
Public and private sectors and project solutions Mun River Chi River, Mekong River

Professor Dr. Boonton Dockthaisong¹, Ft.Lt. Dr.Chamnan Songsittikul², Dr.Wasan Katphan³, Dr.Chatthasanan Sanwonglakron⁴

¹Lecturer of the Faculty of Political Science and Public Administration
Mahachulalongkornrajavidyalaya University, Wang Noi, Phra Nakhon Si Ayutthaya
Province, Thailand

^{2,3,4}Lecturer of Master of Public and Private Management Program Phanomwan
Technology College Nakhon Ratchasima Province, Thailand
Email ID: katpun1@gmail.com

ABSTRACT

This research Objective 1) To study problems and obstacles of the public and private sectors and solutions to the Mun Chi River project in Thailand, 2) To study the components of the public and private sectors and solving problems of the Mun Chi River project. Mekong of Thailand and 3) To study management guidelines and recommendations for solving the problems of the Mun River Project, the Chi River, the Mekong River in Thailand is a descriptive study. The Using qualitative research methods Using in-depth interviewing techniques and group chat with important informants the results of the research revealed that the problems and obstacles for the public and private sectors were to review the policies of large-scale water management projects in the Isan region of Thailand as a whole. Find the value that benefits the people Because in the past Development of water management projects, public and private components, and solutions There should be a review of the implementation policy of conventional water management practices aimed at developing large-scale projects in different river basins. Development of various water management projects, management guidelines and suggestions for solutions should focus on the development of large-scale projects in different river basins and public participation in the design of more sustainable alternatives. Not just the government design Because there are still people fishing That take advantage of the tide Not just looking for water

Keywords: Public and Private Sectors, Project Solutions, Mun River, Chi River, Mekong River

PREAMBLE

Isan is an area with drought. And poor people This is because most of the area is flat at an altitude of 150 to 250 meters above sea level. The mountain range clearly separates from the central and eastern regions, so it is imperative to provide water for agriculture. And cultivating the same rice fields as farmers in other regions While the northeastern region has most of the area for farming but the whole region has only 3 main rivers, namely Mun, Chi and Mekong, and some sub-rivers such as Plai Mat, Songkhram River, Lam Dome Noi, and Big Dome, etc. To imitate America Plains irrigation When applied to Thailand where smallholder farmers Therefore not suitable Especially in

the northeast region, there are 3 types of riverside plains that are high, waves, and on the high rises there are waves again, so if centralized irrigation is used, management cannot be used (Narathip Thubthun¹, Thammanoon Yingyuen², Sutanya). Sittikulkiat³, Sudjit Sananwai⁴, Jutamanee Jabtakhob.2020).

Therefore, he wants to change the idea of the Royal Irrigation Department. Focusing on large irrigation systems It must be a distributed water management. There is a full house irrigation system, such as Lam Takao, Chaiyaphum Province, there are 14 dams, 7 farmers, this system is consistent with the landscape of Thailand (Suraphan Intra et al. 2015). The Land Development Department has been studying this matter. As in the case of the Rasi Salai Dam, it was found that after the dam was closed, the salinity was not drained from the natural flow of water. However, this work has no immediate effect. Another interesting study is the irrigation area redundancy study by the working group. Of the Royal Irrigation Department Which was set up to follow the Mun River project, the Chi River, the Mekong River that overlapped with the original project. In the case of the Rasi Salai Dam, it was found that the area of the dam flooded 12 existing irrigation projects. It is to build a dam over the dam itself. This matter is very important. And the next question for water diversion projects is costs, costs of mitigating environmental impacts. And how will the calculation of the actual benefits be? The National Environment Board sees the investment of the Mekong-Chi-Mun project. I noted that it would not be worth it from the beginning.

Royal Irrigation Department. (2003). Mun River Project. The Mekong River is a project for the construction and development of both small and large water sources. To store and distribute water to farms for farmers in which the Cabinet held a meeting in Khon Kaen on April 8, 1989 to build an irrigated area of 4.89 million rai by dividing the project into 3 phases, it takes 42 years to complete a budget of 228,000 million baht. But without success and has caused serious problems to the way of life of local people and natural resources This can be seen from the hasty and hasty decision to implement the Mun Chi River Project without receiving equal thorough opinion and suggestions from all sectors. This has caused many problems in the above watershed areas. While the Mun Chi River project, the Mekong River requires a budget of 10,346 million baht, which has been discussed by scholars all the time. Problems and impacts that occur include the spread of salinity. Damage to river ecosystems Extinction of aquatic animals the spread of some shellfish that are carriers of various dangerous diseases, etc.

The Mun River Project, the Chi River, the Mekong River that has always been causing problems for people's livelihoods and natural resources, for example, the problem of saline soil dispersion is the most severe in the Zodiacal dam area. And Nong Han Kumphawapi Until unable to bring water for agriculture and often found that the flood area of the project exceeds the reservoir area specified by the project. Farmers arable land that has been flooded the victim receives some compensation. Missing and insufficient damage from the Mekong Mun River Project (Water Resources and Irrigation Development and Management Committee. 2008). From the events mentioned above the researchers are interested in studying the public and private sectors in solving problems with the Mun Chi River project. That affects agricultural crops and destroys the livelihoods of the people in the area. Under the current natural disasters caused by climate change When it comes to vulnerabilities within society and the potential to always cope with possible disasters. And promoting and supporting the management of water resources Reduce the impact on agricultural water management. And the adaptation of the community in the livelihoods of the people to suit the

problems and obstacles of the public and private sectors with the solution of the Mun Chi River project, the Mekong River, the components of the public and private sectors and the solution of the Mun River project The Mekong River and its management approach And recommendations for solving the problems of the Mun River Project, the Chi River, the Mekong River to create stability and prosperity that will create sustainability in the future

RESEARCH OBJECTIVES

1. To study problems and obstacles of the public and private sectors and solutions to the Mun Chi River project.
2. To study the components of the public and private sectors with the solution of the Mun Chi River project.
3. To study management guidelines and suggestions for solutions to the Mun Chi River project

RESEARCH METHOD

This research will study data from in-depth interviews. And analyze data from documents by collecting information from important informants Use a specific selection method and allow key informants to express their opinions Conduct interviews with audio recordings and taking notes. By using the open-ended interview form to allow the research team to adjust the wording of the question to be consistent with each contributor. According to the environment to get a clear answer and there is a variety and facts the details are as follows

IMPORTANT INFORMATION PROVIDER.

The research team selects a specific informant. And in-depth interviews by specifying groups of key informants divided into 3 groups, consisting of main informants. Group 1: 5 persons related policy executives: representatives of the National Water Resources Office, Royal Irrigation Department, Department of Mineral Resources. Group 2: 10 persons operating executives: developers of private water conservation organizations, academics at the Center for Ethnic Studies and Development Chiang Mai University, a network of scholars in the Isan area of Thailand. Mahasarakham University Ubon Ratchathani University and Khon Kaen University Under the cooperation of the Department of Environmental Quality Promotion, the Society for the Promotion of Human Rights, and the Environment. and Group 3: 20 persons is the Mekong River Agricultural Tourism Community Enterprise, Chiang Khan Local Fisheries, the Mekong River Conservation Group, the representative of the community group affected by the Pak Chom District, Loei Province, the Hug Chiang Khan Group, the Hug River Loei Group, the People Network. Isan Mekong River Basin, Loei Province Civil Society Network, Moon River Basin Community Organization Network, Chi River Basin and Songkhram River Basin, Nong Han River Basin Community Organization Network Udon Thani Province, representative of the Mekong community group, Ban Muang Sub-district, Sangkhom District, Loei Province

COLLECTION OF INFORMATION.

This research used informal interviewing techniques. In which the research team will interview itself in order to obtain detailed information on the purpose Set to the most Using in-depth interviews from key informants the interview will not have a standard format. There are no fixed questions. But it will be defined only as a framework or question point. And in no order and lead to

a documented research process in which the research team used the educational process and analyze various data by reviewing relevant concepts, theories and literature Which has been studied from academic documents, research results, various academic articles Including academic information obtained from various web searches So that the research team can get the information they need and make new information as comprehensive and true as possible. And lead to group conversations This research will determine the issues and questions. For use in group discussions of all involved groups. Representing each group participated in the group discussion (Silverman, D. 2005).

RESEARCH SCOPE.

The researchers reviewed the literature by compiling data on one or more of these actions. About water and other related resources in the watershed. To solve the water crisis Water shortage Floods and water quality deterioration Concretely Let the problem be mitigated or eradicated and aims for everything in society, including people, animals, and plants, etc., to have a good quality of environment and lifestyle Biodiversity People have water to use sustainably and thoroughly. There is justice without conflict. As well as developing the economy efficiently at the same time Which is an important guideline for continuous development and will benefit people in the long term It will study the public and private sectors with the solution of the Mun River project, the Chi River, the Mekong River. The research team has identified four areas of research, namely, area 1, scope of research, content. This research aims to solve the problems of the Mun Chi River project by studying the public and private sectors and solving the problems of the Mun Chi River project, and present the results of the study and recommendations to the authorities. Related To be able to be used as a guideline in formulating a strategic plan, area 2, research scope for key informants. In this research, the researchers identified the main contributors for the research. By specifying a specific model to provide important information, such as senior management Middle management and stakeholders, which can be divided as follows the primary information provider group 1 is the relevant policy executives. The second main group of informants is operations executives. And operational level staff Key Informants Group 3 Key Informants Group The stakeholders consisted of community leaders consisting of community leaders from various areas. Third, the research scope on Pak Tam Sub-District, Chiang Khan District, Loei Province, Pak Chom District, Loei Province, Ban Muang Subdistrict, Sangkhom District, Loei Province, Udon Thani Province. And universities in the Isan area All of these are in Thailand and the fourth area of time scope. The research team started the study from March 2019 - April 2020.

QUALITATIVE DATA ANALYSIS.

Data analysis is the application of the collected information to be organized in order to give meaning to the data. Categorize the meaning of the analyzed data and summarize the meaning. Obtained by observations, note-taking, transcripts of interviews, and group conversations. It applies the concept of Michael Quinn Patton (Patton, 1990), which is a sequence of steps starting from 1) using the triangular technique. In order to obtain the accuracy of the narrative, 2) the interpretation of both direct speech, 3) confirmation from the informant. In order to interpret the information exactly as the questioned person has given information; and 4) the theoretical triangle validation. To determine whether the findings are consistent with the actual data How much when the researchers used the techniques to analyze both the interview results? And the results of the group discussions Then interpret it, create an inductive conclusion.

RESEARCH CONCEPTUAL FRAMEWORK

The researchers studied the findings related to the issues being studied. The relationship between variables and material studied appears. According to the conceptual frame in Picture 1.

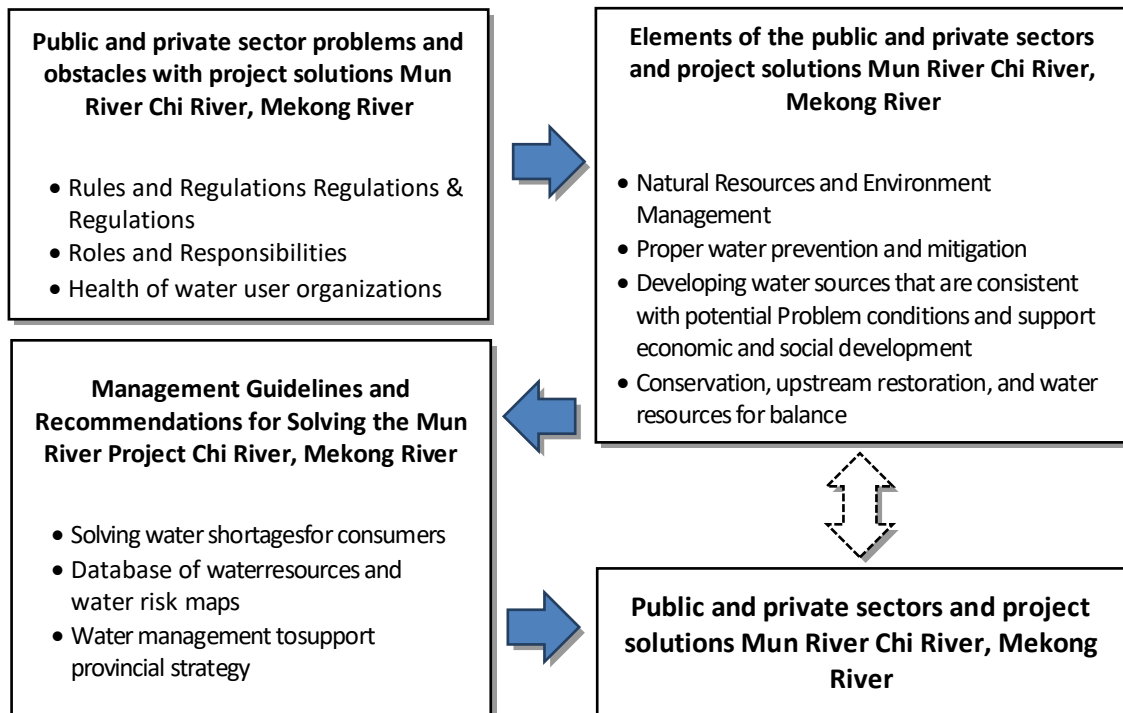


Figure 1 Public and private sectors with project solutions Mun River Chi River Mekong River

RESEARCH RESULTS

Results of the objective research 1) to study problems and obstacles of the public and private sectors with solving problems of the Mun Chi River project, the Mekong River was found

Regulations and regulations must be made into a system of operating mechanisms. Which has laws on conservation of natural resources and the environment Under the provisions of various laws Such as the development of wetland areas in national parks to adhere to the rules and regulations National Parks Act 1961, the development of wetland areas in wildlife sanctuaries and the non-hunting area to adhere to the rules and regulations Wildlife Preservation and Protection Act, B.E. 2535. In line with the informants, “For some wetland areas that do not have conservation laws for the conservation of natural resources and the environment. There are no restrictions on the right to manage the site and there are no explicit restrictions or prohibitions on the development of the site. Will have to consider the effects that occur by defining and planning the implementation of smart wetlands utilization for sustainability in particular, community involvement must be emphasized. In accordance with the spirit of the Ramsar Convention In which Thailand is also a member of the Ramsar Convention, it is a process of public participation. (Key informants Group 1, 2020)

Therefore, the public and private sectors, which rely on regulations, rules, laws and community regulations to create water management infrastructure because water management can be effective, public and private people have to participate in both plan Performance monitoring and publicity under mutual agreement Which studies water management models to focus on exploring problems

Innovation Combined with participation in the distribution of water distribution by listening to opinions from all sectors.

Role Politicians are involved in the project. Huai Luang-Nong Han water diversion line Is the water diversion that the politicians choose Because he wanted to pass through his own province and many scholars objected to choose the water diversion from Loei Ubolratana Dam Because there is a difference in the water level that can be diverted according to the gravity of the world. It does not have to be pumped up in a period like the first water diversion line, resulting in a higher cost of water diversion. Although the Mekong diversion has not yet occurred but there has been construction to support such water diversion, such as the construction of Huai Luang Reservoir and Nong Han Reservoir. It is expected that this diversion line will be an alternative to the Mekong diversion tunnel project.

According to the informant, "If Thailand is to switch to extract water from Huai Ngum of Laos, the closest point is Huai Luang. Acknowledging that it is in a capitalist economy that must be large-scale. And there is a trend towards the development of the industry Large-scale water management is the infrastructure that will make a capitalist production system possible. But 50 years of experience in dams, enough to see how the sustainability of water management like dams is in the next 10-20 years", interviewed and collected key informants. (Key informants Group 1, 2020)

Therefore, many dams may have to be smashed in front of them. Therefore, you may need to think of other wisdom, such as the traditional irrigation system, rain irrigation. Isan people also have a twist in the Khanna style. Suitable for subsistence production and trade, where 90 percent of the area still uses a converted family-level irrigation system. But because some years in the northeast of Thailand, there will be drought or flooding. Therefore, it is necessary to have the most gastric juice system in the farm There is not much knowledge here about the agrarian water system, but it will destroy it because it is a project that cost a lot of money to research on the field the researchers were not interested.

The status of water user organizations Diverse ecosystems has several benefits to humans, including being a reservoir for rainwater and runoff. Prevent salt water from entering the land Coastal protection Traps mineral sediments and detoxifies as a source of soil resources and natural products that humans harvest and utilize. It is vital to local transport; the species and animal source is ecologically important and the conservation of nature is especially important as a source of important producers in the food chain.

In line with the informants, it was found that "the importance of recreation and tourism. History, society, culture, local traditions, and a source of natural science research It can be said that, overall, wetlands are Ecosystems that play a role, as well as their values and importance to livelihoods. It includes human, plant and animal life, ecological, economic, social and political at the local, national, regional and international levels." (Key information provider Group 1,3, 2020)

Therefore, the policy continues. And complete all dimensions There are clear activities and plans. This is because the government is an important sector to support and promote water management, starting with the policy. And that policy must be continued. Comprehensive and clear Participation of farmers in the management of local reservoirs. To have a policy, there must be a committee from the water user group that sets regulations for the use of the reservoir. Water use in catchment areas Repairing water sources, canal, meeting, schedule, water use plan to coordinate with government

agencies Sustainable water management planning through a participatory planning process with an emphasis on sustainable water management.

Objective research results 2) to study the components of the public and private sectors with the solution of the Mun Chi River project.

Management of natural resources and the environment is Business as usual because it is a choice that does not carry out any proposals, policies, plans and plans, or no action changes from the original direction. Without any future developments, there will be more serious problems in the Chi Basin. The problems of drought, flood, and wastewater from factors such as increase in population, land conditions, climate change, etc., development for necessities and sustainable agricultural land development. It is an alternative to the supply of drinking water that meets the standards of quality for the livelihood of the people in the area. And providing adequate water sources in the rainwater agricultural areas Can help himself Along with soil conservation and upstream forest restoration Reduce poverty in rural areas. By using the model of sufficiency agriculture or Khok Nong Na model

In accordance with the informants, it was found that “water resource risk management at the local level and the development of continuous agricultural industries. There is processing and adding value of agricultural products. Organic And have water to support the current industry as an alternative solution Risk of drought, flood and waste water, especially in the main urban areas to bridge the income gap between Rural and urban people” fielded, interviewed and collected key informants. (Key informants Group 1, 2020)

Therefore, the development of agro-industry in the Isan region of Thailand Aiming to develop water resources to their full potential There is water to support new industries. And tourism as an option to increase the income of people in the river basin Reduce social inequality, increase GRP of the Isan region of Thailand. And business agricultural development is the center of the Mekong sub-region. It is an alternative to water diversion from the Mekong River to increase the irrigated agricultural area. To meet the expansion of all types of industries to stabilize water security for agriculture, especially in the dry season. And increase the value of production water to increase the GDP of the country

Proper prevention and mitigation of water-related disasters Flood mitigation work is analyzed for solutions by selecting one or more of the following sections to mitigate the severity of flood events, such as throttling by holding water in a reservoir or reservoir. To control the amount of water not to flow too much, especially during the flood. Limiting the flow path by creating a water barrier or canal Improving river and flow conditions, such as building a drainage around the city to reduce the water height in major streams. Draining water from critical streams, such as using a water pump. And reducing the water flow rate by using different methods to slow down the flow of water

Consistent with the informant, it was found that "for the implementation of construction measures. It is important to consider choosing one of the workarounds mentioned above. It may affect the original river balance or it may reduce the storage conditions in the area and increase the flow rate. Therefore, further studies are needed to solve the problem, such as improving the landscape characteristics of the streams or the treatment of canal surfaces by paving the surface with materials that reduce the flow velocity. As for the measure not using buildings It is a measure that does not focus on permanent buildings, there may be temporary structures such as water walls, sandbags,

etc., so it has less impact on the environment. Evaluation of results for solving problems using no building measures is quite difficult. Because certain policies may affect the economy. Society rather than building measures in addition, studies must be covered in order to be legal. There are two measures of no construction measures: measures to try to make flooding more difficult, such as land use management. Town planning Building control and urban expansion Land Expropriation and Demolition of Buildings in the Flood Way” went to interview and collect information of key informants. (Important Information Provider Group 1,2 2020)

Therefore, improving the reservoir condition Water storage and control in the area, etc., and measures to reduce the impact of flooding help people to be damaged and have less of an impact on their daily life, such as flood forecasting and warning. Education and Public Information Building flood protection Evacuation from vulnerable areas Flood response plan Relief plan Flood Insurance Flood modification, etc. For preventing damage from flooding, several measures should be taken together. In which measures to be used are both measures for using buildings and not using buildings the effectiveness and success of flood damage mitigation depends on two factors: Understanding and acknowledging the occurrence of flooding and responses from both the government and the public sector in implementing the flood management plan.

Developing water sources that correspond to potential, problem situations, and support economic and social development. Strategic Environmental Assessment (SEA) is a process by which policy agencies use to forecast impacts arising from various programs. Considering environmental factors together with economic, social, and other factors. It also provides opportunities for the public to participate in considering plans to suit the development of their own area. To join to find the best option

Consistent with the informant, it was found that "joint development in all dimensions. Both economically and socially While protecting the environment Reduce inequality in access to water resources Promote the quality of life and well-being of the people in a sustainable way. Moving forward with the 20-year Master Plan for Water Resources Management, which is a large framework and a strategic plan based on the Strategic Integrated River Basin Development (SIDP) in Chi River Basin. To be aligned with the SEA or the process used for a strategic environmental assessment. It can help support appropriate decisions from an environmental and sustainability perspective in all dimensions.” Interviewed and collected key informants. (Key Information Providers Group 2,3 2020)

Therefore, it can clearly determine the direction of development at the area level. Meet the needs of people in the area and more importantly, there are alternative forms of development and roadmap. To support the decisions of the policy-level agencies "

Conservation of watersheds and water resources to balance Water resources should be surveyed for consideration to build small dams blocking the waterways in the upstream and stream in order to spread the moisture extensively, which will help restore the forest in the highlands. The area will become forested mountains in the future, meaning there are many different types of trees. Which cover the soil at a density suitable for each terrain Those trees will have the effect of helping to maintain the moisture level in nature at the right level, not too dry. It also helps hold the precious soil from being eroded into the flat area as well. And try to pump the water up to the highest level possible. By considering the use of natural energy pumps such as solar energy and wind energy. Which is already in use

In line with the informant, it was found that "in order to not consume fuel. When bringing the water to rest at the highest-level Will be able to let the water slowly seep down to help expedite the planting of forests that are both protected plants and fast-growing plants. In addition, the project will also transform the forest mountain project. To be a wet forest which can prevent forest fires as well by conducting a survey to find a location to build a dam at the top of the stream at a high level as close to the peak as possible the characteristics of the weir need to be redesigned. In order to be able to store enough water for a long period of 2 months, long storage of water reserve after the rainy season has passed. This will provide a steady and continuous supply of water to support the vigorous and fast-growing seedlings that are used to grow in dry forests by supplying water around. The weir until being able to stand up and consider sending the water to the highest point as possible." Enter the interview area and collect information of key informants. (Key Information Providers Group 2,3 2020)

Therefore, to be able to supply water to constantly nourish the replanting young seedlings on the mountain. Especially during the dry season, where the loss rate is quite high. When the seedlings grow moderately to tolerate drought conditions, in the anatoc, the mountains in the area will be restored to their original, forested mountains to a moderate amount of moisture. As well as help restore the environment in the lower part to not become a dry land

Results of research studies according to the objectives 3) to study management guidelines and recommendations for solving the problems of the Mun River Project, the Chi River, the Mekong River, found that

Solving the water shortage problem for human consumption Due to the demand for water that has increased every year. Because of the grandmother in the agricultural and industrial sectors Including the lack of consciousness Economical use of water for water users is the use of water for consumption.

In line with the informants, it was found that "Water use for agriculture. And industrial water uses and other activities Together with the inability to retain water and collect water from natural water sources to make the most of the lack of development of water sources or systematic management." Interviewed and collected information of key informants. (Key Information Providers Group 2,3 2020)

Therefore, circumstances change in the seasons. Or uneven distribution or low rain conditions and the lack of surface water reservoirs Due to the terrain that is not conducive to water storage Causing water shortage problems for great benefit to fix the problem to help people who suffer from water shortage problem for consumption and consumption and occupation

Creating a database of water resources information. And drought risk plans 20-Year National Strategy Framework (2017-2036) National Strategy for Building Growth on Environmentally Friendly Quality of Life To accelerate conservation and rehabilitation and build the stability of the natural resource base and has water stability, as well as the ability to prevent impacts and to adapt to changes. Climate and natural disasters and develop towards being a green society Frameworks that need to be addressed include the organization of conservation, restoration, and prevention of natural resource destruction. Establishing an efficient water management system and focusing on adjusting the management system Water resource management has many problems. And more serious This is a consequence of the development of the country with a wasteful use of natural resources causing

flood and drought problems, etc. In addition, the development of the country's water resources is at risk of water shortage in the future.

Consistent with the informant, it was found that "If the management is still inefficient Overall, domestic water demand and water demand will increase in the future due to urbanization and economic activity regardless of the potential of the river basin. There is an inefficient use of water for production and consumption. This resulted in a lot of damage to the manufacturing sector. And people and ecosystems widely Moreover, the development and management of water resources at the policy level. Plans and large projects and at the local level, there is a lack of participation processes and an assessment of environmental, social and economic impacts." (Key Information Providers Group 2,3 2020)

Therefore, before proceeding in a systematic manner Affect the sustainability of water management. Geospatial technology is a technology that plays a very important role in the development of the country to advance. In enhancing the quality of life for the development of the country And enhancing the knowledge and thinking of the people in science Along with accelerating production and human resource development Science and technology To be ready to use technology in resource management Environment and disaster As well as expedite the management of natural resources And environment Under the participation of people Local community Local government organization Both public and private sectors By making the best use of geospatial technology, natural resources are used for sustainable national development and quality of life.

Water management to support the provincial strategy Water management for efficiency and maximum benefit through the main mechanism for solving drought problems, such as forecasting group, responsible for monitoring the weather, runoff, and water situation in various water reservoirs in order to analyze and assess water volume, cost, and demand

In line with the informant, it was found that "the water management group Responsible for planning the water allocation in accordance with the water situation. And cover all types of water use Both consumption Preserving agricultural and industrial ecosystems Including setting guidelines for drainage and reserve water for use And the Action Group to Solve Water Shortage Problems ", conducted interviews and collected information on key informants (Key Information Providers Group 2,3 2020)

Therefore, the integration of the public and private sectors provides manpower, materials, equipment, and machinery in the disaster area to be ready for action to prevent and solve water shortage problems. By clearly dividing the area of responsibility and delegating the mission Along with arranging a problem-solving support unit covering all risk areas

DISCUSSION

Problems and obstacles for government and private sectors and solutions to Thailand's Mekong Mun River Project related to regulations and regulations for some wetlands without laws on the conservation of natural resources and the environment. There are no restrictions on the right to manage the site and there are no explicit restrictions or prohibitions on the development of the site. Will have to consider the effects that occur by defining and planning the implementation of smart wetlands utilization for sustainability in particular, community involvement must be emphasized. In accordance with the spirit of the Ramsar Convention Which Thailand is also a member of the Ramsar Convention, is a process of participation of the people. Role If Thailand is to switch to fetch

water from Huai Ngum of Laos, the closest point is Huai Luang. Acknowledging that it is in a capitalist economy that must be large-scale. And there is a trend towards the development of the industry Large-scale water management is the infrastructure that will make a capitalist production system possible. But the experience of dams for 50 years

Compared to Elvir Akhmetshin's research, Kseniya Kovalenko studied Construction of large dams: problems and development trends. In this article, the authors consider the problems of using large dams, and analyze environmental and economic indicators. climate pollution and eradicating poverty are two of the most serious challenges facing the world today. More than 50,000 large dams block at least 60% of the world's rivers. The consequences of this massive engineering program are devastating. Large dams destroy species; flood vast areas of wetlands, forests, and agricultural land; moving tens of millions of people, and influencing half a billion people living downstream. (Elvir Akhmetshin, Kseniya Kovalenko.2018).

You can see how the sustainability of the dam water management is in the next 10-20 years and the status of water user organizations. Importance of recreation and tourism History, society, culture, local traditions, and a source of natural science research It can be said that, overall, wetlands are Ecosystems that play a role, as well as their values and importance to livelihoods. Both human, plant and animal, ecological, economic, social, and political at local, national, regional, and international levels.

Public and private sector components and solutions to Thailand's Mekong Mun River project problems, natural resource, and environmental management. Water resource risk management at the local level and the development of continuous agricultural industries. There is processing and adding value of agricultural products. Organic And have water to support the current industry as an alternative solution Risk of drought, flood and waste water, especially in the main urban areas To bridge the income gap between Rural and urban people Proper prevention and mitigation of water-related disasters For the implementation of construction measures It is important to consider choosing one of the workarounds mentioned above. It may affect the balance of the original river, or it may cause the water storage conditions in the water area to decrease and increase the flow rate. Stream landscape or canal surface treatment by decking with materials that reduce the flow velocity. As for the measure not using buildings It is a measure that does not focus on permanent buildings, there may be temporary structures such as water walls, sandbags, etc., so it has less impact on the environment. Evaluation of results for solving problems using no building measures is quite difficult.

This is comparable to the Cecilia Tortajada study in Dams: An Essential Component of Development. It was found that Dams have become an integral part of basic infrastructure by offering indispensable benefits like irrigation, hydropower, domestic and industrial water supply, flood control, drought mitigation, navigation, fish farming, and recreation. As controversial as they have been during the last decades due to negative social and environmental impacts, the limited and uneven distribution of water at the global level has made the world realize that more dams, mostly large dams, are needed if development is to be promoted and if basic human needs are to be covered. Overall, it has been global dynamics in terms of water, energy (including trade aspects), food, and climate securities that has recanted the role. of dams triggering massive investment on construction and modernization of multiple projects all over the world. It is thus fundamental to continue improving project p lanning and implementation to avoid unnecessary social and

environmental costs. This paper discusses the role of dams on development, hydropower as the main source of renewable energy, the potential it holds to promote regional development, resettlement as the most critical factor still facing construction of large dams, and the role an entirely new group of actors are having in investment of dam projects at the national, regional, and global levels. (Cecilia Tortajada.2014).

Because certain policies may affect the economy. Society rather than building measures in addition, studies must be covered in order to be legal. There are two measures of no construction measures: measures to try to make flooding more difficult, such as land use management. Town planning Building control and urban expansion Land expropriation and the demolition of buildings in the floodways. Developing water sources that correspond to potential, problem situations, and support economic and social development. Co-development in all dimensions Both economically and socially While protecting the environment Reduce inequality in access to water resources Promote the quality of life and well-being of the people in a sustainable way. Moving forward with the 20-year Master Plan for Water Resources Management, which is a large framework and a strategic plan based on the Strategic Integrated River Basin Development (SIDP) in Chi River Basin. To be aligned with the SEA or the process used for a strategic environmental assessment. It can help support appropriate decisions from an environmental and sustainability perspective in all dimensions. Conservation of watersheds and water resources to balance So as not to waste fuel When bringing the water to rest at the highest-level Will be able to let the water slowly seep down to help expedite the planting of forests that are both protected plants and fast-growing plants. In addition, the project will also transform the forest mountain project. To be a wet forest which can prevent forest fires as well by conducting a survey to find a location to build a dam at the top of the stream at a high level as close to the peak as possible the characteristics of the weir need to be redesigned. In order to be able to store enough water for a long period of 2 months, long storage of water reserve after the rainy season has passed. This will provide a steady and continuous supply of water to support the vigorous and fast-growing seedlings that are used to grow in dry forests by supplying water around. The weir until being able to stand up and consider sending water to the highest point as possible

Management approach and recommendations for solving problems in the Mun Chi River project in Thailand, solving the water shortage problem for consumption Water use for agriculture and industrial water use and other activities in addition to the inability to store water and collect water from natural water sources to make the most of the lack of water source development or systematic management. Creating a database of water resources information. And drought risk plans If still allowing inefficient management Overall, domestic water demand and water demand will increase in the future due to urbanization and economic activity regardless of the potential of the river basin. There is an inefficient use of water for production and consumption. This resulted in a lot of damage to the manufacturing sector. And people and ecosystems widely

Which is comparable to Nam-Ryong Kim's research, Dong-Hoon Shin has studied Advances in Dam Safety Management Research Activities on Dam Safety. It found that the main objective of this paper is to introduce recent research activities at K-water, Korea regarding advanced dam construction technology and safety management. Recent global warming and climate change causes extreme loading conditions in many dams in the world hence safety evaluation and management are one of great concerns from public and managing authorities. Various construction technology as

well as information technology (IT) aimed solutions are utilized in dam safety management systems, and it provides valuable information about not only for the better understanding of the structural behavior but also preparing countermeasures. The research activities introduced in this paper may provide some idea about how the new technologies can help the management of dam safety. (Nam-Ryong Kim¹, Dong-Hoon Shin.2015).

Moreover, the development and management of water resources at the policy level. Plans and large projects and at the local level, there is a lack of participation process and assessment of environmental, social, and economic impacts on water management to support the provincial strategy. Water Management Group Responsible for planning the water allocation in accordance with the water situation. And cover all types of water use Both consumption Preserving agricultural and industrial ecosystems Including setting guidelines for drainage and reserve water for use And the Action Group to Solve Water Shortage Problems

SUMMARY/SUGGESTIONS

Public and private sectors and project solutions Mun River Chi River Mekong River Ishan Water ManagementThe people, civil society, the public sector,the people, the civil society, the people, the civil society, the people, the peopleIt wantssustainable water management and disagreement with diversion across the basin. It's notworth it,butthe sixdecades of events in Northeastern Water Management have shown that water managementshould align with the area's ecosystem and culture under a variety of contexts.We need to start studying and evaluating the true value of the project.Mun River Chi River Inthe past,water resourceswere not studied according to the actualsituation and therewas no public criticism from the public and civil society to investigate. ProjectPush Mun River Chi River the MekongRiver in the Northeast isbeingreconsidered with theuse of special laws restricting rights. People's Freedom In the movement for participation in resource management, therefore, the developmentof waterresources. Water management in The Northeast for the past 30years has caused many impacts and costly, but with no value, and has changed the ecological and lifestyle of Ishanpeople.I don't want the state to focus on the development of the MekongRiver because the Mekong is now sick and dying.Mun River Project Chi River the MekongRiver should not be made, invest a lot of money, have a lot of impact, like building a new river. The villagers didn't even know they were affecting themselves.For policy recommendations,see Policy Recommendations.There should be a review of the policy of large-scale water management projects in the entire Northeast.Find value formoney thatbenefits the people.Because in recent times, the development of water management projects andthepolicy shouldbe reviewed in accordance with traditional water management guidelines aimed at developing large-scale projects in various basins. The development of water management projectsalso follows traditional water management practices aimed at developing large-scale projects alongvarious basins and recommendations for research purposes.Let'sfix the same problems first. If you are going to do it,you should research the participation of the public in designing more sustainable alternatives. It's not just the state department, because there are still fish peoplewho take advantage of the tides, not just looking at water, and should research projects that are vulnerable to impact. As a result, the public and villagers are aware of the water management, bothIshan and sticking to the situation on the Mekong River, and will continue to make proposals to the government.

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