as a key person to lead the project execution all project activities in Thailand and will be the focal point for all communication between Thailand, Vietnam, IUCN and UN Environment AF Coordination Unit. A National Project Coordinator is also appointed to assist PD in all coordination. DWR will hire the key persons to form the PMU to support the work of PD and the Working Group. The PMU is responsible for the overall management of the proposed project and ensure that the project is run transparently and effectively in accordance with AF and UN Environment guidelines and approved work plans and budgets. The PMU includes key persons namely a Project Manager (PM), a Financial and Procurement Assistant and a Local Coordinator. PM will lead the PMU and be responsible for the overall management of the project as follow:

- facilitating the day-to-day functions;
- managing human and financial resources in consultation with the PD to achieve results in line with the outputs and activities;
- leading the preparation and implementation of annual results-based work plans and logical frameworks as endorsed by the management;
- coordinating project activities with related and parallel activities;
- monitoring project activities, including financial matters, and preparing quarterly progress reports, and organising quarterly progress reviews;
- reporting and providing feedback on project strategies, activities, progress and barriers to the national PSC, UN Environment and IUCN ; and
- managing relationships with project stakeholders including communities, NGOs, government agencies and others as required.

The Financial and Procurement Assistant will be hired to support the PM's work, coordinate day-to-day management and manage administrative and financial tasks. Also, the Local Coordinator will be hired to coordinate with local communities for project execution in the Young River Basin.

The PMU office was already space reserved to locate on the 6th Floor of the DWR main premise, Bangkok. Additionally, the local PMU office will also be space reserved at Water Resources Office 4, Muang Roi Et, Roi Et province where is in Young River basin.

4.4 Project Implementation Period

The Mekong EbA South Project will take an implementation period for four years (2023-2027). For Thailand, the project has been officially effective since 26 May 2023 when DWR receives the

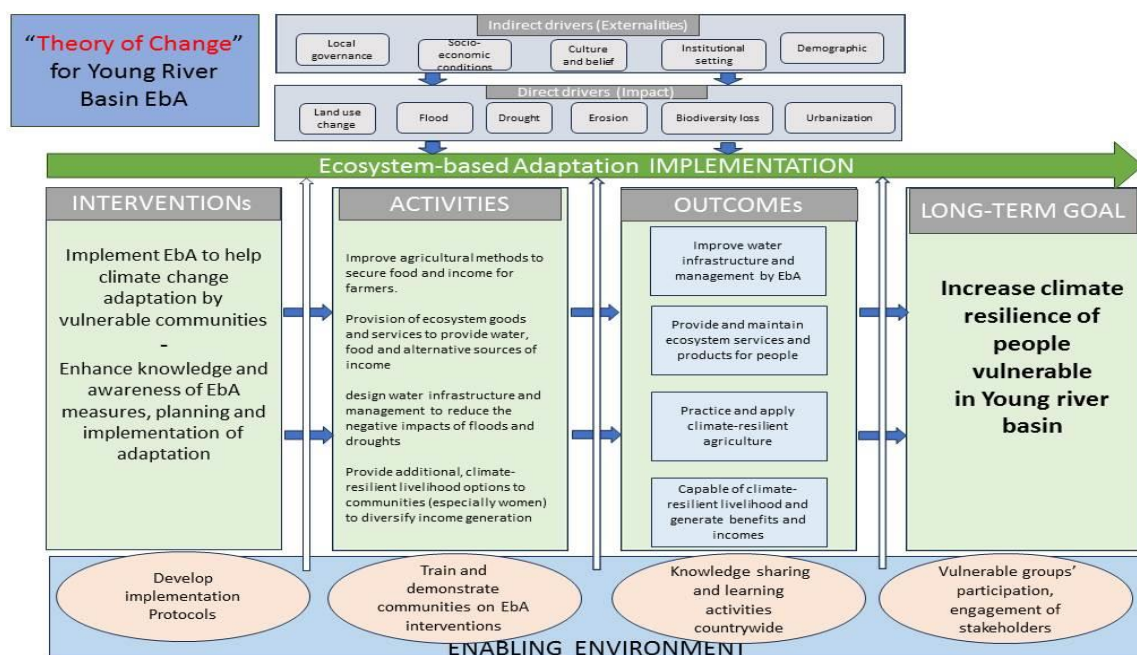
first installment after countersigning the Project Cooperation Agreement. The Agreement will be effective until 30 June 2027. The following diagram shows the processes for project implementation timeline:



5. Project Implementation Framework

Based on an understanding of Terms of Reference of the Project, DWR initiates a project implementation framework by Theory of Change. The "Theory of Change" is a framework used in program and project planning to articulate the underlying assumptions, expected outcomes, and causal pathways that link interventions to desired long-term goals. In the context of work plan preparation, the Theory of Change provides a logical and coherent structure for designing and implementing activities. It helps clarify the intended goals, the strategies to achieve those goals, and the expected outcomes along the way.

To promote ecosystem-based adaptation measures in Young river basin, long-term goal is visioned to "Increase climate resilience of people vulnerable in Young River basin". To achieve the vision, an understanding of direct and indirect drivers will be identified and assessed their impacts and influence. The enabling environment will support project implementation towards effective EbA interventions. What outcomes will be expected by implementing a number of project activities. Importantly, what, where, when and how EbA and related interventions will result to design and introduce activities. The Theory of Change for the Project is initially proposed in Figure 8.



In specific detailed project framework of Project Component 1 (Thailand national component) and Component 3 (Regional component), mapping of goal, outcomes and outputs; which will be implemented, is visualized in following flow diagrams (Figure 10, 11 and 12).

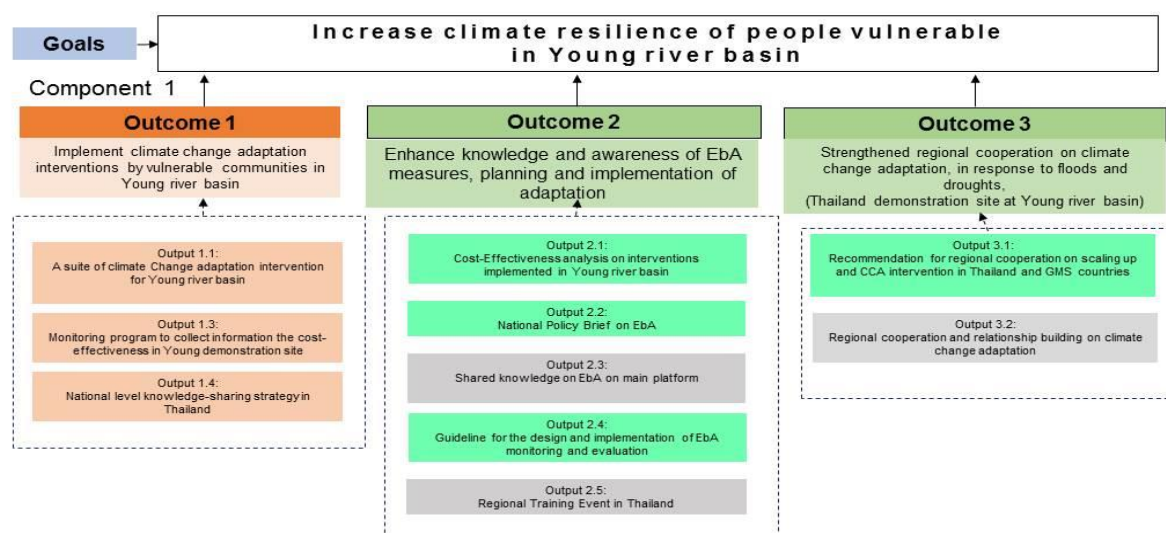


Figure 10: Expected outcomes and outputs of Component 1 (Thailand national component)

In figure 10, Component 1 consists of 3 outcomes:

Outcome 1: Implement climate change adaptation interventions by vulnerable communities in Young river basin

Outcome 2: Enhance knowledge and awareness of EbA measures, planning and implementation of adaptation.

Outcome 3: Strengthened regional cooperation on climate change adaptation, in response to floods and droughts.

Outcome 1 consists of 4 outputs.

Output 1.1: A suite of climate change adaptation interventions, including EbA, implemented at Young River Basin in Thailand. The 6 activities includes: (Figure 10)

- 1.1.1 Develop detailed implementation protocols and associated ESMP for the climate change adaptation interventions, including EbA, to be implemented in the Young River Basin.
- 1.1.2 Train communities in the Young River Basin to implement climate change adaptation interventions according to the implementation protocols developed.
- 1.1.3 Implement climate-resilient agriculture interventions in the selected sites within the Young River Basin.
- 1.1.4 Implement ecosystem-based adaptation interventions within the Young River Basin to maintain the supply of ecosystem goods and services to surrounding communities.
- 1.1.5 Implement interventions to improve water infrastructure and water management to reduce the negative impacts of floods and droughts.
- 1.1.6 Establish additional, climate-resilient livelihood options in the communities within the targeted sub-districts in the Young River Basin in order to diversity livelihoods and build adaptive capacity.

Output 1.3: Monitoring programme established to collect information on the cost-effectiveness of project interventions in different socio-ecological contexts in the GMS. The output 1.3 consists of 2 activities;

- 1.3.1 Design a monitoring and evaluation (M&E) plan – under the guidance of CERN – for each demonstration site that is context-specific but also allows for comparison among sites.
- 1.3.2 Implement the M&E plans to monitor the results, and collect information on the cost-effectiveness, of concrete adaptation technologies in different socio-ecological contexts.

Output 1.4: National level knowledge-sharing strategy implemented in Thailand base on knowledge-sharing activities in national levels. The Output 1.4 consists of 2 activities:

- 1.4.1 Design knowledge-sharing strategies in Thailand and Vietnam that are locally appropriate and enhance the local transfer of applicable adaptation knowledge
- 1.4.2 Implement the knowledge-sharing strategies in communities surrounding the project demonstration sites in Thailand and Vietnam.

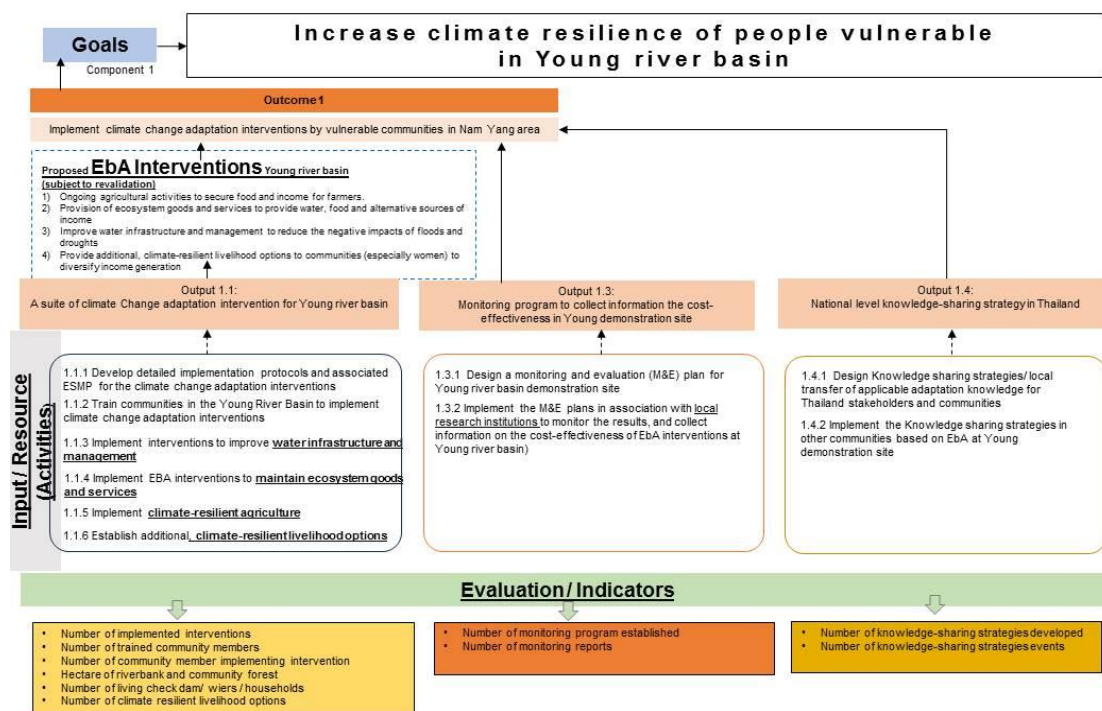


Figure 11: Activities and indicators designed to deliver the Outputs, and Outcome 1 with EbA interventions

In addition, Component 2 and 3 are a part of project implementation of Thailand to support the activities for:

- Outcome 2: Enhance knowledge and awareness of EBA measures in different ecosystems to promote regional cooperation, planning and implementation of adaptation in Nam Yang area. There are 3 relevant outputs as follows;
Output 2.1: Cost-Effectiveness analysis on interventions implemented in Young river basin.
Output 2.2: National Policy Brief (Thailand)
Output 2.4: Guideline for the design and implementation of EbA monitoring and evaluation
- Outcome 3: Strengthened regional cooperation on climate change adaptation, in response to floods and droughts, in Nam Yang area. There is 1 relevant output as follow;

Output 3.1: Recommendation for regional cooperation on scaling up and CCA intervention.

Thailand will support for both primary and secondary data to implement in Young River Basin and support the activities in regional component in figure 12.

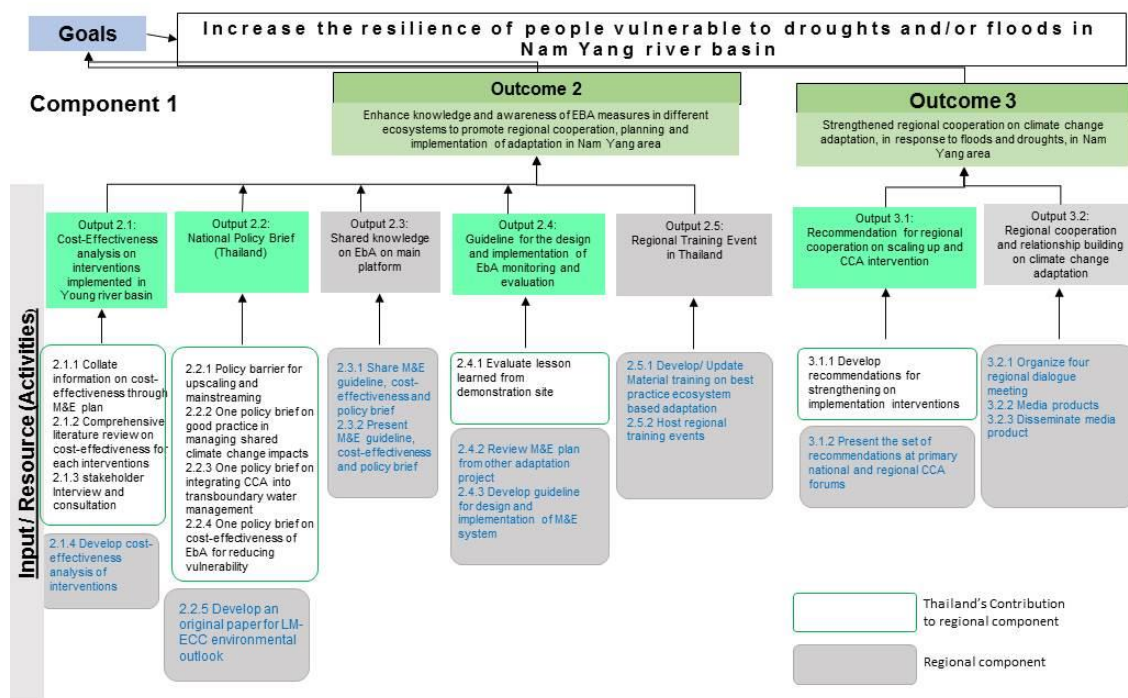


Figure 12: Activities and indicators designed to deliver the Outputs for Outcome 2 and 3 of regional component including Thailand support to regional component

6. National Inception Workshop of Mekong EbA South Thailand Project

To start the Project implementation, the Mekong EbA South Thailand National Inception Workshop was held on 19-20 July 2023 at Centara Water Gate Pavillion Hotel, Bangkok, Thailand. It is a kick-off event and is organized by the Department of Water Resources as an executing agency in collaboration with IUCN, regional advisory agency.

According to the workshop agenda, the objectives of the Inception workshop are:

- 1) To share an understanding of ecosystem-based adaptation and the project implementation of national component
- 2) To start a formulation of national project workplan; in particular of 1st year activities
- 3) To understand regional component by regional agency; IUCN, in support of Thailand national component
- 4) To discuss with IUCN and UNEP in regard to rules/procedure and performance/obligations to meet UNEP requirements
- 5) To start building capacity of Department of Water Resources' personnel (National Working Group) and of other agencies who will participate, oversight, and learn from the Project

6.1 Participants

Approximately 40 participants are invited to National inception workshop. The participants were from Thailand Project management team, Office of Natural Resources and Environment Policy and Planning (ONEP), Office of the National Water Resources (ONWR), UNEP, IUCN and representatives from the Republic of Vietnam. The workshop was in an informative and instructive format and exchange of ideas and suggestions from participants on each topic.

6.2 Project implementation progress and update

Department of Water Resources shared and presented an overview of background information in relevance to the Project including project study area at Young River basin and some former project activities linked with this Project are as follow:

6.2.1 Thailand National Component progress and update

- 1) DWR's past relevant activities relevant to the Project

DWR presented a review of relevant projects and activities in the past to address an importance and relevance of ecosystem-based adaptation measures in Young river basin and elsewhere. It is a part of review tasks which will support a baseline study; what, where, when, who, whom and to what extent EbA measures has been studied, introduced and promoted in Young river basin and elsewhere in Thailand. (see section 3).

- 2) Preparedness of DWR as an executing agency

DWR reported a preparedness to kick-off project implementation according to project document. It includes an establishment of institutional arrangement (section 4); including National Project

Steering Committee, National Working Group, National Director, National project coordinator. DWR addressed stakeholders engagement through institutional arrangements and capacity building opportunities. DWR did consider to contract qualified consultant to operate daily work and attempt to engage them in compliance with UNEP rule and procedure and government procedure soon after the inception workshop.

3) Draft national project implementation plan

DWR shared draft 1st year workplan in alignment with Project Terms of Reference. Also, other plans namely recruitment and procurement plan, and budget plan are initially drafted. Thailand Planning and Implementation are reported to the Inception workshop as follows:

- Scope of work (1st year) includes project management arrangement, formulation and implementation of management plans, and implementation of on-the-ground interventions which are composed of 2 outputs include the implementation protocols for climate change Ecosystem-based Adaptation (EbA) at Thailand project site (Young River Basin) and the implementation protocols for local communities training and climate change EbA activities. (section 7)

- Project Management Unit (PMU) is responsible for implementing the recruitment plan, in cooperation with the relevant organizations, reporting the project results, and advising for project implementation measures and project management.

- Budget plan, DWR received the 1st installment budget on the 26 May 2023 around 210,000 US dollar or 7,242,900 Baht. PMU has revised the work plan and budget according to the remaining timeline.

- Recruitment procurement plan includes 1) key personnel and experts as follow: project manager, climate adaptation specialist, public awareness specialist, gender specialist, local coordinator, project coordinator, finance, and procurement specialist 2) supporting personnel such as finance and procurement assistant, researcher assistant and project assistant.

- Purchasing durable office equipment and other expenditure include communication equipment, office supplies, stationary equipment, and travel expenses.

- National Project Steering Committee (NPSC) includes committees from both government and relevant organizations and chaired by the Deputy Permanent Secretary of the Ministry of Natural Resources and Environment. NPSC will oversee the project management and provides suggestions for project implementation. (Annex II)

- National Working Group of the Project consists of 25 members from the related organization of DWR and is chaired by the Deputy Director-General of DWR. (Annex II) (Annex III)

6.2.2 Regional component progress and update

1) Technical knowledge and information on EbA

IUCN is the coordination and implementation agency in the regional level. The mandates include giving technical advice and monitoring and evaluating of the project outputs under RPSC advice. At the Inception Workshop, IUCN initiated his role for the Project to support Thailand national component by an explanation of project objectives, expected outcomes, and deliverables of national and regional components. IUCN provides advices in regard to a definition of Ecosystem-based Adaptation measures based on their technical experiences and guideline. IUCN facilitated the participants to understand technical aspects of EbA implementation for the Project. Also, provision of tools for EbA implementation at Young river basin; EbA handbook (2022) and GIS base map production for Young river basin. IUCN prepared for taking active role to support national implementation in particular of technical advice and regional activities.

2) Preparedness for Regional component implementation by IUCN

IUCN introduced his role and responsibility for the Project regional component. Regional Technical advisor and Programme officer have been on board to take actions and support Thailand national component. IUCN update a TOR for Regional Project Steering Committee which IUCN will support their oversight and policy direction for project implementation. RPSC (Regional Project Steering Committee) is responsible for monitoring the Mekong EbA South Project by giving advice on project implementation and improvement including monitoring and evaluation, approving of a project report and an annual work plan.

3) Regional Project Planning and Implementation

IUCN presented regional component workplan (2023-2027); what, when and how regional project activities will be implemented and brought national component of Thailand to achieve project objectives. What IUCN works will support on technical advice and assessment, monitoring and evaluation. Key regional component activities for the 1st year (July-December 2023) were highlighted; namely Inception workshop, defining TORs, designing implementation protocols, environmental and social assessment, stakeholder engagement, regional project steering committee meeting (RPSC), regional dialogue meeting.

Procurement Plan: Regional procurement will be led by the Financial Division of IUCN's Asia Regional Office. Any contracts with consultants will be procured and assessed based on a defined set of criteria and transparent scoring system.

While DWR and IUCN reporting progress and update project implementation initiative, the participants discussed and made a few suggestions as follows;

- The NPSC meeting will be organized before RPSC meeting. NPSC will consider and endorse the implementation plan of component 1, then the regional PSC will consider and endorse the plan at the regional level.
- It must be ensured that the selection of EbA measure will be accepted and endorsed by the communities. Thailand will support and encourage the local consultation by visiting the areas and evaluating the previous EbA measures whether it is still relevant.

- Local people, civil societies organizations, and university staff should participate in not only consultation process but also decision-making process.

6.3. “Draft” Thailand Project Implementation Workplan for 2023 (1st year: July 2023 - June 2024)

TASK A: Project management arrangements

A.1 Management and administrative support to Department of Water Resources (DWR) as executing agency to set up Project Management Unit (PMU) and National Project Steering Committee to implement the Project as follows.

- Supporting to PMU establishment to day-to-day management and implementation
- Coordinating and managing the implementation of national project outputs and activities.
- Monitoring and evaluating national project outputs and activities.
- Ensuring the overall quality and timely delivery of national project outputs and activities; and
- Coordinating with executing entities in Vietnam and International Union for Conservation of Nature (IUCN) to implement regional project outputs and activities.

A.2 Execution of daily operation and management of the project with oversight and monitoring provided by the DWR. PMU team will run the project activities under an oversight of National Project Steering Committee.

TASK B: Formulation and Implementation of management plans for DWR

A number of management plans will be formulated and implemented in accordance with Adaptation Fund (AF) rules and procedures:

- Yearly Project supervision plan: to support DWR and the National Project Steering Committee to supervise all activities to achieve the expected outputs.
- Yearly Financial and budget plan: to manage finance transactions and budget management in accordance with AF rules and procedures and national rules.
- Yearly Procurement plan: to procure all materials and tools acquired for day-to-day operation and activity implementation.
- Yearly Communication and participation plan: to effectively and timely coordinate, communicate with all stakeholders to participate in the project implementation.

All plans will be established and approved by Project Director (DWR) and National Project Steering Committee.

TASK C: Project implementation on-the-ground interventions at Thailand project site (Young River Basin)

2 key outputs of 1st year project implementation will be that importance for on-the ground climate change adaptation activities in later years.

1) Implementation Protocols Climate Change Ecosystem-based Adaptation (EbA)

2) Training activities/courses/materials on Implementation Protocols for local communities

For the 1st year, the project will initiate an implementation with a focus on a formulation of detailed implementation Protocols which will be key for climate change adaptation interventions at sites in the 2nd and 3rd year. The intervention protocols will specify climate-resilient methodologies to implement the adaptation interventions identified in the vulnerability assessments. The protocols will be developed with assistance from international experts to ensure that international best-practice is applied. Using the Protocols to train communities in the Young River Basin to implement climate change adaptation interventions.

The 1st year project implementation will implement project activities defined in the Terms of Reference of the overall project for a start of Outcome 1 and Output 1 as follows:

- Demonstration of climate change adaptation interventions, with a focus on drought and flood management, in vulnerable communities and different ecosystems.
- Climate change adaptation interventions implemented by vulnerable communities in Thailand and Vietnam to manage climate change impacts, particularly droughts and floods.

Adaptation interventions will be implemented in vulnerable communities located in and around several different ecosystems (including rivers, forests and wetlands) in the Mekong River Basin (MRB). Intervention sites in Thailand will be situated in: i) the upper (Sai Na Wang sub-district, Kalasin province) and lower (Sriwilai sub-district, Roi-Et province) Young River Basin in Thailand;

Adaptation interventions will be aligned through the purpose of enhancing management to climate change-related threats common to the region, droughts and floods. The project's interventions will be designed according to the specific socio-ecological contexts of the demonstration sites. Furthermore, adaptation interventions will be based on local knowledge and technologies available at each of the demonstration sites. The lessons learned and knowledge gained from these adaptation measures (including EbA) can then be used to advise drought and flood management in communities from similar socio-ecological contexts in other sites of Thailand.

Output: A suite of climate change adaptation interventions, including EbA, implemented at Young River Basin in Thailand.

Sub-task 1: Develop detailed implementation protocols and associated ESMP for the climate change adaptation interventions, including EbA, to be implemented in the Young River Basin.

Sub-task 2: Train communities in the Young River Basin to implement climate change adaptation interventions according to the implementation protocols developed through Activity 1.1.1.

Sub-task 3: Develop a training course and materials for the implementation of climate change adaptation interventions, including EbA, using the information generated through the assessments conducted in Activity 1.1.1.

Sub-task 4: Deliver training to communities on climate change adaptation interventions and additional climate-resilient livelihood options. The training program will ensure at least 50% women participation.

6.4 Technical and Management issues learnt (from IUCN and UNEP)

1. Ecosystem-based Adaptation, as defined by IUCN, involves implementing measures to safeguard, responsibly oversee, and rehabilitate either untouched or altered ecosystems. These efforts are geared towards coping with the effects of climate change while also ensuring that the interventions are responsive and flexible. The ultimate goal is to secure both the welfare of human communities and the diversity of life forms, simultaneously harnessing the advantages for both aspects.

2. Applying Ecosystem-Based Adaptation (EbA) on a broader scale is essential due to the proliferation of grey infrastructure, which results in heightened runoff, subsequent downstream flooding, and increased drought during dry seasons. This requires implementing EbA strategies encompassing various aspects at the landscape or basin level. These strategies include:

1) Forest Landscape Restoration: Rehabilitating and conserving forested areas to enhance water retention, reduce erosion, and mitigate the impacts of flooding and drought

2) Rivers, Floodplains, and Wetlands Restoration and Management: Restoring and effectively managing these natural features to regulate water flow, reduce flood risks, and bolster water availability during dry periods

3) Agri-scape Restoration (e.g., Agroforestry): Incorporating tree planting and sustainable land use practices to improve soil retention, water infiltration, and agricultural resilience

4) Ecosystem Approach to Fisheries Management: Implementing measures that maintain the health of aquatic ecosystems, ensuring sustainable fisheries and supporting communities that rely on them

5) Urban Nature-Based Solutions (NbS) (Sponge Cities): Developing urban areas with nature-oriented approaches, such as green spaces and permeable surfaces, to enhance water absorption, mitigate flooding, and improve urban climate resilience

6) Mangroves and Reef Restoration: Rehabilitating mangrove forests and coral reefs to serve as natural barriers against coastal erosion, storm surges, and sea-level rise, providing protection to both communities and biodiversity

By embracing these EbA strategies at a landscape or basin scale, the adverse effects of increased runoff and the resulting flooding and drought can be effectively addressed while fostering environmental sustainability and community well-being.

3. Ecosystem-Based Adaptation measures entail integrating biodiversity and the services provided by ecosystems into a comprehensive strategy for adapting to the repercussions of climate change. This approach aims to assist individuals in adjusting to these impacts by harnessing the benefits offered by diverse ecosystems and the services they provide. The components consist of

Biodiversity utilization and ecosystem benefits, part of the overall strategy of adaptation, allowing humans to adapt to the negative effects of climate change.

4. The EbA (Ecosystem-Based Adaptation) planning process involves eight crucial steps that aim to ensure the incorporation of the most reliable data and the active engagement of local stakeholders throughout the entirety of the process. The eight steps 1) Stocktaking and Planning 2) Conduct a Climate Change Vulnerability Assessment 3) Mapping the ecosystems and assessing ecosystem services 4) Developing an EbA vision 5) Identify and validate EbA measures 6) Developing a monitoring and evaluation framework for the EbA measures 7) Implementing EbA Measures and 8) Influencing policy

5. Environmental and Social Management Plan is to ensure that projects will not harm people, environment, and also people who work with the project. The projects will be assessed to ensure that projects and programs supported by the Fund promote positive environmental and social benefits as well as mitigating and avoiding adverse environmental and social risks and impacts.

6.5 Preliminary Thailand project EbA interventions

The Theory of Change of the Project (section provides implementation framework to make decision on EbA implementation and interventions for Young river basin. Thailand has formulated an approach to implement projects that align with the current problems affecting both direct and indirect aspects. These issues stem from changes in land use, water-related disasters, erosion, ecological degradation, urban expansion, as well as economic and social transformations, in addition to national policies. Therefore, guidelines for implementing measures based on the ecosystems in the Young River Basin have been established, consisting of:

- 1) Implement EbA to help climate change adaptation by vulnerable communities and**
- 2) Enhance knowledge and awareness of EbA measures, planning and implementation of adaptation.**

There are activities proposed as follows:

- Improve agricultural methods to secure food and income for farmers.
- Provision of ecosystem goods and services to provide water, food and alternative sources of income.
- Design water infrastructure and management to reduce the negative impacts of floods and droughts.
- Provide additional, climate-resilient livelihood options to communities (especially women) to diversify income generation.

For the implementation, specific outcomes have been established that align with the aforementioned activities related to adjusting measures through the utilization of the environmental system and enhancing knowledge sharing. This is achieved through active participation with the local communities in the watershed area. The project's outcomes include the following:

- Improve water infrastructure and management by EbA
- Provide and maintain ecosystem services and products for people
- Practice and apply climate-resilient agriculture
- Capable of climate-resilient livelihood and generate benefits and incomes

The long-term objectives of the operation are to increase the climate resilience of vulnerable populations in the Young river basin through the development of mechanisms, training, knowledge exchange, and participation.

6.6 Next steps

- 1) Thailand Project management team will oversee and carry out the implementation of the project's goals and plans.
- 2) Thailand Project management team will have the kick-off visit the project area site to study, survey and to start engage and meet stakeholder groups.
- 3) The procurement plan for key personnel/specialists and supporting personnel will be revised accordingly.
- 4) The Regional Project Steering Committee (RPSC) annual meeting will be set up to provide guidance for the implementation of the project.
- 5) Implementation of the project will be also monitored and evaluated by RPSC.





Figure 13: Kick-off activity of the Project at Mekong EbA South Thailand Inception Workshop, 19-20 July 2023 hosted by DWR and IUCN with a participation of UNEP, DWR working group members, and other relevant representatives

7. Kick-off mission of DWR to Young river basin

7.1 Activities

The Department of Water Resources (DWR) held a kickoff mission (Field visit) to Young river basin under the scope of work of the Project on 17 – 18 August 2023 at Roi-Et, Kalasin, and Yasothorn province. The mission was to do a preliminary survey and do data collection on the overall geographical aspect of the study area where it faced climate change impact. In addition, the field visit we exchange experience and consulted with the stakeholders. The composition of the site visit is composed of the staff from DWR, DWR Regional 4 (Roi-Et), and a representative from the International Union for Conservation of Nature (IUCN).

7.2 Venue and places to meet and visit

Venue:

- Upper Young river basin, Sai Na Wang Subdistrict, Nakoo District, Kalasin Province
- Lower Young river basin, Wang Luang Subdistrict, Selaphum District, Roi-Et Province

7.3 Stakeholders engagement and views

The DWR team and the consultant visited the upper Young river basin. At the meeting with the community and its leader, the representative of the community presented the climate change problems affecting the upper part of the Young river area and its surroundings. The target stakeholders were upper and middle Young water users. The meeting had an agenda for consultation in water, climate and ecosystem-related problems and issues of concerns in regard to:

- flood and drought condition
- climate change resilience measures
- ecosystem of the study area
- water management on the extreme event
- Traditional way of life, local pilot agriculture and community strengthening programs, etc.

After having shared experience and preliminary information with the community representatives of the upper and middle Young river basin, the DWR team found that the communities have come up with their own climate change adaptation which address the problem.

The DWR team surveyed the site so as to collect additional data and took note on the impact of climate change, especially in the repeated flooded and drought areas. The following day, the DWR team and the consultants visited the lower Young river basin, Wang Luang Subdistrict, Selaphum District, Roi-Et Province. The agenda on this site was to share information on similar areas between the team and the local stakeholders as aforesaid issues. The community in this Young zone also addresses climate change and comes up with their own adaptation measures like the upper and middle zones.

Figure 14: Community consultation with at Museum of Community Water Management Natural Sai Na Wang Sub-district, Nakoo District, Kalasin Province



Figure 15: Field observation to understand past and current water uses at upstream and midstream of the Young River Basin Kuchinarai District, Kalasin Province

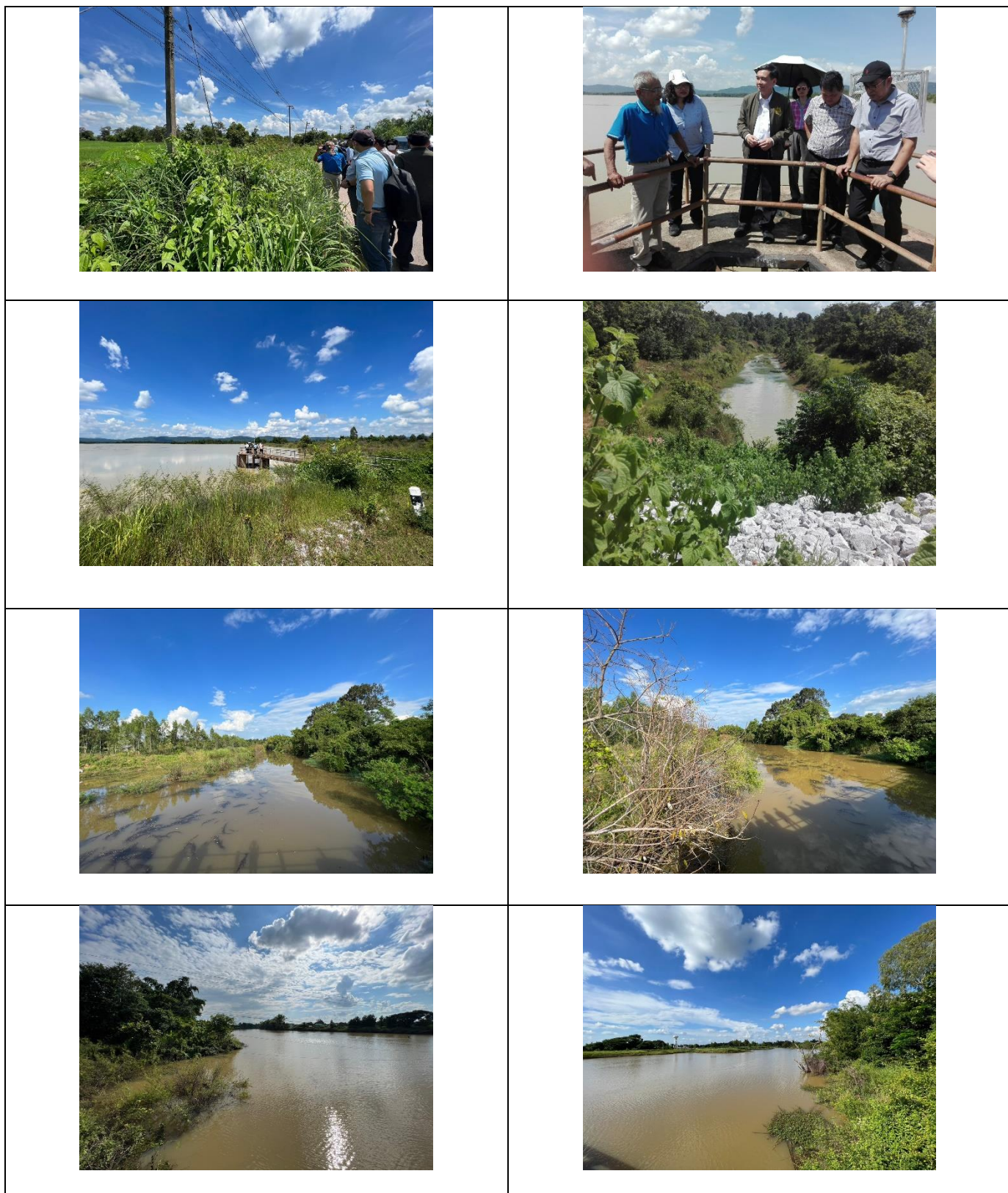


Figure 16: Community consultation with water users at the downstream of the Young River Basin at Dharma Sathan Kalayanusorn Muangprai Sub-district, Selaphum District, Roi-Et Province



Figure 17: Field Observation to understand past and current water use at downstream of the Young River Basin Selaphum District, Roi-Et Province



8. Project Financial update

The Agreement effective on 30th January 2023 signed by the Parties, shall remain in force until August 2026, with 48 Months for project implementation and additional 6 months to allow for receipt of all terminal reports and final audit report after the last obligation. The Project shall be started when receipt by the Executing Agency of the first installment of funds. The project's total cost is six million four hundred fifty-one thousand six hundred twelve US dollars (US\$6,451,612). The cost will be managed by three executing agencies and UNEP

a) DWR, Thailand	USD 2,506,000
b) MONRE Vietnam	USD 2,506,000
c) IUCN	USD 1,319,613
d) UNEP	USD 120,000

The first installment of US\$ 210,000 (two hundred and ten thousand US dollars) was transferred on 26th May 2023. DRW spent on a kick-off mission to the Young River Basin during 17-18 August 2023 at Roi-Et Province, Kalasin Province, and Yasothon Province in the amount of US \$ 1,674.18. Also project steering committee meetings and working group meetings in the amount of US \$187.01. The total of all expenses in the first stage is US \$1,861.19, so the balance is US \$208,138.81 (Two hundred eight thousand one hundred thirty-eight and eighty-one US dollars). As of now, DRW is in the process of hiring a consultant.

9. Conclusion

By August 2023, Department of Water Resources (DWR) has made a progress on project implementation according to the Agreement signed on January 2023 in a timely manner. To comply with the Terms of Reference Thailand committed with Adaptation Fund and UNEP. Executing agency for Thailand Project; DWR has complete institutional arrangements in particular of an establishment of National Project Steering Committee, Mandate of National Working Group (within DWR), appointment of National Project Director, Coordination with regional component advisor (IUCN). Informal discussion on scope of works with national consultants who will be qualified to help for daily operation of the Project. The bidding will be performed in compliance with procurement rules and procedures of Adaptation Fund and domestic procurement procedures of Thailand soon after the National Inception Workshop.

The National Inception Workshop was held and hosted by DWR and IUCN in July 2023. It confirms Thailand preparedness to implement the 1st year activities actively. Institutional arrangement is complete and initiate national mechanisms and capacity building, awareness and background technical knowledge on ecosystem-based adaptation definition, tools and procedures and interventions based on international practices by IUCN advice and some national practices which DWR reviews to share at the National Inception Workshop. Sharing and learning opportunities of DWR working group at the Inception Workshop is a good start to engage with the Project. IUCN and UNEP advice help advice and suggest what, and how Thailand will proceed for the project implementation. Coordination with regional component responsible by IUCN is realized both technical and management at the Inception Workshop. UNEP provide an advice on specific requirements to perform Thailand national component activities and reports is highly noted to DWR.

DWR initiated a first draft of 1st Year Workplan (July 2023-June 2024) to scope project activities to meet overall project outcomes and outputs at early phase. Project Management Unit of Thailand is established physically at DWR main office premise in Bangkok.

To activate and initiate DWR and stakeholders at Young river basin, The 1st mission to meet Young river basin to validate water-related data and situation including ecosystems. Whether the problems, constraints and changes happen is investigated during meeting with water users and stakeholders in upper, mid and lower Young river basin. The 1st mission updated current situations and help DWR to network and contact with local partners at site. Views and suggestions of stakeholders are collected via meetings and field site visit.

While submittal of this Inception report, DWR is finalizing the Terms of Reference for the consultant for project operation soon after. The bidding process will expectedly complete by October 2023. The PMU office will function soon after the consultant on the contract. National Project Steering Committee and National Working Group will make decision on an approval of Project implementation workplan and related plans to be ready for a submittal to UNEP.

Annex I

PROJECT COOPERATION AGREEMENT
BETWEEN
UNITED NATIONS ENVIRONMENT PROGRAMME
AND
MINISTRY OF NATURAL RESOURCES AND ENVIRONMENT

FOR AN

ADAPTATION FUND BOARD Full Size Project

“Mekong EbA South: Enhancing Climate Resilience in the Greater Mekong Sub-region through Ecosystem based Adaptation in the Context of South-South Cooperation”

This PROJECT COOPERATION AGREEMENT and its Annexes (this “Agreement”) is made:

BETWEEN: The United Nations Environment Programme (hereinafter referred to as “UNEP” and represented by its Director, Ecosystems Division, an international inter-governmental organization established by the General Assembly of the United Nations, and having its office at P.O. Box 30552, Nairobi 00100, Kenya.

AND: Ministry of Natural Resources and Environment (MNRE) represented by Department of Water Resources (DWR), Thailand (hereinafter referred to as “the Executing Agency”), a government organization, and having its office at 180/3 Rama VI Rd, Soi 34, Phayathai Sub-district, Phayathai District, Bangkok, Thailand 10400

hereinafter collectively referred to as “the Parties”.

WHEREAS, as an Adaptation Fund (AF) Implementing Entity, and in accordance with the Adaptation Fund Board (AFB) Agreement dated May 2021 appended as **Annex 1**, UNEP is accountable to the Adaptation Fund Board for AF-financed activities and to ensure that these are carried out in accordance with UNEP and AFB policies, criteria and procedures;

WHEREAS, MNRE by DWR, affirms that it is a governmental organization and non-partisan and that it has the capacities required to carry out the activities outlined in this Agreement, and that the activities under this Agreement shall be carried out without discrimination of any nature.

Purpose

1. The Agreement sets forth the terms and conditions of the cooperation between the Parties for the execution of the project **“Mekong EbA South: Enhancing Climate Resilience in the Greater Mekong Sub-region through Ecosystem based Adaptation in the Context of South-South Cooperation”** (hereinafter referred to as the “project”) as fully described in the Project Document appended as **Annex 1**. The project was approved by AFB in the letter dated 19 March 2021, appended as **Annex 2**.

2. The overall objective of the proposed project is to strengthen awareness and action of governments and communities in the GMS to adapt to climate change using EbA.

Interpretation

3. All Appendices appended to this Agreement shall be construed as an integral part of this Agreement.
4. Definitions of terms used in this Agreement are provided in **Annex 3**.

Duration

5. This Agreement shall come into force upon signature by the Parties, being effective from the date of the latest signature, and shall remain in force until 30 June 2027 after the last obligation of the Parties lapse, unless terminated earlier pursuant to clauses 51 to 62 of this Agreement. However, project effectiveness shall be the date of receipt by the Executing Agency of the first installment of funds.

Cooperation

6. The Parties agree to cooperate with each other at all times and maintain close working relationships in order to achieve the objectives and outcomes of the project.
7. The Parties shall carry out their respective responsibilities in accordance with the provisions of this Agreement.
8. The Parties shall determine and communicate to each other the persons appointed as having the authority and responsibility for the project execution on its behalf.
9. Contact details for correspondence on substantive and technical matters as well as on administrative and financial matters are as set out in **Annex 4**. Any changes to these contact details shall be communicated in a timely manner.
10. The Parties shall cooperate in any public relations or publicity exercises, when UNEP deems these appropriate or useful.

Cost of the project

11. The total cost of the project is six million four hundred fifty one thousand six hundred twelve US dollars (**US\$6,451,612**). **The cost will be managed by three executing agencies and UNEP**

i. MNRE by DWR Thailand	USD 2,506,000
b. MONRE Vietnam	USD 2,506,000
c. IUCN	USD 1,319,612
d. UNEP	USD 120,000

12. Detailed budget breakdown included in Annex VI of the project document which is appended hereto as **Annex 1**.

Terms and obligations of UNEP

13. With regard to project implementation, UNEP shall:
 - a. Provide, in its role as AF Implementing Entity, project oversight to ensure that AF policies and criteria are adhered to and that the project meets its objectives and achieves expected outcomes in an efficient and effective manner. Project supervision is entrusted to the Director, who discharges this responsibility through the assigned UNEP /AF Task Manager and Fund Management Officer (refer to **Annex 4**). Project supervision missions by the Task Manager and/or Fund Management Officer as outlined in the project supervision plan.
 - b. Have a representative on the project steering committee (refer to Section III of **Annex 1**);
 - c. Perform the liaison function with the AF Secretariat on the project;
 - d. Inform the AF Secretariat whenever there is a potentially substantive co-financing change (i.e. one affecting the project objectives, the underlying concept, scale, scope, strategic priority, conformity with AF criteria, likelihood of project success, or outcome of the project);
 - e. Rate, on an annual basis, progress in meeting project objectives, project implementation progress, risk, and quality of

- project monitoring and evaluation, and report to the AF Secretariat through the Project Performance Report (PPR);
- f. Review and clear manuscripts prepared by the Executing Agency before publication, and review and agree any publishing contracts;
- g. Undertake a mid-term review or request the Evaluation Office (EO) of UNEP to perform an independent mid-term evaluation (refer to part III of **Annex 1**);
- h. Ensure that EO arranges for an independent terminal evaluation and submits its report to the AF Evaluation Office;
- i. As deemed appropriate, facilitate access to information, advisory services, technical and professional support available to UNEP and will assist the Executing Agency to access the advisory services of other United Nations Organizations, whenever necessary.

14. With regard to cash advances, UNEP shall:

- a. Provide all cash advances in US dollars up to the maximum amount of USD 2,506,000 by way of periodic cash advances or by direct payment made by UNEP on behalf of the Executing Agency in accordance with the project budget. The first installment of US\$ 210,000 shall be advanced to the Executing Agency following signature of the present Agreement;
- b. Advance the second and subsequent installments to the Executing Agency within 2 weeks after a signed financial report and other agreed-upon documentation, as referenced in clauses 34 and 37 of this Agreement, has been received by UNEP showing satisfactory progress of activities and adequate management and use of AF resources;
- c. Make the final disbursement of USD 75,000 normally amounting to 3% of the total AF-approved budget, upon submission and acceptance of the final report, outputs, final audited expenditure statement, co-finance report and final inventory of non-expendable equipment together with signed transfer agreement (if applicable). UNEP reserves the right to withhold the final payment in case of the Executing Agency's non-compliance of the abovementioned reporting obligations.

15. With regard to procurement, UNEP's clearance is required for the procurement of additional items costing above US\$2,500 that are not included in the procurement plan. The same principle of clearance by UNEP shall apply to service contracts or agreements to be procured that are not in the procurement plan and costing above US\$5,000. UNEP may refuse to accept such expenditures being charged to the project budget in case of the Executing Agency's non-compliance of the abovementioned clearance obligation.

Terms and obligations of the Executing Agency

16. With regard to project execution, the Executing Agency shall:

- a. Undertake to be bound by the terms and obligations specified below, and shall accordingly ensure that the personnel performing project-related activities under the present Agreement comply with these obligations;
- b. Not seek nor accept instructions regarding the activities under the present Agreement from any other Government or authority external to UNEP;
- c. Refrain from any conduct that would adversely reflect on the United Nations and shall not engage in any activity which is incompatible with the aims and objectives of the United Nations or the mandate of UNEP;
- d. Before disclosing confidential information, each Party will obtain the express, written consent of the other party. In any event, such confidential information shall not be used for individual profit. The Executing Agency's focal point for this project may communicate with the media regarding the methods and scientific procedures used by the Executing Agency. However, UNEP's clearance is required for the use of UNEP's name in conjunction with project activities in accordance with clause 45 of this Agreement. The Executing Agency must adhere to the AF Communication and Visibility Policy, including the Brand Guidelines and Graphics Standards of the AF (www.theAF.org). This obligation shall not lapse upon termination of the present Agreement unless otherwise agreed between the Parties;
- e. Notify UNEP, in writing, about any expected variations on the project budget on an annual basis;
- f. With regard to subcontracts between the Executing Agency and its contractor(s), the Executing Agency shall:
 - Establish all subcontracts in writing which includes but is not limited to reporting and audit obligations which flow down in the subcontracts;
 - Maintain primary responsibility for ensuring successful completion of the project. This responsibility cannot be delegated or transferred to the Executing Agency's contractor(s);
 - Monitor the performance of their contractors and ensure that they comply with all applicable terms and conditions of their Agreement.

17. With regard to personnel administration, the Executing Agency shall be solely and completely responsible and accountable for all services performed by its personnel, agents, employees, or contractors (hereinafter referred to as "Personnel").

18. Personnel of the Executing Agency, its contractors or anyone else working for the Executing Agency in the execution of the project or otherwise, are not employees of UNEP and are not covered by the privileges and immunities applying to UNEP and its staff pursuant to the Convention on the Privileges and Immunities of the United Nations. UNEP shall not accept any liability for claims arising out of the activities performed under the Agreement, or any claims for death, bodily injury, disability, damage to property or other hazards that may be suffered by the Executing Agency's Personnel as a result of their work pertaining to the project under this Agreement.

19. The Executing Agency shall ensure that its Personnel meet the highest standards of qualification and technical and professional competence necessary for the achievement of the objectives and results of the Project, and that decisions on employment related to the Project shall be free of discrimination of any nature. The Executing Agency shall ensure that all Personnel are free from any conflicts of interest relative to the project activities and they shall comply with their national statutory requirements.

20. The Executing Agency shall recruit the respective senior project personnel in accordance with the terms of reference set out in **Section III and Annex VII** of the project document appended as **Annex 1**.

21. In the event that the Executing Agency assigns or seconds its existing employee to the project, the terms of reference and contractual conditions pertaining to the assignment/secondment shall be shared with UNEP, including the amount and source(s) of remuneration and the time allocated to perform the duties assigned within the framework of the project.

22. With regard to procurement, the Executing Agency shall:

- a. Furnish UNEP with a detailed project procurement plan to be reviewed at the project inception meeting and cleared by UNEP. Based on the procurement requirements of the Project, some or all of the project procurement may be arranged through UN entities upon request by Executing Agency.
- b. Ensure that procurement of goods and consulting services financed by AF funds shall be subject to rules and regulations of the Executing Agency and include written standards based on widely recognized processes and an internal control framework to protect against fraud, corruption and waste;
- c. Ensure that, in its procedures for procurement of goods, services or other requirements with funds made available by AF as provided for in the project document, it shall safeguard the principles of highest quality, economy and efficiency, and that the placing of such orders be based on an assessment of competitive quotations, bids, or proposals unless otherwise agreed to with UNEP.

23. Utilize the funds and any supplies and equipment provided by UNEP in full compliance with the project document.

24. Maintain complete and accurate records of non-expendable equipment purchased with AF project funds and a duly authorized official of the Executing Agency shall take periodic physical inventories. Within 1 month of the year ending 31 December, i.e. on or before 31 January, the Executing Agency shall provide UNEP annually with the inventory of such non-expendable equipment as at 31 December, using the format appended as **Annex 8A**.

25. Be responsible for the proper custody, maintenance and care of all non-expendable equipment as well as items of attraction (items costing less than US\$ 1,500, but with a useful life of more than a year) purchased with AF funds. The Executing Agency shall, for the protection of such equipment and materials during implementation of the project, obtain appropriate insurance in such amounts as incorporated in the project budget.

26. In cases of damage, theft or other losses of property made available to the Executing Agency, provide UNEP with a comprehensive report, including police report, where appropriate, and any other evidence giving full details of the events leading to the loss of the property.

27. Obtain authorization of UNEP, in case the Executing Agency intends to dispose of the equipment during the duration of the project. Within 2 months of the project operational completion date or upon termination of this Agreement, the Executing Agency shall submit a final inventory of equipment to UNEP and a proposal for the disposal/transfer of the said equipment using the format appended as **Annex 8B**, unless otherwise agreed upon between the Parties.

28. With regard to cash advances, the Executing Agency shall:

- a. Provide the banking details to UNEP on the Third Party Form appended as **Annex 7A**;
- b. Request for subsequent cash advances using the formats appended as **Annex 7B**;
- c. Comply with the reporting requirements as referenced in clauses 33 and 36 of this Agreement, failing which, UNEP may withhold further disbursements or may suspend the project until such time the Executing Agency meets its financial and operational obligations;
- d. Confirm at least two weeks before the payment is due, that the expected rate of expenditure and actual cash position necessitate the payment, including a reasonable amount to cover "lead time" for the next remittance.

29. With regard to cost overruns, the Executing Agency shall ensure that, under this Agreement, total expenditures incurred by the Executing Agency do not exceed the AF-approved budget as set out in clauses 11 and 12 of this Agreement. The Executing Agency shall be authorized to make variations not exceeding 10 per cent on any one line item of the project budget provided that the total allocated for that specific budget component by UNEP is not exceeded. Any variations exceeding 10 per cent on any one line item that may be necessary for the proper and successful execution of the project shall be subject to prior consultations with and approval by UNEP. In such a case, a revision to the project document amending the budget shall be issued by UNEP. In the absence of such approval by UNEP, cost overruns shall be the sole responsibility of the Executing Agency.

30. With regard to project management costs, the Executing Agency shall ensure that project management costs for the Executing Agency do not exceed the AF-approved amount in project budget in accordance with AF rules. Any increase in project management costs as a result of extending the duration of the project shall be the sole responsibility of the Executing Agency.

31. With regard to maintenance of records:

- a. The Executing Agency shall keep separate, accurate and up-to-date records and documents in respect of all expenditures incurred with the funds made available by UNEP to ensure that all expenditures are in conformity with the provisions of the project document. For each disbursement, proper supporting documentation shall be maintained, including original invoices, bills, and receipts pertinent to the transaction;
- b. Upon operational completion of the project or termination of this Agreement, the Executing Agency shall maintain all records pertinent to the project for a period of at least 3 years unless otherwise agreed upon between the Parties.

32. With regard to unspent balances, should there remain a balance from the total AF-approved budget after operational completion or termination of the project, the Executing Agency shall return the unspent funds to UNEP within 2 months of the expiry or termination of this Agreement. In the event that there is any delay in such disbursement, the Executing Agency will be financially responsible for any adverse movement in the exchange rates. If any of the financial, substantive and evaluation reports indicate that the funds provided under this PCA were not used for its intended purposes due to: a) Executing Agency's actions; and/ or b) action of a third party as a result of Executing Agency's gross negligence or willful misconduct, the Executing Agency shall promptly return to UNEP the amount of AF resources indicated by such report as not having been used for the intended purposes provided under the PCA.

33. With regard to reporting:

- a. The Executing Agency shall provide all reports, including the audit report, for the project in English or translated to English as applicable;
 - b. Progress report: Within 1 month of the end of reporting period, i.e. on or before 31 January, the Executing Agency shall submit to UNEP a half-yearly progress report for the period July-December using the format appended as **Annex 10**;
 - c. Project Performance Report (PPR): Within 1 month of the end of the reporting period for the AF fiscal year of 30 June, i.e., on or before 31 July, the Executing Agency shall submit to UNEP its to the annual PPR report using the format appended as **Annex 11**. The PPR report shall be accepted as the progress report for the period January-June;
 - d. Final report: Using the format appended as **Annex 12**, a draft copy of the Final Report shall be submitted by the Executing Agency to UNEP at the time of operational completion of the project. Within 2 months of the project operational completion, or termination of the present Agreement, the Executing Agency shall submit to UNEP a final copy of the afore-mentioned report. The quality of Final Report shall be assessed by the terminal Evaluation of the project;
 - e. Financial report: All financial reporting shall be in US dollars, and any exchange differences accounted for within the total AF-approved US dollar project budget. Within 1 month of the end of the quarter to which they refer, i.e., on or before 30 April, 31 July, 31 October and 15 January, the Executing Agency shall submit to UNEP quarterly expenditure reports and explanatory notes on the expenditures reported using the format appended as **Annex 13**. The financial report shall contain information that forms the basis of a periodic financial review and its timely submission is a prerequisite to the continuing funding of the project. UNEP will act upon requests for advances of funds only upon its receipt and acceptance of a satisfactory financial and progress reports from the Executing Agency;
 - f. The Executing Agency shall submit to UNEP a signed final statement of accounts within 3 months of operational completion of project activities. The final statement of accounts shall be prepared using the format appended as **Annex 13**;
 - g. Basis of accounting: The financial report has been designed to reflect the transactions of a project on a cash basis, and thus shall include only disbursements made by the Executing Agency and not commitments;
 - h. Miscellaneous Income: The Executing Agency shall credit any miscellaneous income to the project accounts as a receipt of funds against agreed project requirements. Miscellaneous income shall include, inter alia, proceeds or receivable from the sale of any item or property provided under the project governed by this Agreement, as well as any bank interest earned or accrued on project funds remitted by UNEP and which have been deposited or
-

temporarily placed in an interest-bearing account;

- i. Refund from sub-contractor: Any refund received by the Executing Agency from a supplier/third party shall be reflected in the financial report as a reduction of disbursements on the component to which it relates;
- j. Third party co-financing reporting: The Executing Agency shall ensure that the legal instruments prepared with its project partners require partners to report, on an annual basis, the actual co-financing received versus committed at the time of project approval by the AF, and provide assurances that the identified in-kind resources be:
 - Dedicated uniquely to the AF project;
 - Valued at the lower of cost or market value of the required inputs they provide for the project;
 - Monitored with documentation available for any project evaluation;
- a. Consolidated reporting: All reports described above shall be consolidated reports and therefore include information from any third party sub-project(s).

Financial cost

34. UNEP shall not be liable for the payment of any expenses not outlined in the project document or project budget unless UNEP has explicitly agreed in writing to do so prior to the expenditure by the Executing Agency.

Audit requirements

35. All financial reporting in the audit report shall be in US dollars.

36. The total expenditures incurred during the year ending 31 December, wherein AF funding is clearly identified, shall be endorsed and audited by an independent audit authority and dispatched to UNEP within 180 days, i.e. on or before 30 June. The audit report and recommendations shall include such comments as the auditor may deem appropriate in respect of AF funded operations and in particular, shall clearly indicate that in their opinion:

- a. AF funds were covered by the scope of the audit;
- b. Proper books of account have been maintained;
- c. All project expenditures are supported by vouchers and adequate documentation;
- d. Expenditures have been incurred in accordance with the objectives outlined in the project document;
- e. The expenditure reports provide a true and fair view of the financial condition and performance of the project.

On operational completion of the project, a final audited statement of account containing signatures and audit opinion as required above shall be dispatched to UNEP within 6 months.

37. Notwithstanding the above, UNEP shall have the right, at its own expense, to audit or review such books and records as it may require, and have access to the books and record of the Executing Agency, as necessary. If requested, the Executing Agency shall facilitate an audit by the United Nations Office of Internal Oversight Services. Shall they wish to do so; the United Nations Board of Auditors may also carry out an audit of the project accounts.

Responsibility for claims

38. The Executing Agency shall indemnify, hold, and save harmless, and defend at its own expense, UNEP, its officials and persons performing services for UNEP, from and against all suits, claims, demands and liability of any nature and kind, including their cost and expenses, arising out of acts or omissions of the Executing Agency or its employees or persons hired for the management of the present Agreement and the project.

39. The Executing Agency shall be responsible for, and deal with all claims brought against it by its personnel, employees, agents or subcontractors.

Publications, acknowledgements, logos and emblems

40. The Executing Agency shall submit to UNEP for review and prior clearance of any manuscripts for publication. It shall also inform UNEP of plans for its publication and discuss and agree on the publishing arrangements. Within 30 days of receipt, UNEP will provide substantive comments on/clearance of the manuscript. UNEP's review will include any suggestions for change and such wording (recognition, disclaimer, etc.) as it would wish to see figure in the preliminary

pages or in the introductory texts. It will equally consider the publishing proposal of Executing Agency and will make comments thereon as advisable.

41. To accord proper acknowledgement to the AF for providing funding to the project, any publications prepared or produced pursuant to this Agreement will give appropriate credit to AF as per the AF Communication and Visibility Policy, including the Brand Guidelines and Graphics Standards (www.theAF.org) in addition to that of UNEP as stipulated under clause 45 of this Agreement. Any citation on project publications of projects funded by AF resources shall also accord proper acknowledgement to AF and UNEP.

42. The AF logo shall appear on, amongst others, project hardware and vehicles purchased with AF funds.

43. In no event will authorization of the name or emblem, or any abbreviation thereof, of AF or UNEP, be granted for commercial purposes.

44. Should the Executing Agency be solely responsible for publishing arrangements, UNEP shall receive free of charge at least 12 copies of the published work or electronic material or film in each of the languages, for non-commercial purposes.

45. The Executing Agency may only use the name and emblem of the United Nations or UNEP with prior written consent of UNEP.

Intellectual property rights

46. For the purpose of this Agreement, intellectual property would mean information, ideas, inventions, innovations, art work, data, designs, literary texts and any other matter or thing whatsoever as may be capable of legal protection or be subject to legal rights and shall include patents; information which is of a kind that has been communicated in such a manner as to give rise to a duty of confidentiality; copyright vesting in literary works (including but not limited to computer programs); dramatic works, musical works, broadcast, published editions and other types of performance; registered trademarks; unregistered trademarks used or intended for use in business registered designs and designs capable of being registered; biological organism varieties and the rights of breeders of such varieties; layout design of integrated circuits; databases; and any other rights resulting from intellectual activity in the industrial, commercial, scientific, literary and artistic fields.

47. UNEP and the Executing Agency shall agree upon the question of copyrights and all other related rights in any material produced under the provisions of this Agreement.

Confidentiality

48. The handling of information will be subject to each Party's corporate confidentiality policies.

49. Before disclosing internal documents, or documents that by virtue of their content or the circumstances of their creation or communication must be deemed confidential, of the other Party to third parties, each Party will obtain the express, written consent of the other Party. However, a Party's disclosure of another Party's internal and/or confidential documents to an Agency the disclosing Party controls or with which it is under common control, or to an Agency with which it has a confidentiality agreement, will not be considered a disclosure to a third party, and will not require prior authorization.

50. For UNEP, a principal or subsidiary organ of the United Nations established in accordance with the Charter of the United Nations will be deemed to be a legal entity under common control.

Suspension and termination

51. The Parties hereto recognize that the successful completion and accomplishment of the purposes of a technical cooperation activity are of paramount importance, and that UNEP may find it necessary to terminate the project, or to modify the arrangements for the management of the project, should circumstances arise that jeopardize successful completion or the accomplishment of the purposes of the project within the approved duration of the project.

52. UNEP shall consult with the Executing Agency if any circumstances arise that, in the judgment of UNEP, interfere or threaten to interfere with the successful operational completion of the project or the accomplishment of its purposes. The Executing Agency shall promptly inform UNEP of any such circumstances that might come to its attention. The Parties shall cooperate towards the rectification or elimination of the circumstances in question and shall exert all reasonable

efforts to that end, including prompt corrective steps by the Executing Agency, where such circumstances are attributable to it or within its responsibility or control.

53. At any stage of the project cycle, participating country, UNEP or the AF Secretariat may recommend suspending or terminating the project for several reasons including force majeure, changes in national priorities, poor implementation performance, lack of compliance with financial or reporting obligations, leading to a conclusion that the project can no longer meet its objectives.

54. Following receipt of a recommendation for suspension or termination, and after appropriate consultations, UNEP may suspend or terminate the project by written notice to the Executing Agency. In the event of termination, such notice shall be provided at least 3 months prior to the effective date. If it is a suspension, UNEP shall indicate to the Executing Agency the conditions under which it is prepared to authorize project activities to resume.

55. If the cause of suspension is not rectified or eliminated within the timeframe, as agreed between UNEP and the Executing Agency, after UNEP has given notice of suspension to the Executing Agency, UNEP may, by written notice at any time thereafter during the continuation of such cause: (a) terminate the project; or (b) terminate the management of the project by the Executing Agency, and entrust its management to another institution. The effective date of termination under the provisions of the present clause shall be specified by written notice from UNEP.

56. The Executing Agency may terminate the present Agreement in cases where a condition has arisen that impedes the Executing Agency from successfully fulfilling its responsibilities under the present Agreement, by providing UNEP with written notice of its intention to terminate the present Agreement at least 3 months prior to such termination.

57. The Executing Agency may terminate the present Agreement only after consultations have been held with UNEP, and shall give due consideration to proposals made by UNEP in this respect. The Parties shall also cooperate in assessing the consequences on the other partners and beneficiaries of the project, and develop and agree upon an exit strategy to minimize negative consequences.

58. Upon receipt of a notice of termination by either party under clauses 54 to 57 of this Agreement, The Parties shall take immediate steps to terminate activities under the present Agreement, in a prompt and orderly manner, so as to minimize losses and further expenditures. The Executing Agency shall undertake no forward commitments and shall return to UNEP, within 2 months of the effective date of termination, all unspent funds, provided by UNEP unless UNEP has agreed otherwise in writing.

59. In the event of any termination by either party under clause 58 of this Agreement, UNEP shall reimburse the Executing Agency only for the costs incurred to manage the project in conformity with the express terms of the present Agreement. Reimbursements to the Executing Agency under this provision, when added to amounts previously remitted to it by UNEP in respect of the project, shall not exceed the total UNEP allocation/contribution for the project.

60. In the event of transfer of the responsibilities of the Executing Agency for the management of a project to another institution, the Executing Agency shall cooperate with UNEP and the other institution in the orderly transfer of such responsibilities and equipment procured using project funds.

Force majeure

61. In the event of and as soon as possible after the occurrence of any cause constituting force majeure, the party affected by the force majeure shall give the other party notice and full particulars in writing of such occurrence if the affected party is thereby rendered unable, in whole or in part, to perform its obligations or meet its responsibilities under the present Agreement. The Parties shall consult on the appropriate action to be taken, which may include suspension of the present Agreement by UNEP or termination of this Agreement, with either party giving to the other at least 1 month written notice of such termination.

62. In the event that the present Agreement is terminated owing to causes constituting *force majeure*, the provisions of clauses 59 and 60 of this Agreement shall apply.

Dispute settlement

63. The Parties shall settle amicably through direct negotiations, any dispute, controversy or claim arising out of or relating to the present Agreement, including breach and termination of the Agreement. Should such negotiations fail, the matter shall be referred to arbitration in accordance with United Nations Commission on International Trade Law Arbitration Rules (UNCITRAL), then prevailing. The Parties shall be bound by the arbitration award rendered in accordance

with such arbitration, as the final decision on any such dispute, controversy or claim.

Privileges and immunities

64. Nothing in or relating to this Agreement shall be deemed a waiver, express or implied, of any of the privileges and immunities of the United Nations and UNEP.

Notification and amendments

65. Any part of this Agreement may be modified or amended only by written agreement between the Parties.

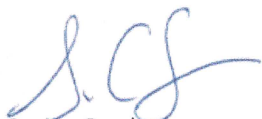
66. For multi-country projects, in the event that one or more countries withdraw from the project, the Executing Agency shall inform UNEP which shall in turn notify the AF Secretariat.

67. Should it become evident during the implementation of the project that an extension beyond the agreed expiry date as set out in clause 5 of this Agreement is required to achieve the objectives of the project, the Parties shall consult with each other with a view to agree on a revised completion date. In the event that the duration of the project is extended, clauses 29 and 30 of this Agreement shall apply. Upon reaching an agreement, the Parties shall immediately conclude an amendment to the Agreement to this effect, prior to the expiry of this Agreement.

68. The terms and conditions stipulated in the amendment shall be appended to and be construed as an integral part of this Agreement.

IN WITNESS WHEREOF, the duly authorized representatives of the Parties affix their signatures below.

**For the United Nations Environment
Programme**



By: Susan Gardner

Title: Director, Ecosystems Division

Date: 9 January 2023

For: Ministry of Natural Resources and Environment



By: Bhadol Thavornkitcharat

Title: Director General, Department of Water Resources

Date: 30 January 2023

ANNEX A: [AFB Agreement](#)

ANNEX B: [Approval endorsement notification letter](#)

Additional Annexes :

[Annex 3 Definition of terms](#)

[Annex 4 Contact details](#)

[Annex 5 Project Supervision Plan](#)

[Annex 6 Procurement Monitoring Plan](#)

[Annex 7A Third Party Form template -F.249](#)

[Annex 7B Cash advance Request Template](#)

[Annex 8A Inventory of Non-expendable equipment Reoort template](#)

[Annex 8B Equipment Transfer Letter](#)

[Annex 9- Portfolio review report template](#)

[Appendix 10 Half yearly progress report](#)

[Annex 11 Progress report template readiness](#)

Annex II



คำสั่งกระทรวงทรัพยากรธรรมชาติและสิ่งแวดล้อม

ที่ ๒๖๔ / ๒๕๖๖

เรื่อง แต่งตั้งคณะกรรมการกำกับดูแลโครงการปรับตัวต่อการเปลี่ยนแปลงสภาพภูมิอากาศ
โดยอาศัยระบบนิเวศในบริบทความร่วมมือระหว่างประเทศกำลังพัฒนาในกลุ่มน้ำโขง

(Mekong EbA South: Enhancing Climate Resilience in the Greater Mekong Sub-region through
Ecosystem based Adaptation in the Context of South-South Cooperation)

ตามที่กระทรวงทรัพยากรธรรมชาติและสิ่งแวดล้อม โดยกรมทรัพยากรน้ำ ได้ร่วมมือกับโครงการ
สิ่งแวดล้อมแห่งสหประชาชาติ (United Nations Environment Programme: UNEP) และองค์การระหว่าง
ประเทศเพื่อการอนุรักษ์ธรรมชาติ (International Union for Conservation of Nature: IUCN) เพื่อ
ดำเนินงานโครงการปรับตัวต่อการเปลี่ยนแปลงสภาพภูมิอากาศโดยอาศัยระบบนิเวศในบริบทความร่วมมือ
ระหว่างประเทศกำลังพัฒนาในกลุ่มน้ำโขง (โครงการ Mekong EbA South) ซึ่งได้รับงบประมาณสนับสนุนการ
ดำเนินงานจากกองทุนเพื่อการปรับตัวต่อการเปลี่ยนแปลงสภาพภูมิอากาศ (Adaptation Fund: AF) มี
วัตถุประสงค์เพื่อเสริมสร้างความตระหนักรู้และเพิ่มพูนศักยภาพในการดำเนินการของภาครัฐและชุมชนในพื้นที่
อนุภูมิภาคกลุ่มน้ำโขง ในการปรับตัวต่อการเปลี่ยนแปลงสภาพภูมิอากาศโดยอาศัยระบบนิเวศ ซึ่งประเทศไทย
จะดำเนินการในพื้นที่สาธิตลุ่มน้ำยัง

เพื่อให้การดำเนินงานโครงการมีประสิทธิภาพ เป็นไปด้วยความเรียบร้อย อาศัยอำนาจตาม
มาตรา ๒๑ แห่งพระราชบัญญัติระเบียบบริหารราชการแผ่นดิน พ.ศ. ๒๕๓๔ และที่แก้ไขเพิ่มเติม จึงแต่งตั้ง
คณะกรรมการกำกับดูแลโครงการปรับตัวต่อการเปลี่ยนแปลงสภาพภูมิอากาศโดยอาศัยระบบนิเวศในบริบท
ความร่วมมือระหว่างประเทศกำลังพัฒนาในกลุ่มน้ำโขง โดยมีองค์ประกอบ หน้าที่และอำนาจ ดังต่อไปนี้

๑. องค์ประกอบ

- | | |
|--|------------------|
| ๑) รองปลัดกระทรวงทรัพยากรธรรมชาติและสิ่งแวดล้อม | ประธานกรรมการ |
| (หัวหน้ากลุ่มภารกิจด้านทรัพยากรน้ำในแผ่นดิน) | |
| ๒) อธิบดีกรมทรัพยากรน้ำ | รองประธานกรรมการ |
| หรือรองอธิบดีกรมทรัพยากรน้ำที่อธิบดีกรมทรัพยากรน้ำมอบหมาย | |
| ๓) ผู้แทนคณะกรรมการนโยบายการเปลี่ยนแปลงสภาพภูมิอากาศแห่งชาติ | กรรมการ |
| ๔) ผู้แทนสำนักงานปลัดกระทรวงทรัพยากรธรรมชาติและสิ่งแวดล้อม | กรรมการ |
| ๕) ผู้แทนสำนักงานนโยบายและแผนทรัพยากรธรรมชาติและสิ่งแวดล้อม | กรรมการ |
| ๖) ผู้แทนสำนักงานทรัพยากรน้ำแห่งชาติ | กรรมการ |
| ๗) ผู้แทนกรมชลประทาน | กรรมการ |
| ๘) ผู้แทนกรมทรัพยากรน้ำบาดาล | กรรมการ |
| ๙) ผู้แทนกรมส่งเสริมคุณภาพสิ่งแวดล้อม | กรรมการ |
| ๑๐) ผู้แทนกรมพัฒนาที่ดิน | กรรมการ |

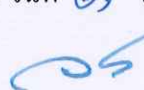
/๑๑) ผู้อำนวยการ...

- | | |
|---|----------------------------|
| ๑๑) ผู้อำนวยการสำนักงานทรัพยากรธรรมชาติและสิ่งแวดล้อม
จังหวัดกาฬสินธุ์ | กรรมการ |
| ๑๒) ผู้อำนวยการสำนักงานทรัพยากรธรรมชาติและสิ่งแวดล้อม
จังหวัดร้อยเอ็ด | กรรมการ |
| ๑๓) ผู้อำนวยการสำนักงานทรัพยากรธรรมชาติและสิ่งแวดล้อม
จังหวัดยโสธร | กรรมการ |
| ๑๔) ผู้แทนคณะกรรมการลุ่มน้ำชี | กรรมการ |
| ๑๕) ผู้อำนวยการสำนักงานทรัพยากรน้ำที่ ๔
กรมทรัพยากรน้ำ | กรรมการ |
| ๑๖) ผู้อำนวยการกองอนุรักษ์ทรัพยากรน้ำ
กรมทรัพยากรน้ำ | กรรมการและเลขานุการ |
| ๑๗) ผู้อำนวยการกองยุทธศาสตร์และแผนงาน
กรมทรัพยากรน้ำ | กรรมการและผู้ช่วยเลขานุการ |

๒. หน้าที่และอำนาจ

- ๑) พิจารณาให้ข้อคิดเห็นและข้อเสนอแนะในการกำหนดแนวทางดำเนินโครงการและแผนปฏิบัติงานเพื่อให้บรรลุเป้าหมายตามวัตถุประสงค์
 - ๒) กำกับดูแลการบริหารจัดการโครงการและให้คำแนะนำในการแก้ไขปัญหาหรืออุปสรรค
 - ๓) แต่งตั้งคณะอนุกรรมการ หรือคณะทำงานเพื่อสนับสนุนการปฏิบัติงานได้ตามความจำเป็น
 - ๔) ปฏิบัติหน้าที่อื่นๆ ที่เกี่ยวข้องเพื่อให้บรรลุผลสัมฤทธิ์และเป้าหมายที่กำหนดไว้
- ทั้งนี้ ตั้งแต่บัดนี้เป็นต้นไป

สั่ง ณ วันที่ ๒๑ กรกฎาคม พ.ศ. ๒๕๖๖



(นายจตุพร บุรุษพัฒน์)

ปลัดกระทรวงทรัพยากรธรรมชาติและสิ่งแวดล้อม



คำสั่งกรมทรัพยากรน้ำ

ที่ ๑๓๓๙ / ๒๕๖๖

เรื่อง แต่งตั้งคณะทำงานบริหารโครงการปรับตัวต่อการเปลี่ยนแปลงสภาพภูมิอากาศ
โดยอาศัยระบบนิเวศในบริบทความร่วมมือระหว่างประเทศกำลังพัฒนาในลุ่มน้ำโขง (โครงการ Mekong EbA South)

ตามที่กระทรวงทรัพยากรธรรมชาติและสิ่งแวดล้อม โดยกรมทรัพยากรน้ำ ได้ร่วมมือกับโครงการสิ่งแวดล้อมแห่งสหประชาชาติ (United Nations Environment Programme: UNEP) และองค์การระหว่างประเทศเพื่อการอนุรักษ์ธรรมชาติ (International Union for Conservation of Nature: IUCN) เพื่อดำเนินงานโครงการปรับตัวต่อการเปลี่ยนแปลงสภาพภูมิอากาศโดยอาศัยระบบนิเวศในบริบทความร่วมมือระหว่างประเทศกำลังพัฒนาในลุ่มน้ำโขง (โครงการ Mekong EbA South) ซึ่งได้รับงบประมาณสนับสนุนการดำเนินงานจากกองทุนเพื่อการปรับตัวต่อการเปลี่ยนแปลงสภาพภูมิอากาศ (Adaptation Fund: AF) โดยมีวัตถุประสงค์เพื่อเสริมสร้างความตระหนักรู้และเพิ่มพูนศักยภาพในการดำเนินการของภาครัฐและชุมชนในพื้นที่อนุภูมิภาคลุ่มน้ำโขง ในการปรับตัวต่อการเปลี่ยนแปลงสภาพภูมิอากาศโดยอาศัยระบบนิเวศ ซึ่งประเทศไทยจะดำเนินการในพื้นที่สาธิตลุ่มน้ำโขง

ดังนั้นเพื่อให้การดำเนินงานโครงการมีประสิทธิภาพ เป็นไปด้วยความเรียบร้อย อาศัยอำนาจตาม มาตรา ๓๒ แห่งพระราชบัญญัติระเบียบบริหารราชการแผ่นดิน พ.ศ. ๒๕๓๔ และที่แก้ไขเพิ่มเติม จึงแต่งตั้ง คณะทำงานบริหารโครงการปรับตัวต่อการเปลี่ยนแปลงสภาพภูมิอากาศโดยอาศัยระบบนิเวศในบริบทความร่วมมือระหว่างประเทศกำลังพัฒนาในลุ่มน้ำโขง โดยมีองค์ประกอบ หน้าที่และอำนาจ ดังนี้

๑. องค์ประกอบ

- | | |
|--|----------------|
| ๑) รองอธิบดีกรมทรัพยากรน้ำที่อธิบดีกรมทรัพยากรน้ำมอบหมาย | ประธานคณะทำงาน |
| ๒) ผู้อำนวยการกองอนุรักษ์ทรัพยากรน้ำ | คณะทำงาน |
| ๓) ผู้อำนวยการกองยุทธศาสตร์และแผนงาน | คณะทำงาน |
| ๔) ผู้อำนวยการกองการจัดสรรน้ำ | คณะทำงาน |
| ๕) ผู้เชี่ยวชาญด้านส่งเสริมและประสานมวลชน
กองอนุรักษ์ทรัพยากรน้ำ | คณะทำงาน |
| ๖) ผู้เชี่ยวชาญเฉพาะด้านวิจัยและพัฒนาทรัพยากรน้ำ
กองวิจัย พัฒนาและอุทกวิทยา | คณะทำงาน |
| ๗) นายอึ้งย้ง ลีคะศิริ
วิศวกรโยธาชำนาญการพิเศษ
กองวิเคราะห์และประเมินสถานการณ์น้ำ | คณะทำงาน |
| ๘) นางสาวกนกวรรณ อยู่วงศ์
นักวิเคราะห์นโยบายและแผนชำนาญการพิเศษ
กองยุทธศาสตร์และแผนงาน | คณะทำงาน |

/๔) นางสาว....

- ๙) นางสาวประอร อุดมประเสริฐ คณะทำงาน
นักวิเคราะห์นโยบายและแผนชำนาญการพิเศษ
กองอนุรักษ์ทรัพยากรน้ำ
- ๑๐) นางกานดา คูประเสริฐ คณะทำงาน
วิศวกรชำนาญการพิเศษ
กองพัฒนาแหล่งน้ำ ๒
- ๑๑) นายอัษฎา ทีฆะ คณะทำงาน
วิศวกรโยธามานานการพิเศษ
กองวิจัย พัฒนาและอุทกวิทยา
- ๑๒) นางสาววรุณี รักษาพล คณะทำงาน
นักวิเคราะห์นโยบายและแผนชำนาญการพิเศษ
สำนักงานทรัพยากรน้ำที่ ๔
- ๑๓) นางสาวโชติรส โพธิ์ทอง คณะทำงาน
นักวิเคราะห์นโยบายและแผนชำนาญการพิเศษ
กองการจัดสรรน้ำ
- ๑๔) นางสาวทิพวรรณ ชันทอง คณะทำงาน
วิศวกรโยธามานานการพิเศษ
กองพัฒนาแหล่งน้ำ ๑
- ๑๕) นายพูนศักดิ์ วิเศษโสภณ คณะทำงาน
วิศวกรโยธามานานการ
กองการจัดสรรน้ำ
- ๑๖) นายรัฐภูมิ นาคำพันธ์ คณะทำงาน
นักวิเคราะห์นโยบายและแผนชำนาญการ
กองการจัดสรรน้ำ
- ๑๗) นายธนิทร มังคละศิริ คณะทำงาน
นักวิเคราะห์นโยบายและแผนชำนาญการ
กองการจัดสรรน้ำ
- ๑๘) นายเทวพร แจ่มกระจ่าง คณะทำงาน
นักวิเคราะห์นโยบายและแผนปฏิบัติการ
กองวิจัย พัฒนาและอุทกวิทยา
- ๑๙) นางสาวอรรณีย์ โกสมพันธ์ คณะทำงาน
นักวิเทศสัมพันธ์ปฏิบัติการ
กองยุทธศาสตร์และแผนงาน
- ๒๐) นางสาวภักสิริ ชาอุ่น คณะทำงาน
วิศวกรโยธาปฏิบัติการ
กองพัฒนาแหล่งน้ำ ๒
- ๒๑) นางสาวพรรณพร สุวรรณ คณะทำงานและเลขานุการ
วิศวกรโยธามานานการพิเศษ
กองการจัดสรรน้ำ

- ๑) ศึกษาความเป็นมา ข้อตกลง ขอบเขตงาน กฎระเบียบ และเงื่อนไขในการดำเนินงานโครงการปรับตัวต่อการเปลี่ยนแปลงสภาพภูมิอากาศโดยอาศัยระบบนิเวศในบริบทความร่วมมือระหว่างประเทศกำลังพัฒนาในกลุ่มน้ำโขง (โครงการ Mekong EbA South)
- ๒) จัดทำแผน และบริหารโครงการเพื่อให้บรรลุเป้าหมายตามวัตถุประสงค์ของโครงการ
- ๓) ดำเนินการสรรหาบุคลากร และจัดหาพัสดุจำเป็นเพื่อสนับสนุนการดำเนินงานของโครงการและสำนักงานบริหารโครงการ (Project Management Unit: PMU)
- ๔) ประสานงานกับหน่วยงาน องค์กร และภาคส่วนที่เกี่ยวข้องทั้งในประเทศและต่างประเทศ
- ๕) รายงานผลการดำเนินงาน รวมทั้งจัดทำรายงานปัญหาและอุปสรรคต่างๆ ตามข้อตกลงความร่วมมือและกฎระเบียบที่เกี่ยวข้องต่ออธิบดีกรมทรัพยากรน้ำและคณะกรรมการกำกับดูแลโครงการ (Project Steering Committee: PSC)
- ๖) ปฏิบัติงานอื่น ๆ ที่เกี่ยวข้องตามที่ได้รับมอบหมาย

ทั้งนี้ ตั้งแต่บัดนี้เป็นต้นไป

สั่ง ณ วันที่ ๓๐ มิถุนายน พ.ศ. ๒๕๖๖

(นายภาณุ ภาวกรคุณรัตน์)
อธิบดีกรมทรัพยากรน้ำ

Annex III

Inception workshop

Session 2: Overview of Young River Basin

Department of Water Resources

19 July 2023

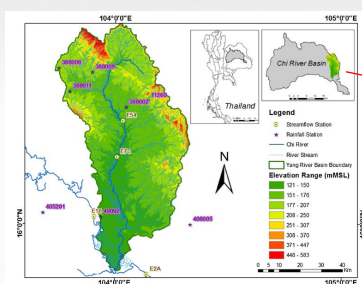
Outline

- ▶ Overview of the Young River Basin
- ▶ Review of climate change impacts and vulnerabilities
- ▶ Preliminary EbA strategies

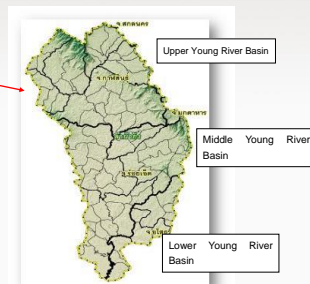
Page 2

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Overview of the Young River Basin



Location map of Young River Basin, Thailand



Page 3

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Overview of the Young River Basin (con't)

The Northeast of Thailand locates in Lower Mekong Basin (LMB) and comprises 3 main river basins, Mekong, Chi and Moon, with 80 sub-basins of cultivated land. The region is often faced with severe water shortages and has impacts due to climate change. The Young river basin is one of the basins is most critically vulnerable to climate change.

The Young basin is a sub basin of the Chi river basin , has a land area covering 4 provinces (Mukdahan, Yasothon, Roi Ed, Kalasin). It has a drainage area of approximately 4,155 km² which accounted for 8.43 % of Chi basin area receives an average annual rainfall of 1,390 mm. Most of Young river basin is located in Kalasin and Roi Ed provinces.

In the past, the upper catchment at Kalasin province experiences a much longer period of drought annually while the lower catchment faces with heavy flood during the monsoon period.



Page 4

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Review of climate change impacts and vulnerabilities

Current vulnerability

Main climate-related vulnerabilities identified across the Young River Basin include: i) water security; ii) food security; iii) income generation; and iv) farming systems. More specifically, communities in the upper basin commonly face with water shortages during the dry season, resulting in the limited availability of drinking water and a reduction in crop production. It adversely impact in income generation, ultimately leading to debt as farmers borrow money to buy food and cover monthly expenses.

In lower basin, communities are faced with severe floods during the monsoon season. These floods result in the inundation of agricultural land, causing declines in production and income generation.

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Review of climate change impacts and vulnerabilities

Upper Young River Basin

The upper Young is mainly made up of headwaters, with the landscapes dominated by natural forests. Climate change adaptation demonstration sites of the proposed project in the upper Young basin are located in Kalasin province, where the population live under the poverty line, with most households relying on agriculture-based livelihoods for food and income.

Vulnerabilities related to current socio-economic conditions are and will continue to be exacerbated by the effects of climate change such as the contrasting impacts of droughts and flood over the years limited agricultural productivity, heavy flooding extended droughts have adversely impacted rice yields, reducing the income, water shortages for both household and agricultural use become frequent, etc.

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Middle and Lower Young River Basin

The middle and lower parts of the Young Basin are characterized by cultivated lowlands. Climate change demonstration sites of the proposed project in the middle and lower Young are located in Roi-Et province, where is dependent on rice farming as a livelihood. Most rice farming in the province is rain-fed. As a result, this livelihood activity is threatened by local climate change conditions – namely droughts and flash floods. Floods also damage infrastructure and have resulted in the loss of life.

- heavy flood destroys most of the rice crop and led some farmers to shift their cultivation to the dry season in the period of water shortages
- water shortages, decreasing agricultural yields and a reduction of household income, etc.

Climate change impacts

The Young River Basin is expected to experience temperature increase of up to 3.3 °C by 2060 as well as a rise in the annual maximum number of consecutive dry days by 2099. similarly, annual maximum daily rainfall is projected to increased in variability and amount across the basin under both medium and long-term scenarios. Rainfall increases are predicted to be limited to the rain season, with less rain falling during the hot dry season. The changes are expected to result in rises in both the intensity and negatively affect the mostly agriculture-based livelihoods of local communities. Yields for the main crops-rice and cassava- will decline, with rice production in particular expected to severely impacted by floods and droughts.



Climate change impacts (cont.)

In the Young River Basin, water demand for the production of jasmine rice under future climate scenarios was also modeled projecting increases of up 92 and 77%. These results exemplify the need for the implementation of climate change adaptation measures to strengthen the resilience and productivity of agricultural production across the Young River Basin in the long-term.

Drought vulnerability and risk classifications for the Young River Basin are moderate to severe. In terms of floods, the vulnerability of the Young River Basin is projected to rise under future climate change scenarios. By 2060, it is predicted that the extent of the Chi River Basin that is impacted by floods will increase by ~ 7% and ~17% under moderate and extreme climate change scenarios, respectively.

1. The Risk, Vulnerability, and Community Adaptation Assessment in the Demonstration Area for Climate Change Adaptation in Young River Basin, Thailand (2011)

Study Area : Na-Kuh (นาคู) district in Kalasin and Selaphum (เสลภูมิ) district in Roi-et, Thailand

This study focuses on community's adaptation to climate change and having key project activities

- conducting stakeholder meetings to inform and consult with key informants regarding project activities
- designing community climate change vulnerability-risk-adaptation survey tools
- conducting community surveys, using the inventory tools for identifying the nature and magnitude of climate impacts, as well as household coping and adaptation strategies



- implementing community participatory research activities, which aim to identify case studies of household 'champions' who are currently taking actions to cope with and adapt to climate change impacts, and to gain a better understanding of them and their actions
- building climate information database and creating a Young River Basin GIS, hydrological, and agriculture modelling system
- devising and installing a low-cost climate telemetering system at four riverside stations of the Young River Basin.

Community's adaptation to climate change in Young Basin River





2. Risks and Vulnerability of the Repeated Drought and Flood Devastated Areas in Chi-Mun River Basin to the Climate Change and Variation (2011)

Study Area : Si Samran (ศรีสำราญ) sub-district, Khon-Sawan (ขอนแก่น) in Chaiyaphum, Lao Oi (ลาวอุย) sub-district, Rong-kham (รองคำ) in Kalasin, Pho-Si (โพธิ์ศรี) sub-district, Pho-Chai (โพธิ์ชัย) in Roi-et, Thung-Luang (ทุ่งหลวง) sub-district, Suwannaphum (สุวรรณภูมิ) in Roi-et

This study focuses on community's adaptation and having some example of adaptation activities such as;

- changing rice planting to off-season paddy field in dry season instead of rainy season, with the use of diversion irrigation and "Monkey's cheek" in the area
- changing crops planting time, methods and plots
- using of drought resistant species, e.g. tapioca, corns etc.



Figure 2-10 Example of adaptation activities in Chi-Mun river basin



3. Project on application of MRC tool and technical information for the management of flood, drought, and climate change year 1 (B.E. 2560) (2017)

Study Area : Sai Na Wang Sub-district, Nakoo District, Kalasin Province Wang Luang Sub-district, Selapoom District, Roi-Et Province

Outcomes

- Extending the climate change adaptation activities from the Young watershed upper part (Sai Na Wang Sub-district, Nakoo District, Kalasin Province) to the lower part (Wang Luang Sub-district, Selapoom District, Roi-Et Province).
- The lower Young watershed community (Wang Luang Sub-district, Selapoom District, Roi-Et Province) is prepared and ready for launching the climate change adaptation activities in the near future.
- The network of government sector and community is strengthening and collaborating to resolve the problems.



Example of activities in Sai Na Wang and Wang Luang Sub-district



Improved Management of Extreme Events through Ecosystem-based Adaptation in Watersheds Project

Project Information

- Improved Management of Extreme Events through Ecosystem-based Adaptation in Watersheds (ECOSWat) was supported by the German Federal Government under the International Climate Initiative (IKI)
- Department of Water Resources (DWR) and German International Cooperation (GIZ) were the main implementing agencies



Project Information

- Implementation period: 2013-2017

Main objective: increasing the capacity of related agencies to prevent the impact of flood and drought through the Ecosystem-based Adaptation in the river basins of Thailand

Pilot sites: Tha Di sub-river basin (Peninsular East Coast river basin), Huai Sai Bat sub-river basin (Chi river basin) and Lum Pha Chi sub-river basin (Mae Klong river basin)

Project Outcomes

- Promotion of participation and understanding on water management during extreme events through the Ecosystem-based Adaptation in river basins**
 - Knowledge sharing events, field visits and dissemination of knowledge documents



Project Outcomes

2. Study to identify pilot measures

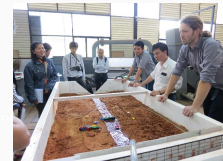
- Vulnerability assessment in the pilot sites, recommendation of the Ecosystem-based Adaptation measures and implementation in Huai Sai Bat and Tha Di sub-river basins



Project Outcomes

3. Capacity building for staff

- Supporting staff to participate in capacities building activities on related topics including the Ecosystem-based Adaptation



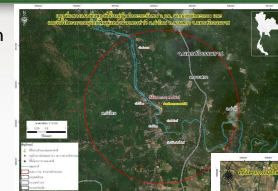
Project Outcomes

4. Application of water management during extreme events through the Ecosystem-based Adaptation in river basins to related strategies at other river basins/national level

- Dissemination of project information and presentation of Ecosystem-based Adaptation measures to related agencies.
- Ecosystem-based Adaptation measures were recommended to agencies under the Ministry of Natural Resources and Environment to apply to the formulation of plan and policies as well as the implementation of measures.

Monitoring and Evaluation system on water resources management with EbA (2022)

Pilot site: Klong Tha Di, Kum Loan Sub-district, Nakhonsithammrat, Huay Cheuak-Huay Sai, Huay Sai Bat, Khon Kaen



Klong Tha Di

Huay Cheuak-Huay Sai



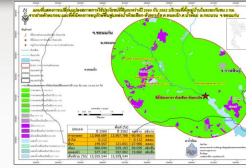
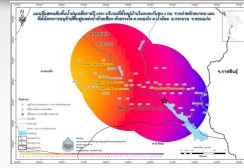


Analytical fields

- 1) Hydrological impacts- Overall attribute assessment of the pilot site; rainfall, ground water, land use, bank erosion
- 2) Environmental and ecological impacts- Environmental impact assessment; water quality, sediment
- 3) Social impacts- vulnerability, climate change, social vulnerability resilience
- 4) Economic impacts- Economic assessment: Direct and Indirect evaluation; economic value evaluation, economic potential and conservative value evaluation

Outcomes

- Enhancement of participatory process on monitoring and evaluation of water resources management through EbA
- Formulate technical cooperation network on water resources management through EbA through cross-cutting collaboration among concerned agencies and public sector
- Engagement of knowledge sharing and transferring to their own organizations; database improvement and develop M&E system (with EbA) for their own org.



DWR's project implementation in conservation and rehabilitation context

1. Develop a reservoir by leaving space for ecological biodiversity
2. Depth of the reservoir should be appropriate and not to generate negative impact to ecosystem
3. No infrastructures around the reservoir
4. Limit road and dike construction that could be blocked water circulation and protect land invasion



DWR's project implementation in conservation and rehabilitation context (cont.)

5. Design the water gate for maintaining water circulation system and keep ecosystem balanced
6. Design dike for livestock
7. Cover crop for soil erosion protection,
8. Taking environment, economy, society and culture into account
9. Making manual for sustainable conservation and rehabilitation



DWR's project implementation: Check dam in Young river basin (Local material)

Project site: Jan lan sub-district, Kalasin (2018)

Outcomes: to reserve water for severe drought for agricultural use, household consuming, livestock purpose and strengthening cooperation among local networks. Additionally, the project could enhance stakeholders engagement in taking action to cope with and reflected to EbA adaptation



DWR Regional office# 4



Public awareness and cooperation with other sectors



The Suntory Mizuiku Project is cooperation project between Department of Water Resources and Suntory Group. The network partners implement of project through 2 activities namely 1) the "Mizuiku: Teach Children to Conserve Water" project and 2) the "Watershed Forest Conservation" project. All of two projects aims to stimulate and create awareness for youth to participate in water resource conservation activities in target areas of 5 provinces.



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Public awareness and cooperation with other sectors



Activities on the National River and Canal Conservation Day are implemented in every year in Thailand. As Department of Water Resources realizes on significant of river and canal which support of way of life and well-being of the people. This event has many activities, including a drawing and painting contest. exhibition local products. There are many stakeholders participation such as private sector, government, children and youth networks, and public with local people. The objective of activity is to make public awareness in river, canal and water conservation and rehabilitation.



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Preliminary EbA strategies



Set of tailored EbA strategies:

- Increase the climate resilience of ongoing agricultural activities to secure food and income for farmers;
- Enhance the provision of ecosystem goods and services to provide water, food and alternative sources of income;
- Improve water infrastructure and management to reduce the negative impacts of floods and droughts; and
- Provide additional, climate-resilient livelihood options to communities (especially women) to diversify income generation

Preliminary EbA strategies



*The Meeting may wish to take note of and
provide guidance on the overview of the Young
River Basin*

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Q/A



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**Mekong EbA South Thailand National
Inception Workshop**
Centara Watgate Pavilion Hotel Bangkok
19-20 July 2023

**Session 4: Thailand planning and
Implementation**

Department of Water Resources

19 July 2023

Scope of Work (1st year)

Task A: Project management arrangement

- A.1 Management and administrative support to DWR as executing agency to set up Project Management Unit (PMU) and National Project Steering Committee to implement the Project as follows.**
- Supporting to PMU establishment to day-to-day management and implementation
 - Coordinating and managing the implementation of national project outputs and activities.
 - Monitoring and evaluating national project outputs and activities.
 - Ensuring the overall quality and timely delivery of national project outputs and activities; and
 - Coordinating with executing entities in Vietnam and IUCN to implement regional project outputs and activities.
- A.2 Execution of daily operation and management of the project with oversight and monitoring provided by the DWR. PMU team will run the project activities under an oversight of National Project Steering Committee**

Scope of Work (1st year)

Task B: Formulation and Implementation of management plans for DWR

A number of management plans will be formulated and implemented in accordance with **AF rules** and procedures:

- Yearly Project supervision plan:** to support DWR and the National Project Steering Committee to supervise all activities to achieve the expected outputs.
- Yearly Financial and budget plan:** to manage finance transactions and budget management in accordance with AF rules and procedures and national rules.
- Yearly Procurement plan:** to procure all materials and tools acquired for day-to-day operation and activity implementation.
- Yearly Communication and participation plan:** to effectively and timely coordinate, communicate with all stakeholders to participate in the project implementation.

Scope of Work (1st year)

TASK C: Project implementation on-the-ground interventions at Thailand project site (Young River Basin)

2 key outputs of 1st year project implementation will be that importance for on-the-ground climate change adaptation activities in later years.

- Implementation Protocols Climate Change Ecosystem-based Adaptation (EbA)**
- Training activities/courses/materials on Implementation Protocols for local communities**

The 1st year project implementation will implement project activities defined in the Terms of Reference of the overall project for **a start of Outcome 1 and Output 1** as follows:

- Demonstration of climate change adaptation interventions, with a focus on drought and flood management, in vulnerable communities and different ecosystems.**
- Climate change adaptation interventions implemented by vulnerable communities in Thailand and Vietnam to manage climate change impacts, particularly droughts and floods.**

Scope of Work (1st year)

Output : A suite of climate change adaptation interventions, including EbA, implemented at Young River Basin in Thailand.

Sub-task 1: Develop detailed implementation protocols and associated ESMP for the climate change adaptation interventions, including EbA, to be implemented in the Young River Basin.

Sub-task 2: Train communities in the Young River Basin to implement climate change adaptation interventions according to the implementation protocols developed through Activity 1.1.1.

Sub-task 3: Develop a training course and materials for the implementation of climate change adaptation interventions, including EbA, using the information generated through the assessments conducted in Activity 1.1.1.

Sub-task 4: Deliver training to communities on climate change adaptation interventions and additional climate-resilient livelihood options. The training program will ensure at least 50% women participation.

Procurement Plan (personnel/experts)

Key Personnel/experts

- Project Manager
- Climate Adaptation Specialist
- Public Awareness Specialist
- Gender Specialist
- Project Knowledge Coordinator
- Assistant Project Manager**
- Finance and Procurement Specialist**

Supporting personnel/experts

- Finance and Procurement Assistant
- Researcher Assistants**
- Area coordinator**
- Project staff/assistant**
- Local coordinator**

☐ The addition position will be charged with in the allocated budget to optimize the outcome.

Procurement Plan (goods)



Budget Plan



No ·	Description/Goods	Budget Year 1		Remark
		(US\$)	(TH Baht)	
Operational Costs				
1.	<u>Communication costs & Office equipment</u>	3,000		
	1.1 Internet/IT equipment • PC 1 sets • Notebook 1 set • 1 printer (black + color) + scanner • Toners/Papers			❑ The equipment will be bought as necessary but not exceeded the allocated budget
	1.2 Phone calls – Sim card			
	1.3 Office furniture (Tables, Desks, Chairs, etc.) • 2 Tables + chairs • Cabinet			
	1.4 Stationery and officer supply			
2.	PMU travel costs	2,000		
3.	Printing Publications	5,000		
	Total	10,000		7

- ❑ 1st installment budget on the 26 May 2023 (210,000 USD)
- ❑ DWR has revised the work plan and budget according to the remaining timeline
- ❑ The revised work plan would be further discussed in details with the WG and UNEP
- ❑ The recruitment has been in process

Project management arrangements



Project Management Unit (PMU)-Office



6th Floor of DWR Building

- DWR**
- **National Project Director**
Ms. Panporn Suwan
Civil Engineer, Senior Professional Level
 - **Project Coordinator**
Mr. Kullawat Kaewkao
Foreign Relations Officer, Professional Level



Project Management Unit (PMU)-Office



Project Management Unit (PMU)-Office



National Project Steering Committee (PSC)

for
the Project “Mekong EbA South: Enhancing Climate Resilience in the Greater Mekong Sub-region through Ecosystem based Adaptation in the Context of South-South Cooperation”

Members:

- 1) **Chairman** - Deputy Permanent Secretary (Head of Inland Water Resources Cluster)
- 2) Director-General/Deputy Director-General of Department of Water Resources
- 3) **National Committee on Climate Change Policy**
- 4) Office of the Permanent Secretary for Ministry of Natural Resources and Environment
- 5) Office of Natural Resources and Environmental Policy and Planning
- 6) Office of the National Water Resources
- 7) Royal Irrigation Department
- 8) Department of Groundwater Resources
- 9) Department of Environmental Quality Promotion
- 10) Land Development Department
- 11) Provincial Office of Natural Resources and Environment (Kalasin, Roi-Et and Yasothon provinces)
- 12) Chi River Basin Committee
- 13) Department of Water Resources; Water Resources Office 4 (Regional), Water Resources Conservation and Rehabilitation Division, Strategy and Planning Division

Duties and Powers

- (1) Consider and provide opinions and recommendations on the formulation of guidelines for the project implementation and the action plan to achieve the goal of project objectives
- (2) Oversee the project management and provide suggestions for addressing problems or challenges
- (3) Appoint the sub-committee or the Working Group to support the project implementation as necessary
- (4) Perform other related duties in order to achieve the expected outcomes and goals



Working Group for the Project

“Mekong EbA South: Enhancing Climate Resilience in the Greater Mekong Sub-region through Ecosystem based Adaptation in the Context of South-South Cooperation”

25 members;

- Water Resources Conservation and Rehabilitation Division
- Strategy and Planning Division
- Water Allocation Division
- Research Development and Hydrology Division
- Water Analysis and Assessment Division
- Water Resources Development Division 1
- Water Resources Development Division 2
- Water Resources Office 4, 5 (Regional Office)

- ❑ The working group is chaired by the Deputy Director-General of DWR
- ❑ 25 members from both the central office and regional offices of DWR

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Duties and powers

- (1) Study the background, agreement, scope of work, regulations, and conditions for the project implementation
- (2) Develop the plan and manage the project to achieve the goal of the project objectives
- (3) Recruit the staff and arrange the procurement as necessary to support the project implementation and the Project Management Unit (PMU)
- (4) Coordinate with both domestic and international relevant agencies, organizations, and sectors
- (5) Report to the Director-General of the Department of Water Resources and the National Project Steering Committee regarding the project performance and preparation of the report on problems and challenges according to the Project Cooperation Agreement (PCA) and related regulations
- (6) Perform other related duties as assigned

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The meeting may wish to take note of the progress of the Thailand planning and Implementation and provide the guidance of this issue

Q/A

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