Challenges of Water Policy Involvement of the Community in the East Coast River Basin of Thailand

Nittaya Ponok 1,2, Noppol Arunrat 1, Nathsuda Pumijumnong 1, Hironori Hamasaki 3 and Sukanya Sereenonchai 1,*

1 Faculty of Environment and Resource Studies, Mahidol University, Nakhon Pathom 73170, Thailand; nittaya@kpi.ac.th (N.P.); noppol.arun@mahidol.ac.th (N.A.); nathsuda.pum@mahidol.ac.th (N.P.)
2 Research and Development Office, King Prajadhipok’s Institute, Bangkok 10210, Thailand
3 Faculty of Environmental Science, Nagasaki University, Nagasaki 852-8521, Japan; h-hamasaki@nagasaki-u.ac.jp
* Correspondence: sukanya.ser@mahidol.ac.th; Tel.: +66-141-9604

Abstract: Water policy-making requires the dedicated involvement of all stakeholders, but difficulties remain for the community sector. This study aims to examine the critical challenges of community involvement in water policy decision-making in Thailand. Both qualitative and quantitative methods used in this research project consisted of 39 interviews with informants from a variety of interested parties and 403 community members from around the East Coast River Basin in Thailand completing a survey questionnaire. The results have shown that although mechanisms to enable community involvement in decision-making, such as public consultation and water-related committees, exist, problems remain within the community sector. The critical challenges lie in the opportunities of being consulted and the sharing of power in water policy-making. Although the networks are important, at the same time, they are also obstructing the community sectors in linking their requirements to a final decision, as well as dealing with politics, policy-makers, and staff who organized the process. Therefore, the government should further develop water committee mechanisms by setting up a comprehensive yet practically easy consultation process so that new or inexperienced community members get an opportunity to practice and learn the vital elements necessary in water policy-making. Further research should be conducted in order to compare the opportunities in water decision-making between communities in rural and urban areas. Studies at the local government level should be carried out, with results used as a mechanism to enable community involvement at higher levels of water policy decision-making.

Keywords: water policy; water governance; community involvement; challenge; obstacle

1. Introduction

Government sectors and individuals currently face a lot of uncertainty in dealing with water problems, such as water shortages and floods, because the patterns of water cycles have changed as a result of environmental changes worldwide. Uncertainty and rapid changes in water resources, together with demand and quality, have caused government agencies multiple problems, whereby the government alone cannot single-handedly take on the role of the key actor in creating solutions. [1–7]. Furthermore, multiple objectives in water resources management have been raised in order to save water, not only for the people of today’s generation but also for generations. Therefore, water resources and their management need collaboration from various sectors, whereby different stakeholders should be involved in the decision-making process [8–10].

Informal sectors, such as the local community, can help integrate social, economic, and environmental aspects that support water sustainability [3,11]. As mentioned by Emery et al. [12], involving the community in the decision-making process is the most effi-
cient form of networking. That means communities should have been involved in the decision-making process among the different stakeholders. However, a limit of community participation in environmental policy at the decision-making level remains. Even water resource issues need local community involvement, whereby government organizations can still be key actors in decision making [1,13,14]. Therefore, the question of this article is what the critical challenges are and why there remains a limitation for community involvement in water policy decision-making.

The authors laid water policy as the area for the various stakeholder involvement to seek suitable alternatives for all sectors. Decisions in environmental policies affect a wide range of people, such as communities and individuals, whereby the consequences from policy implementation and implications can stay in people’s life for a long time [15]. Without a proper policy and management structure for supplying water, conflict can occur. The agricultural sector needs water for agricultural activities. The manufacturing sector also needs large amounts of water, to name but a few. These sectors usually contradict one another in terms of water usage and might finally cause protests or water wars [16]. Therefore, involving all stakeholders in the decision making at the early stages of the policy is necessary so that people will more willingly accept the outcome of the policy process [17,18].

The community sector was mostly researched as participants in water management, not as a shared person in water policy decision-making. Van Huy [9] researched and analyzed the challenges the community faced in trying to actively participate in water resource monitoring in Vietnam. Otienne [19] carried out similar investigations of community participation at the Kiambai project in Kenya. Chumbala and Massawe [20] examined the participation at the different stages of projects in the Iringa district of Tanzania. Piyapong et al. [21] proved that a sense of participation in groundwater management benefited the communities in Thailand’s Rayong province. Mbezi [22] evaluated similar issues and looked at the effectiveness of water planning and implementation in the Shinyaga municipality of Tanzania.

Other researchers are investigating water challenges in a wider context and not specifically community involvement in water decision-making. A good example of such research has been carried out by Eguavoen and Youkhana [23]. Their investigation revolved around the challenges of a water pipeline project in a small Ghanaian town, and which took place after the water sector reform (bill) was introduced. Closer to home, Cookey et al. [24] developed a framework assessing water governance in the Songkla Lake Basin area of Thailand. Dehghani et al. [25] investigated the factors that influenced people’s participation in water resources, involving experts from agricultural organizations. Jackson et al. [10] reviewed and identified barriers to collaborative water governance within the indigenous communities in Australia. Hegga et al. [26] analyzed the levels of participation at a local level in north-central Namibia to examine the gaps in water governance.

At the same time, in Thailand, the Water Resources Act B.E.2561 (WRA 2561) mentions people’s participation in making water policy and plans, as organized by government agencies, whereby the government should derive collaboration from various stakeholders that opened up opportunities for the community sector to get involved in water policy decisions. At the same time, WRA 2561 addresses the nomination of a representative from the community sector to serve as members of the river basin and the national water committee. However, the participation in making policies or plans was mostly for acquiring problems and needs from people. In practice, the opportunities limited the number of communities involved [14,27].

Therefore, community involvement in water policy decision-making is rarely practical. Accordingly, the objectives of this study are to examine the critical challenges for community involvement in water policy decision-making; specifically, in being consulted, sharing power, and linking output to final decisions in water policy.

The next section is a review about consultation, sharing power, linking output to the final decision, and obstacles from, and in, the community in water policy development.
The following two sections are set in the context of (current) water governance in Thailand with a brief explanation of the area under investigation; the East Coast River Basin of Thailand (ECRB). Then, the methods of the study are described, and how the objectives were achieved. The latter sections are results, discussion, and conclusion.

2. Literature Review

2.1. Participative Decision-Making in Water Policy

The approach to explore the difficulties of community involvement in water policy decision-making in this paper has its roots in Kettl and Fesler [28]. They mentioned that participation in decision making means being consulted by policy-makers to decide on any policy or sharing power in a decision-making process. However, participative decision-making is not only about negotiation among participants from the public but also participants involved in the policy decision-making process. As mentioned by scholars, policy decision-making might be affected or influenced by participants who are civil servants in the decision-making organization, the organization’s clientele, the policy entrepreneurs, etc. [28]. Consequently, it does not mean that output from being consulted, and the sharing of power process, will be delivered all the way to the final decision. A decision-making process has to gain plenty of information from many different sources. The review, changes, and implementing information might be changed along the decision-making process, all the way up to the final decision [29,30]. Thus, the authors further reviewed what has been achieved with regards to community involvement in the water policy decision-making process while being consulted, sharing power, and linking output to a final decision. These three types of direct involvement in water decision-making remain limited, so the authors have applied wider searches into the general environmental policy process as well.

2.1.1. Being Consulted in the Decision-Making Process

Being consulted is advising someone who has power in policy decisions or policy-makers [28]. Henderson [31] viewed being consulted in environmental policy as a process of educating participants and the sharing of power and knowledge with the community in decisions. In contrast, some scholars referred to being consulted differently from Henderson’s latter meaning. Dhliwayo [32–34] addressed that participation through consultation is a means of involvement in the policy process by being consulted, answering and defining problems, and gathering information. Being consulted is a way of participation by consultation. The people involved generally give their opinions and experiences to the external agencies or sectors. However, these same opinions, experiences and shared problems emanating from the consultation processes, together with community-offered solutions, might not be used in the actual decision-making process. The professionals did not commit to implementing the views that were expressed by the people’s board. [32]. Therefore, being consulted is not a process to share decisions [33].

Even the installation of a consultation process is no guarantee that a commitment will reach the final decision stage; however, some reports have confirmed that consultation added significantly to the knowledge of the community, in both its participation and the actual outcomes of final decision making in the environmental policies concerned. For example, James [35] considered the case of a partnership between the community in Lake Ellesmere and the government in management planning. Participation of the community was implemented after a tribunal, along with a court order, intervened and consulted with expert evidence, as well as a knowledge source. Ross [36] reviewed the consultation process of the Resource Management Act 1991 (RMA 1991) of New Zealand and found that the public were invited to get involved in the environmental policy and decision-making process. The RMA (1991) mentions that the public must participate early in the consulta-
tion process. Barrow [37] examined the collaboration process of consultation with American Indians and found that one process was educating the land manager to understand the customs of the tribal community to make a comprehensive decision.

However, consultation with community sectors, involving them in environmental policy-making needs to focus and concern itself with the community capacity and their understanding of the policy in order to fully understand and create the policy accurately. As found by Handerson [31], the challenges of the community consultation process were to encourage more participation in planning and the actual decision process while at the same time keeping it feasible. Similarly, Fleming and Jones [38] added that the problem of a consultation process is being consulted by one who may not be fully understood. Therefore, Handerson [31] recommends important steps on how to make community consultation successful. An important element of this is to write and communicate clear guidelines for all the involved sectors, including that community involvement from the very early stages of planning is crucial. All information used in the consultation process should be simple and easy to understand by the community. Moreover, the involved community should be shown and articulated how their input was/will be used in the planning and decision making.

2.1.2. Sharing Power in Decision Making

The terms of sharing power relate to the way in which people can exercise their power through policy decision-making. The participants’ vote can be finalized whether the proposal will be accepted or ignored [28]. Involvement in government agencies and their decision making is another way of sharing power [36], in which citizens can negotiate with public officials to overlook and influence the decision making [33]. The example of sharing power in environmental policy by James [35], who explored responsibilities and resources management of the Maori people in New Zealand. As partners, the Maori people had powers transferred to manage the Orakei reserves. They were invited to work with and as a joint authority and local authority management team at the same time. Moreover, Wheeler [39] reviewed the Tribal Park model applied in the United States and Canada through case studies. Common findings from the four cases were a bottom-up planning approach driven by the community, along with a capacity-building program to enable the community in the decision-making process within their territory. In the case of Thaidene Nene Park, one tool for sharing power by tribal people is a consensus board of hunting to make operational decisions.

However, community-sharing power seems more difficult than the process of being consulted. As mentioned by Freitasp [33], sharing power in a real situation might not be practical. In some instances, decisions on the environmental policy had already been made before the consultation or sharing process, as is highlighted in the case of Belo Monte Dam of Brazil, involving the construction of a reservoir, or the Ota Airport construction in Portugal, where it was found that no consideration was given to hear from stakeholders. These cases clearly show the lack of sharing power in the decision process.

2.1.3. Linking Output to Final Decision

In terms of linking output to a final decision, linking the consultation output or the sharing of power process output to a final decision is (even) more mysterious. Many scholars agree[d] on supporting collaboration in policy-making, but how to deliver the outcome from a collaborative process to the actual decision making and a committed implementation [12,18,40]. For example, Herriman [41] reviewed a consultation process in Australia that was conducted by the council of each state. Even those policy-making processes led to a positive effect, creating a democratic and positive context, especially leading to capacity building among communities, but the question remained, whether and how the output from the process was implemented in the decision-making process and reached final implementation [41]. Barriers to linking output from being consulted and sharing
power processes to a final decision are politics, policy-makers, the process organizers, and the type and scale of the process.

Politics can obstruct delivering output from a deliberative process to a final decision. Gathering information from policy formulation seems to be ignored in the final decision making because the policy process is interfered with by political powers [12,42]. For instance, Vogan [42] studied the effectiveness of policy output from the cases of two dams in Brazil and Chile and found that policy output could not achieve cost-effectiveness. The output was meddled with by external factors along the policy-making process and the policy implementation, such as presidential influence, corruption problems, and electoral politics.

Generally, policy-makers typically take information as databases or tools to judge an issue. Belief might be changed by inserting new information, so scientific data and views can be input to influence decision makers’ beliefs. Additionally, value mostly affects the last consideration process. It can be said that decision making is a judgment. Policy-makers’ beliefs and values are usually found in policy decisions [12,28,43].

In terms of process, decision making is mostly conducted by government agencies. The study of De Vente et al. [44] showed that the participatory process organized and facilitated by governmental agencies are usually accepted by the government. The outcomes from those processes tend to be implemented in decision making rather than a forum initiated by non-state actors.

In terms of the type and scale of the policy-making process, output from sharing power tends to be heard and delivered to a final decision rather than through consultation. At the same time, a larger scale of involvement is more acceptable. A wider scale of consultation processes tends to be accepted as policy input. Michels [45] studied the linkage between the deliberative process and decision making for wider cases in Australia, The Netherlands, and the United States. She found that the output of a referendum had a strong impact on political decisions because the referendum involved large numbers of people in the process. At the same time, macro deliberation provides a pivotal role with civil society, as a partner of the state also contributes more strategies, impacts, and communication to society widely [46].

In contrast, the deliberative policy with small groups of participants had a lower impact on decision making even though it provided more arguments and discussions [45]. Likewise, micro deliberation received less attention from a broader stakeholder group, such as civil society or participants outside the governmental sphere. Non-governmental sectors may be involved with the government in micro deliberations, but actually, the output might conquer inequity in society. Moreover, the hegemony of micro deliberative also causes polarization more than enabling a wide range of dialogue in society. It also challenged the credibility and legitimacy [46,47]. However, outputs from some small consultations are implemented and generally accepted in regulatory decisions [47].

Linking output from being consulted and a sharing power process to a final decision was mysterious, although some scholars provided guidelines. One way to take public engagement output to a final decision is producing a way that links the output with decision making, such as organizing a process for different stages; from the initial stage to the decision-making phase [18]. Another way was inviting policy-makers to get directly involved with public engagements during public events. At the same time, policy-makers might work with relevant stakeholders in terms of committees in order to ensure public engagement impact to final policy decision [12].

2.2. Obstacles of Community Sector to Involve in Water Policy Decision-Making

To settle what obstructs community involvement in water policy decision-making, the authors sought these related keywords. Furthermore, there was a limit of specific obstacles in the community with regards to water policy and on being consulted, share power, and linking the output to a final decision. Therefore, the authors explored both obstacles to people’s involvement in environmental policy, and the general policy process.
These challenges were grouped into six categories: information, capacity, opportunity, acceptance, characteristics, and networking, as per the following details.

2.2.1. Information

There is a limitation on water policy information that can be imparted to the community because environmental issues are quite complex and difficult to understand for the general people. As mentioned by some scholars, the difficulty of environmental information limits the number of people that could get involved in environmental policy-making [2,18]. Some studies also resulted that a lack of openness, accessibility, and complexity of water resource data and information obstructed the community from involvement in water policy. Huy [9] analyzed challenges related to water resource monitoring in Vietnam and found that one challenge was the unity of data of community water resource management for decision-making. Furthermore, Chumbala and Massawe [20] investigated community participation in the Iringa district of Tanzania to examine the participation in three selected projects at different stages of the projects. They found that communities could not participate in water resource decision-making. The limited information and communication were the main cause obstructing the community’s capacity to be part of the water projects [20]. Therefore, the onus is on the government and should create baseline data for decision-making that is easily accessible by the community. In addition, there should be a wide and comprehensive communication process on water policy and management to garner further participation and support from the public [9,23].

2.2.2. Community Capacity

In terms of capacity, communities mostly lack resources, such as technical knowledge and management skills [48]. Padawangi [49] studied the effectiveness of community development as a driver of change for water supply projects in Punjab, Pakistan. The study showed that some communities faced challenges on issues, such as their awareness, education, and a lack of technology for water conservation. Jackson et al. [10] also reviewed and identified barriers to collaboration on water governance within the indigenous communities in Australia. They found barriers related to the community’s capacity, such as poor knowledge and understanding of water resource management, low education in clean and safe water supply, and poor technical skill. Moreover, community capacity in water policy decisions can be further evaporated by other sectors during the policy-making process; one who holds a higher/senior capacity, gains more acceptance and accessibility to the policy-making process. The policy process tends to create inequality because it is often dominated by specialists who have technical and scientific knowledge [30]. To pass this obstacle, the community sector really needs to fill the existing gap of knowledge and skills. As recommended by many scholars, the government might create educational programs to resolve and improve these community capacity issues. Members of the community who attended policy forums still need to develop their knowledge and skills in order to become an active partner with other participants in the policy-making process [10,23,30].

2.2.3. Opportunity

Opportunities for communities to get involved in policy processes interlink with their knowledge and skills. The higher and more competent the community, the higher the opportunities in consultation and power sharing process are. Some people have never had an opportunity to get involved in policy forums, and therefore, lack the opportunity in addressing water issues [10]. This, in turn, causes them to have a lack of experience and skills in order to contribute in an effective manner in discussions and negotiations. As Michels and Graaf [18] demonstrated, most people who participate in policy processes have frequently attended a variety of policy processes, so they have more experience than other groups. This is consistent with Hegga et al. [26] in that some community members
who have a social position in the community might have increased opportunities and wider networking prospects in society than marginal or poor members. In addition, economic opportunity was a critical factor for community involvement in water management too [10]. In regard to this problem, Otieno [19] recommended, from lessons learned on an occasion of a water sanitation project in Kenya, that the community should be educated about water policy and participate in the decision making of the policy cycle to widen their opportunity in policy involvement.

2.2.4. Acceptance

Acceptance from other stakeholders with regards to community involvement in water policy decisions affected the sharing power process and final policy decisions. At the same time, the community might be invited and consulted because of legal requirements and governance imperatives but may never get acceptance of their proposal from other sectors. As addressed by Michels and Graaf [18], elites and private sectors seem to reject community participation in policy processes. Moreover, most people do not believe in community capacity and try to abolish projects derived from the community and their needs. As a result, communities cannot convey their needs nor information that is needed to better help them in the decision-making process. Likewise, a study on challenges of stakeholders’ involvement in marine planning by Fleming and Jones [38], whereby they examined the consultation process of Lyme Bay. They found that the involved fishermen received a low acceptance from other organizations, so they concluded that the consultation process was not effective.

2.2.5. Community Characteristics

The community’s characteristics themselves may limit community involvement in the water policy decision process. These limitations might be a constraint on time to attend the policy process, an informal character that does not fit with the decision-making process, lack of budget to manage their own project, fragmented goals, etc. Some participants from the community tended to have a limited amount of time that they could dedicate to the involvement with a policy forum. The community also acted in most of the activities in an informal manner that was not compatible with the formal process of decision making [29]. Most communities lack funds or money to support themselves [9, 48, 50]. In terms of fragmentation, for example, the case of the Water Council in Tannarens water management, whereby the result exposed that the community council could not integrate and deliver their value into decision making. One limitation was the interest of each individual within each group in the committee; they were far from reaching and building a common goal because of the lack in shared values [50]. Some studies also showed ignorance of some communities in the policy process because involvement in the decision-making process presented too much of a power distance between members of the local community and officials from the local and national government. For instance, Piyapong et al. [21] studied the sense of participation of a community in groundwater management in the Rayong province of Thailand. The findings showed that the sense of responsibility was not enough for the community’s participation. The threat of groundwater, usage degree, and risk perception influenced their actual participation and the ability to obtain information. Similarly, Hegga et al. [26] studied local participation in north-central Namibia and examined the gap that existed to better manage water governance. They found that the community did not engage in decision making because they did not see any benefit. Therefore, they preferred to leave their concern to other influential people.

2.2.6. Networks

Networking affects community involvement in water policy decision-making. Working and relationships with various stakeholders not only improve knowledge and skills of the community, but it might help to deliver their agenda by being consulted and by
sharing the power process, as well as bringing it to the final decision. However, some studies found a lack of relationship/association with outsiders, which in turn, meant the absence of valuable networking. As Huy [9] found, the community in Vietnam was lacking volunteers and the necessary networking that challenged the monitoring of water resources by the community. This limitation might decrease the community’s capacity and opportunity to get involved in water decision-making. As found by Epiepang [50], some stakeholders in water management have more power than others because of their relationship with authorities. Similarly, a lack of working with outsiders, such as government agencies, can cause less meaningful participation, as mentioned by Elstub [29]. Then the community further lacked technical knowledge and a relationship with other sectors. To cope with this gap, the community practitioners could be placed and settled within any community as the community networker. Community practitioners or community facilitators help to provide an important link between the community and the outsiders and are important to break down the obstacles standing in the way of the structure and the communication between communities and other sectors. The practitioners should also exercise their informal relationship with the policy-makers to communicate and push their proposal further into the decision-making process [12,10].

3. The Context of Water Governance and Water Policy-Making in Thailand

Thailand has various agencies and laws relating to water resources management. More than 30 agencies from 10 ministries have missions on water resource management. They can be categorized according to water resources management missions from upstream, midstream, downstream, and support organizations as follows [51]:

1. Upstream area: Relevant organizations have to operate within the remit of water retention, restoration, maintenance, conservation of upstream areas, and wetlands, to store rainwater and maintain natural moisture levels. They also work for dam development, reservoirs, and deal with intruders. Organizations that work for upstream areas consist of the Department of Agriculture, Royal Irrigation Department, Electricity Generating Authority of Thailand, Department of National Parks, Wildlife and Plant Conservation, Meteorological Department, local administrative organizations, etc.

2. Midstream area: These agencies are responsible for the restoration of stream ecosystems, intruder management, water management, and improving agricultural areas both inside and outside irrigation areas. Relevant agencies consist of the Royal Irrigation Department, Department of Water Resources, Marine Department, Ministry of Interior, Ministry of Agriculture and Cooperatives, Local government organizations, etc.

3. Downstream areas: Regarded agencies are responsible for the protection of important economic areas, dredging rivers or canals, ventilating water to the sea, supervising water quality, and dealing with intruders. Related organizations are composed of the Marine Department, Royal Irrigation Department, Industrial Estate Authority of Thailand, Pollution Control Department, Department of Industrial Works, Wastewater Management Authority, local administrative organizations, etc.

4. Support organizations: Agencies and organizations that support water management and coordinate operations between related departments to work together appropriately for the good of the resources. Related organizations are the Ministry of Science and Technology, Ministry of Technology Information and Communication, Ministry of the Interior, the Prime Minister’s office, Office of the National Economic and Social Development Council, Bureau of the Budget, etc.

These organizations have a mandate under the laws related to water resources of around 35 different laws, which are divided into 7 groups, these are laws related to water; irrigation; forestry and fisheries; canal and waterways; energy and water supply; environ-
ment, groundwater, land, and real estate; disaster prevention and mitigation [51]. However, some laws prescribe community involvement. For example, the Area Government Act 1914 (Latest Amendment 2008) mentions the participation of people in water resources. The head of a village responds to inform people about any laws, government rules, and government projects. Heads of villages also organize meetings in the villages, at least on a monthly basis [52]. Another example, for the downstream area, the Environment Protection and Conservation Act 1992 (Latest Amendment 2018), mentions that people have a right to have insight into official data and information regarding environmental protection and conservation, except confidential information. Moreover, the community or people, in general, may be invited to become involved in such committees, in the case government agencies require opinions on activities that might adversely affect the quality of the environment [53].

However, those laws enable the community sector to get involved in water resource management; generally, by gathering information or by passing their problems and opinions up the ladder of command. The National Water Resources Act 2018 (NWRA), the most up-to-date legislation on water resource management mainly aimed at integrated water management among different government agencies. Water resource policy bodies under the NWRA 2018 were mainly composed of the National Water Resource Committee (NWRC) and the River Basin Committee (RBC) [54].

The NWRC was first nominated by the Prime Minister Regulation on Water Resources Management 2007. Currently, the NWRC is settled under NWRA. The Prime Minister is the chairman and director of the Office of the National Water Resources (ONWR) and acts as secretary of the committee. In terms of water policy, the committee responds to making and proposing policies, plans, and budget frameworks for water resources to the cabinet.

There are twenty-two RBCs in Thailand. They are nominated under the same regulations as the NWRC. The RBC generally consists of government representatives, representatives from local government, representatives of water user organizations, and specialists. The Director of Water Resources at the Regional Office performs duties as secretary of the committee. The committee responds by proposing recommendations on policies, plans, projects in the river basin area, as well as coordinating related sectors to implement the plans, follow up, evaluate performance, and report to NWRC.

The authors observed that the law provides a mechanism for community involvement through being consulted and by sharing power in water policy-making. In consultation, the law mentions that making national water plans, the NWRC needs to organize public consultations in order to gather data and opinions from people, water user organizations, related local governments, and related governmental organizations. To make a water map, the NWRC has to keep or organize public hearings from RBC, local government, government agencies, and people. To promulgate laws, such as Ministerial Regulations related to water user organizations and defining the type of water usage, the NWRC has to organize public hearings to gather information and opinions from people. At the river basin level, the RBC has to make plans for the prevention and protection of floods and drought by integrating with the National Disaster Plan and other related plans. To make the plan, the committee has to consult and/or organize public hearings to gather information and opinions from the relevant agencies, local government, and people. Moreover, the ONWR has one duty, which is to support the participation of people and communities to use, develop, manage, conserve, recover, and implement water resources.

To share power in policy-making, the water resource committee, both at the river basin and at the national level, function as an important mechanism. The law mentions the composition of the NWRC. Two persons from water user organizations of the overall river basin committee will be the representatives for the community. There have also been additional suggestions of the composition of the RBC. Nine representatives from water user organizations, such as agricultural, commercial, and industrial sectors, will be part of the committee.
According to the NWRA, there is a requirement to nominate several stakeholders in the RBC to comprehend water issues in the area. People from community groups can form water user groups and enter to become a representative in the RBC. Moreover, representatives from the river basin also have an opportunity to be nominated as members of the NWRC. The relation of being consulted, sharing power, and linking to the final decision under the NWRA can be described as in Figure 1.

![Figure 1. Water Policy-making in Thailand.](image)

### 4. The East Coast River Basin of Thailand

The East Coast River Basin (ECRB) covers a population in four provinces; Chonburi, Rayong, Chantaburi, and Trat. The basin’s topography is quite complex, but most of the mountainous parts are orientated north-south and along the eastern side of the basin. The area in the north is mostly a mountain range. Plains and streams are interspersed in the area. Most of the plains are located along the banks of the river. The lower area of the basin is a narrow coastal plain. Some coastal areas look dented or become an estuary or have mangrove forests. Many beautiful sandy beaches also appear here, and there are many important tourist attractions, such as Bang Saen and Pattaya beach in Chonburi province. The ECRB also consists of more than 50 islands, such as Samed island in Rayong province, Chang and Kood islands in Trat province. Important rivers in the ECRB flow from the north, descending to the south of the Gulf of Thailand [55]. From twenty-two river basins in Thailand, the ECRB is significant because the basin covers a variety of water issues, such as water quality, drought, and floods. Moreover, the ECRB is also placed as an important area in terms of national development policy.

The ECRB encompasses problems of water shortage, floods, and water quality. Water shortages are caused by the absence of rain that should normally occur according to seasons, which, coupled with prolonged periods of delayed rain, changes the ecosystem in the basin, together with community expansion and various economic activities, including the expanding of agricultural areas. The aforementioned reasons increase the demand for more freshwater. Large reservoirs, medium-size water storage, small ponds, and natural
swamps have not been able to store enough water needed for agriculture and industrial consumption in the basin.

At the same time, overall flooding problems in the basin occur in downtown areas and the lower communities nearby coastal areas, especially in Chanthaburi and Trat provinces, because of heavy rainfall in the two provinces. The lower areas and the city in the other two provinces also encountered water drainage problems because of a lack of land-use zoning and construction that obstructed waterways.

In terms of water quality, it is considered to be at a fair level, but close to being of low-level quality, due to the penetration of sea water during the dry season and contamination of fecal coliform bacteria among large communities. For lower streams, there is no report of extreme degraded sea water in coastal areas.

To cope with water problems, the basin consists of large, medium, and small water source development projects. For example, electric pumping projects carried out by the Department of Energy Development and Promotion to pump freshwater and supply water to users in the area. A raw water pipeline project was established by various departments, such as the Provincial Water Works Authority, Eastern Water Resources Development, and Management Public Company Limited. Moreover, there were small projects, such as natural waterways, monkey cheeks, or community ponds [55].

In terms of the national development policy, the ECRB (Chonburi and Rayong provinces) have been targeted as economic developments for the long term, from the Fifth National Economic and Social Development Plan (1982–1986) to the twelfth plan (2017–2021). Similar to the prior plan, the current national plan aims at economic aspects, such as the distribution of economic activities and establishing the area as an industrial area of the country. However, the plan recently became of concern for social and environmental dimensions in order to balance and create sustainability. For example, the twelfth plan was addressed to become a base for the country’s industry, accompanied by the area’s potential, and comprehensive environmental management [56].

Policy and development for the area is mentioned in the ninth strategy of the twelfth national plan; the strategy for the development of regional, urban, and economic areas. That actually led to the goal of the Twenty Years National Strategy. Therefore, the area will be expanded to a scale of economic activities to be the top economic area of Asia. This can also improve the quality of life and the income of people. Currently, the government establishes the policy, the Eastern Economic Corridor or EEC in this area, in Chonburi and Rayong provinces. The EEC aimed at developing an industry that has the ability to compete with global markets and to distribute prosperity and economic activity in order to create growth, provide alternatives for investments, and create a new labor market. Four elements for the area development are infrastructure development, industrial development, community, and social service, along with other measures, such as environmental prevention and investment support. Water resources are mentioned in the infrastructure measure of the plan [56,57]. With regard to all the water problems and developments in the area, water usage among various sectors will increase and create more tensions. The community seems to hold little power in the water policy-making segment in the ECRB.

5. Materials and Methods

This study has mainly relied on a qualitative approach. Quantitative methods were also employed to help fulfil the results. Obstacles of community involvement in policymaking from the Introduction section were converted to become a framework in designing tools and analyzing data, as Table 1.
Table 1. Challenges of being consulted, sharing power, and linking output to water policy decision.

| Issues       | Explanation                                                                 | Related References |
|--------------|-----------------------------------------------------------------------------|---------------------|
| Information  | Openness, ease of accessibility, and easiness to understand information on water policy process. | [9,18,20]           |
| Capacity     | Knowledge, skills, and experience of communities who are, or are becoming, involved in the water policy decision. | [10,30,48,49]       |
| Opportunity  | Accessibility of communities to get involved in the policy process organized by governments or sharing power in water-related committees both at national and local levels. | [9,18,19,26]       |
| Acceptance   | Respect to community-based knowledge, skills, and experience that lead to implementing community proposals to policy process and decision making. | [18,38]            |
| Characteristic | Community characteristics that obstruct themselves, such as an informal character that does not fit with the decision-making process, a limit of time to attend the policy process, lack of money to manage their own projects, fragmented goals, etc. | [9,21,26,29,48,50] |
| Network      | A working of community on water resource management with outside organizations or networks that help communities reach in-dept information, communicate to water-related organizations and policymakers. | [9,10,12,29,50]   |

5.1. Source of Data

There were two main sources for data collection in this study.

5.1.1. Key Informants

Key informants were selected by purposive sampling from the NWRC, the ECRBC, relevant agencies, community sectors, and specialists who had expertise on water policy and community participation. Actually, the study gathered qualitative data from 39 informants from the ECRB and the central area. Informants were two NWRC and fifteen ECRBC members. Most informants were from the government sector while six representatives came from the community sector, as detailed in Table 2.

Table 2. Overview of informants.

| Group                | Count of No |
|----------------------|-------------|
| The basin            | 24          |
| Academics a          | 3           |
| Business b           | 2           |
| Community c          | 6           |
| Government d         | 10          |
| local organizations e| 3           |
| Central              | 15          |
| Scholars f           | 6           |
| Civil society/NGOs   | 2           |
| Government           | 7           |
5.1.2. Samples from Community Members in the ECRB

The respondents were selected from community members in the basin with a mixed method of sampling. Firstly, four hundred samples were calculated from a population of 2,847,898 in the basin by Taro Yamane’s formula with a validity factor of 95%. Then, the authors selected specific municipalities among the four provinces. Substituted areas, such as Sansuk municipality in Chonburi and Maptaphut municipality in Rayong province, were selected purposely because the two areas are significant in terms of outstandingly developed areas, in terms of tourism and places for industrial use. The other two residential areas selected were Tachang municipality in Chantaburi and Huairang municipality in Trat province. In comparison, the latter two provinces are less developed areas, and they were selected by labeling samplings. Lastly, a list of the population of those municipalities was sampled through computer method sampling [58]. Eventually, there were four hundred and three respondents. In the past two to three years, half of the respondents had never had any experience in policy processes. Other details were categorized by sex, age, education, and occupation in Table 3.

| Provinces          | Sex (Male/Female) | Age (Min/Max) | Education (Group/Highest) | Occupation (Group/Highest) | Experience in Policy Forum (Never) |
|--------------------|-------------------|---------------|---------------------------|---------------------------|------------------------------------|
| Chonburi N = 101   | 50/50             | 18/76         | Secondary/30              | Merchant/49               | 53                                 |
| Rayong N = 97      | 7/86              | 23/75         | Primary/42                | Merchant/33               | 52                                 |
| Chantaburi N = 105 | 36/69             | 18/72         | Primary/41                | Self-employed/38          | 84                                 |
| Trat N = 101       | 49/50             | 19/75         | Primary/64                | Farmer/77                | 42                                 |
| Total N = 403      | 142/255           | 18/76         | Primary/176               | Merchant/111              | 231                                |

Moreover, a secondary source of data was derived from the Constitution of Thailand 2017, relevant laws and the National Strategic Plan for Water Resource Management; this was gathered from websites and the relevant agencies.

5.2. Tools

To examine and discover the critical challenges, the authors used semi-structured interviews and questionnaires to collect data containing the following details.

5.2.1. Semi-Structured Interviews

Key informants were interviewed, after obtaining their permission with voice recording and note-taking, based on ethical considerations concerning the following issues:

- Capacity of the community for being consulted by policy-makers and sharing power in water resource decision-making (how can the community get involved in water policy consultation and water-related committees, such as the RBC and the NWRC?);
- Capacity of community involvement in linking output to a final decision (how the community can push their concerns, requirements, or proposals to a final decision, such as making final water plans and policy in the RBC and the NWRC?);
- Challenges or obstacles of community involvement in water decision-making (what are the challenges or obstacles of the community to get, or to be involved in water policy consultation and water-related committees, such as the RBC and the NWRC?);
• Existing mechanisms for community involvement in water decision-making (what are the existent mechanisms to enable community involvement in water policy decision-making and what should be developed further?).

5.2.2. Questionnaires

The questionnaires were based on a rating scale to use with respondents in the ECRB with the following issues:

• Community challenges in water policy decision-making, such as information, community capacity, opportunity, acceptance, community characteristics, and networks;

• Readiness of the community’s involvement in water policy decision-making: at local level, provincial or higher level, the East Coast River Basin Committee (ECRBC), the NWRC, submit requirements before decisions, and link proposals to final decisions.

The questions for in-depth interviews and questionnaires were sent to experts to help comment on the issues. The reliability of questionnaires was tested with a further thirty community members using Cronbach’s Alpha method, whereby the test score value was 0.963. The questionnaire is shown in Appendix A.

5.3. Data Analysis Methods

Qualitative data from key informants were analyzed by thematic content analysis [59]. Initially, recorded data was transcribed and read overall to familiarize the collected data. Then, data coding and labeling of similar data into the same label were conducted in order to identify meaning. At this stage, the author used the QDA Miner Lite Program to code and group data. The overall data was printed out and reviewed again. Then, the critical results were described according to the interview issues and the framework. In terms of data from questionnaires, the items on the rating scale were analyzed by mean and standard deviation through SPSS version 18. The criteria were based on the class interval [60]. Moreover, to help examine the key challenges specifically among the respondents, One-Way ANOVA, Welch tests, t-tests, and Post-hoc tests were used to prove mean differences among respondents’ groups, by province, sex, age group, education, occupation, and experience on making plans or policies. The criteria to analyze by Mean is shown in Table 4.

| Range of Score | Interpretation |
|----------------|----------------|
| 0.00–0.80      | Very low       |
| 0.81–1.60      | Low            |
| 1.61–2.40      | Moderate       |
| 2.41–3.20      | High           |
| 3.21–4.00      | Very high      |

6. Results

6.1. Community Involvement in Water Policy-Making

6.1.1. Being Consulted

Community involvement after being consulted in Thailand can be further advanced and proceeded through a public consultation process, such as annual plan making, which was organized by various water-related agencies. Further, the community can propose their water requirement at the local level through the consultation process for local development plans organized by LAOs. In the river basin, there were water-related groups organized by the Department of Royal Irrigation, the Department of Underground Water, and the Department of Marine and Coastal Resources, for example. If those agencies were
invited, they could get involved with making plans. Moreover, central government agencies sometimes organized public consultations. The consultations aimed at gathering requirements from various stakeholders to construct development plans, and whereby representatives from the community could get involved. Although many agencies conducted a public process, most informants mentioned that the community could only get involved at the local level, making development plans by LAOs. As a result, community capacity was quite low in getting involved in the higher consultation process. Only some communities had the opportunity to get involved because the water policy process mostly covered people in the irrigation areas.

In contrast, some informants thought and mentioned that the community in the ECRB had enough capacity to become involved in water policy consultation and to specify their problems, such as water demand and supply. Some communities in the ECRB had specific knowledge and wisdom about water resource management in their area, so they were able to inform the government and relay information during the process.

6.1.2. Sharing Power

In terms of sharing power through the RBC, most informants mentioned that community capacity was enough. There were many committees involved with water resources, both at the sub-basin and basin levels, such as the provincial water committee, sub-basin committee, Joint Management Committee (JMC). Those also helped the community capacity to become further involved in the RBC and other public consultations. Moreover, once a representative from the community sector in the basin became a member of the NWRC, they were the only one representative of the community from the country overall and who had become a member of the NWRC. This, one informant, therefore, strongly implied that the community in the ECRB gained a high rate of acceptance from the government.

However, some informants explained that they faced many limitations in the community sector, and they were of the opinion that their influence in the RBC was very weak. Many relevant committees did not cover all the communities in the ECRB because it had been organized from within the irrigation area. Moreover, because the ECRB was a combination of short watershed and sub-committees in the basin area, they appeared to work rather individually for their sub-basin. Some communities might have elevated power in the RBC, while others might not. For example, the Wang Tanod sub-basin committee in Chantaburi province gained high acceptance from government agencies. Once, in January 2020, the Department of Irrigation signed a Memorandum of Understanding (MOU) with the sub-basin committee to transfer raw water from one reservoir in Chantaburi province to another reservoir in Rayong province. This was consistent with one committee in the RBC, which was that most requirements from the sub-committee in the Chantaburi province were accepted graciously because there were plenty of water resources that eventually could be transferred to serve the EEC. This also accompanied the informants from this sub-committee that the community should be prepared to share their surplus water resources with others so that their requirements on water projects stand a better chance of being approved.

In terms of proportion in the RBC and the NWRC, some informants also said that the community could not share their power effectively because most committees came from the government sector. Decisions mostly depended on the chair committee. In addition, the actual time used in the meetings was mainly for the distribution of general information, instead of using that time more productively by considering critical problems brought forward by the community sectors. At the national level, the community experienced that their contributions held diminished power because the NWRC was too large for the community and created an imbalance.
6.1.3. Linking Proposals to Final Decisions

In terms of linking output from consultations to final decision making, various legal mechanisms had provided an opportunity for the community to deliver their proposals to the final decision through the RBC and the NWRC mechanisms, as mentioned in the NWRA. However, it was still dependent on many conditions. Firstly, the community had to work with many groups in the area. As one informant said, he had to deliver their requirements and information through many platforms, such as the basin committee, the provincial commercial committee, the partnership committee. Accordingly, he knew and had become familiar with how to successfully put requirements to be addressed into the water plans of the ECRB.

However, there are other channels besides the RBC and the NWRC instruments, such as linking community requirements to a final decision. If and when community requirements conformed with the government’s policy, they had the capacity to deliver their proposals to a final decision. For example, informants in Rayong province said that once they had worked with the government in an ad hoc committee, the government accepted almost all requirements from the community sector because the government wanted to implement the mega project in the area.

In contrast, some informants mentioned that the community could not deliver their proposals to a final decision. In the normative process of water policy-making, government agencies gained quite a high status, enabling them to make final policies or plans. For example, some informants reported that the government had organized many public consultation meetings in the ECRB, but the requirements suggested by the informants were mostly ignored. Government agencies worked only functionally, such as water within the irrigation area, underground water, groundwater. If the community’s water resource requirements did not conform with those functions, they were rarely added to those agencies’ plans or policies. In terms of the RBC and the NWRC, the secretary was a key factor in this process, as it was this secretary who would make sure that important items were put on the agenda of making water plans or policies. The issues were then considered by the committee. Moreover, the community could not deliver their requirement to a final decision because of high and rapid development. For instance, many stakeholders, including the community sector, would agree to one urban plan but was later changed in a final decision due to changes in investments in the EEC.

In terms of respondents’ opinions, the authors proved how they thought about their readiness and which groups gained lower scores. The respondents rated their readiness for involvement in public water consultation (Being consulted) both at the community and at upper levels with a score classed at ‘low’ (Mean = 1.60, S.D. = 1.10). Moreover, their readiness to get involved both in the basin and national water resource committees (Sharing power) scored ‘low’ too (Mean = 1.32, S.D. = 1.20). However, they rated their readiness on linking output to the final decision at ‘moderate’ (Mean = 1.63, S.D. = 1.15).

The authors further examined the mean differences in the respondent’s readiness. There were statistically significant differences among different provinces, sex, occupations, and experience in participation. Interestingly, Trat province rated their readiness higher than other provinces by a significant margin, and for readiness in being consulted, sharing power, and linking output to a final decision. More males accepted that they were more ready than females. In terms of occupation, farmers thought they were ready and better placed in water policy than self-employed persons and merchants. For the experience of the respondents on water policy participation during the past 2–3 years, the more experienced the respondents were, the higher they rated their degree of readiness. Details of significant mean differences are shown in Table 5.
### Table 5. Significant mean difference on readiness among groups of respondents by provinces, sex, occupation, and experience.

| Readiness                      | Provinces | Mean Difference | Sex | Occupation       | Mean Difference | Experience | Mean Difference |
|--------------------------------|-----------|-----------------|-----|------------------|-----------------|------------|-----------------|
|                                | (I)       | (J)             | (I − J) |                  |                 | (I)       | (J)             | (I − J) |
| Being consulted                | Rayong    | 0.50289*        | 2.958* | 0.33579          | Farmer          | 0.80071* |                  |        |
|                                | Chantaburi|                 |        |                  | Self-employed   |            |                 |        |
|                                | Trat      | 1.02214*        |        |                  | Merchant        | 0.62517* |                |        |
|                                | Chonburi  |                 |        |                  |                 |            |                 |        |
|                                | Rayong    | 0.75881*        |        |                  |                 |            |                 |        |
|                                | Chantaburi| 1.26170*        |        |                  |                 |            |                 |        |
| Sharing power                  | Rayong    | 0.51928*        | 2.210* | 0.27571          | Farmer          | 0.91268* |                |        |
|                                | Chonburi  |                 |        |                  | Self-employed   |            |                 |        |
|                                | Trat      | 1.45257*        |        |                  | Merchant        | 0.96838* |                |        |
|                                | Chonburi  |                 |        |                  |                 |            |                 |        |
|                                | Rayong    | 0.93330*        |        |                  |                 |            |                 |        |
|                                | Chantaburi| 1.30448*        |        |                  |                 |            |                 |        |
| Linking to final decision      | Rayong    | 0.51692*        | 2.740* | 0.32624          | Farmer          | 0.79656* |                |        |
|                                | Chantaburi|                 |        |                  | Self-employed   |            |                 |        |
|                                | Trat      | 1.02000*        |        |                  | Merchant        | 0.63331* |                |        |
|                                | Chonburi  |                 |        |                  |                 |            |                 |        |
|                                | Rayong    | 0.78129*        |        |                  |                 |            |                 |        |
|                                | Chantaburi| 1.29820*        |        |                  |                 |            |                 |        |

*p < 0.05, (a) = A difference by Province tested with One-Way ANOVA and Scheffe Post-hoc test, (b) = A difference by Province tested with Welch and Games-Howell Post-hoc test, (c) = A difference by sex tested with t-test statistics, (d) = A difference by Occupation tested with One-Way ANOVA and Scheffe Post-hoc test, (e) = A difference by Experience tested with Welch and Games-Howell Post-hoc test.
6.2. Obstacles for Community Involvement in Water Policy Decision-Making

Among the six settled obstacles mentioned in Table 1, the most critical challenges among informants’ opinions were community characteristics, opportunity, information, community capacity, acceptance, and networks, respectively.

Most informants mentioned challenges about the community characteristics, that the community had specific perspectives, while water policy required a wider view. Since the community had to work for their living, they could not always get wholly involved with every stage in the process of the water policy. Furthermore, the general community had fragmented goals, specifically the community in the ECRB; they worked separately on water resource issues because of their different geographical position. At the same time, government public consultation and related water committees were technocratic. For this reason, the community was not familiar with the policy process or in working with the government sector. Lastly, the community had no financial resources to implement their work regarding water resources.

In terms of opportunity, many informants mentioned that the public water consultation and the RBC were too large for the community and exceeded the community’s experience. Some community members felt they did not have their representative in the basin committee. Further, those representatives from communities were typically the same persons who were already involved with the government on many occasions.

In addition, informants mentioned the challenges experienced by communities on gaining access to information. They could not access water policy information because many of them had not been involved in the working groups or water-related committees. The community also obtained different information, which then obstructed them to discuss it with other sectors. In terms of community capacity, informants both agreed and disagreed about community capacity in water policy decision-making. Informants who did not agree mentioned that the community lacked knowledge and skills to manage water resources. In contrast, Informants who believed in the credibility of the community’s capacity viewed that some communities in the basin, such as in the Slang sub-district of Chantaburi province, could confidently enter discussions in the water policy process.

Informants provided few opinions about acceptance and networks. The results showed that as a result, the community gained fewer acceptances from other sectors. This was as a result of making policies dependent on various other sector requirements. The community’s proposal was not accepted because there appeared to be more concerns about other sector requirements, such as the industrial and/or commercial sectors.

Regarding networks, some communities had an opportunity to work as a partner with other sectors. In the basin, some scholars worked with the community to apply academic knowledge to a real grassroots level situation. Another example was the JMC, which was organized by the Department of Irrigation. The JMC was one platform that enabled the community to become involved with other sectors. However, the community still lacked working experience in comparison to other sectors, which in turn affected their participation in the water policy process and linked their proposals to a final decision. The ECRB comprises many private sectors that could approach the government, whereas the community had less access to policy-makers or government agencies.

In terms of respondents’ opinions, the authors asked how many different issues did the community have to become involved with in order to participate in water policy decision-making? the highest average was ‘characteristics’ at moderate level (Mean = 1.67, S.D. = 1.07), while the lowest average was ‘opportunity’ at low level (Mean = 1.26, S.D. = 1.10). Therefore, ‘opportunity’ was the most critical challenge for the respondents to get involved with water resource decision-making. The conclusions of these findings both from informants and respondents are shown in Table 6.
Table 6. Challenges of community involvement in water resource decision-making.

| Challenges                  | Key Informants                                      | Respondents |
|-----------------------------|-----------------------------------------------------|--------------|
|                             | Findings                                            | No. of Code | Mean | S.D. |
| Information                 | Lack of credible information                        | 6            | 1.64 | 1.03 |
|                             | Lack of accessibility                               | 1            |      | (Moderate) |
| Capacity                    | Lack of knowledge and skills                        | 3            | 1.63 | 1.09 |
|                             | Lack of technical knowledge and skills              | 3            |      | (Moderate) |
|                             | Lack of discussion skills and experience             | 2            |      |      |
|                             | Lack of perception on water policy                  | 1            |      |      |
| Opportunity                 | Less representatives                                | 14           | 1.26 | 1.10 |
|                             | Less involvement in policy                          | 7            |      | (Low) |
| Acceptance                  | Difficult to address their needs                    | 4            | 1.59 | 1.13 |
|                             | Request, rather than do themselves                  | 2            |      | (Low) |
|                             | Difficult to deliver to final decision              | 2            |      |      |
| Characteristics             | Specific perspective                                | 21           | 1.67 | 1.07 |
|                             | Work for a living                                   | 11           |      | (Moderate) |
|                             | Fragmented goals                                    | 10           |      |      |
|                             | Informal                                            | 4            |      |      |
|                             | No budget                                           | 1            |      |      |
| Networks                    | Less involvement with scholars                      | 1            | 1.65 | 1.14 |
|                             | Less involvement with others                        | 1            |      | (Moderate) |

Moreover, the authors further examined the mean differences of the community’s challenges. There were statistical differences among different provinces, occupations, and experiences in participation. Significantly, Trat province rated differently for all challenges. In terms of occupation, farmers thought they were more competent than other groups for all challenges. The level of experience of respondents on water policy participation during the past 2–3 years undoubtedly showed that more experienced respondents rated higher scores in all challenges. Details of significant mean differences are shown in Table 7.
Table 7. Significant mean differences on challenges among groups of respondents by Provinces, Occupation, and Experience.

| Challenges | Provinces | Mean Difference (I - J) | Occupation | Mean Difference (I - J) | Experience | Mean Difference (I - J) |
|------------|-----------|-------------------------|------------|-------------------------|------------|-------------------------|
|            | (I)       | (J)                     | (I)        | (J)                     | (I)        | (J)                     |
| Information (b),(d),(e) | Trat | Chonburi | 0.98254 | Farmer | Self-employed | 0.80936 | Sometimes | Never | 0.52544 |
|            | Rayong | 0.73127 | Merchant | 0.54631 | Often | Never | 1.58947 |
|            | Chantaburi | 1.03953 | Merchant | 0.54631 | Often | Never | 1.26119 |
| Capacity (b),(c),(e) | Trat | Chonburi | 1.06775 | Farmer | Official | 0.64953 | Sometimes | Never | 0.68144 |
|            | Rayong | 0.84295 | Self-employed | 0.82453 | Often | Never | 1.53252 |
|            | Chantaburi | 1.11969 | Merchant | 0.66498 | Rarely | 1.12715 |
|            | Other | 0.88728 | Merchant | 0.66498 | Rarely | 1.12715 |
| Opportunity (b),(c),(e) | Rayong | Chonburi | 0.55704 | Farmer | Businessman | 0.91525 | Never | Always | −1.32612 |
|            | Chantaburi | 0.49882 | Self-employed | 0.89076 | |
|            | Trat | Chonburi | 1.40336 | Merchant | 0.90510 | |
|            | Rayong | 0.84632 | Other | 1.06979 | Never | 2.05475 |
|            | Chantaburi | 1.34514 | Merchant | 0.90510 | |
| Acceptance (b),(c),(e) | Trat | Chonburi | 0.96203 | Farmer | Businessman | 0.82048 | Sometimes | Never | 0.51903 |
|            | Rayong | 0.7326 | Self-employed | 0.78996 | Often | Never | 1.53263 |
|            | Chantaburi | 1.10179 | Merchant | 0.55129 | Rarely | 1.23967 |
### Characteristics (a),(c),(e)

| Province | Occupation | Response |
|----------|------------|----------|
| Trat     | Farmer     | Official | Rarely | Never | 0.44948 |
| Chonburi |            |          |        |       |          |
| Rayong   | Self-employed | Sometimes | Never | 0.54554 |
| Chantaburi | Merchant | Often | Never | 1.55281 |
| Other    |            | Rarely | 1.10333 |

### Networks (b),(d),(e)

| Province | Occupation | Response |
|----------|------------|----------|
| Rayong   | Farmer     | Self-employed | Sometimes | Never | 0.51373 |
| Chantaburi |            | Merchant | Often | Never | 1.42696 |
| Other    |            |         | Rarely | 1.11357 |

Remarks: $p < .05$, $^{(a)}$ = A difference by province tested with One-Way ANOVA and Scheffe Post-hoc test, $^{(b)}$ = A difference by province tested with Welch and Games-Howell Post-hoc test, $^{(c)}$ = A difference by occupation tested with One-Way ANOVA and Scheffe Post-hoc test, $^{(d)}$ = A difference by occupation tested with Welch and Games-Howell Post-hoc test, $^{(e)}$ = A difference by experience tested with Welch and Games-Howell Post-hoc test.
7. Discussion

This paper aims to examine the critical challenges of the community sector’s involvement in water policy decision-making by focusing on being consulted, sharing power, and linking output to final decisions. What followed was that the authors settled on six obstacles to frame and analyze these in more detail through the methods of this research. The significance of this study is to focus on the community sector and the obstacles they face in water policy decision-making; they are partners, not participants. Community involvement in water policy should be a meaningful process, not just only mentioned in the law or involve them to show the legitimacy of the decision-making process.

The main results showed that the general community in the ECRB could not get involved in being consulted because public water consultation was mostly conducted at higher levels. In sharing power through water-related committees, such as the ECRBC and the NWRC, it was more difficult because of the limited number of community representatives. Linking output or proposal to a final decision encountered more challenges. The informants viewed important obstacles, such as the community characteristics. At the same time, ratings and results from respondents indicated that the opportunity mostly obstructed them in their pursuit of a more meaningful and participative role.

The authors would specifically want to discuss four critical obstacles, namely: community characteristics, opportunity, community capacity, and networks. Most informants viewed “community characteristics” as the highest and most difficult obstacle. The community had specific perspectives on managing water within their community, the time limit available to become part of the consultation and policy-making process while having to cope with fragmented goals among the communities and informal characters. These can be explained by the reason that most informants were from government agencies, so they reflected their experience of working with the community sector. Their opinions were consistent with many scholars, which was that community members have a limited amount of time to attend public consultations, the informal character that contradicts with the formal policy process [29], a lack of finances for water projects [9,48,50], and various goals among different communities [50].

To this point, the authors observed that the findings added more issues on community characteristics in being consulted and sharing power. Specific perspectives on water resources were another limitation within the community characteristics. This is consistent with the findings from informants and respondents, which is that most of the time, the community gets involved in public consultation at the local level. The linkage between opportunity and the specific view of the community can also be implied. If the community has never had an opportunity to become involved in the wider water policy consultation, they can only propose or express their opinions just within their community territory.

Moreover, according to Piyapong et al. [21], the community participated in groundwater management because they felt a threat to their own water usage instead of a sense of responsibility. Furthermore, Hegga et al. [26] found that communities did not get involved in water policy because they did not see its advantages. These studies refer to one limitation of the community, which was ignorance about getting involved in decision making. However, as mentioned by informants, this obstacle was found in the general community at large but not with the communities in the ECRB. Informants from government sectors reflected that they gained collaboration from the community in the ECRB to involve both in the public consultation process and any water-related committees.

In terms of the opportunity, the authors raised it as the highest obstacle of community involvement in public consultation, together with sharing power in the ECRBC and the NWRC. Interestingly, the opportunity was not the first priority mentioned by the informants but came in as second. They mentioned that the general community rarely gets involved in public water consultations because the consultations are mostly organized in limited areas. Therefore, there were only some and the same, communities involved in the
consultation process. In addition, representatives from community sectors from the ECRBC and the NWRC are too few, so the general community cannot reach this opportunity. This is consistent with Elstub [29] regarding a different sector in the consultation process in the Peak Districts of the UK, which found that some groups are involved in more than one committee while other groups could access only one committee. This is also consistent with Michels and Graaf [18] and Hegga et al. [26] that most people who are involved in consultation had frequently attended many of the policy processes, so they had more experiences than other people. Some community members who had a social position in the community might have had more opportunity and network opportunities in society than the marginal or poorer members.

In terms of community capacity, the explicit findings showed that these challenges interrelate to sharing power within the ECRBC. Aside from making policy or plans, it also affects other decisions on water resources in the ECRB. For example, whether requirements from the community were accepted in the ECRBC depends on the community capacity and water resources. The findings showed that some communities in the ECRB gained more respect from government agencies than others because they had strong management systems on water resources in place within their areas. They had established their sub-basin committee over a long time, while the others were newly established by government agencies. In these cases, the community capacity in sharing power in water usage of only specific communities was shown. One informant mentioned that most communities rarely finalized their proposals to the ECRBC level or other public consultation, but some communities managed to proceed with their requirements to a final decision. These limitations are consistent with many scholars, in that communities mostly lack resources, technical knowledge, water management skills, awareness, etc. [10,30,48,49]. Therefore, the current policy process tends to bring about an emergence of inequality [30].

In terms of the network, it is prominent in linking output to final decisions. An example from one informant from the commercial sector showed that he worked with many committees, as well as many different groups in the ECRB. That enabled him to push those requirements through many channels. This strategy did not occur in the community sectors. This is again consistent with Epiepang [50] that some stakeholders have more power than others because they have a good relationship with the various authorities. Other critical challenges were also found, and similar to many scholars, linking to final decisions faced many challenges, such as whether their requirements went along with government policy and the government agencies’ responsibility, whether other requirements were more powerful, and whether the community’s requirements were pushed towards the secretariat of the ECRBC or the NWRC. This, too, is in line with the policy output and usually ignored in the final decision making because policy finalization was interrupted and intervened by political power [12,42], the beliefs and the values of policy-makers [12,28,43], and staff who organized the policy-making process [28,44].

Moreover, there were some interesting results from the respondents that contradicted with literature. Respondents rated readiness on linking the output to the final decision at a ‘moderate’ level, while readiness on being consulted and sharing power gained a ‘low’ level score. In contrast, the literature mentioned more difficulties in linking output to final decision making. Many scholars supported the collaboration in policy-making. However, they mentioned that delivering the output to the final decision seems difficult because there are many obstacles [12,18,40]. For example, politics can obstruct delivering output from a policy-making process to the final decision [12,42]. The authors assumed that the respondents might have felt familiar or experienced in linking the output to the final decision because they were sampled under LAOs area. They might gain more accessibility in submitting proposals to their elected government in LAOs.

The limitations of the study are as follows. This study took its roots from questions that were highlighted as specific obstacles in the community sector in water decision-making. However, the study on community sector, water policy, from being consulted, shar-
ing power, and linking output to final decision is limited. Therefore, at least this investigation entices and hopefully encourages more research in the specific areas of community involvement and decision making concerning a specific natural resource. This would be beneficial to government agencies to know what obstructions community involvement has posed and what could be done with the community sector to enable and engage them in a public consultation and power-sharing process. Another limitation was the distribution of samples because the authors would like to compare community sectors by specific areas. Therefore, results from the respondents are findings from specific communities in the ECRB.

By implication of the research, the authors used the test of mean differences to explore whether a significant difference among groups of people and which groups that government agencies should concern themselves with in order to involve the community in water policy decision-making. According to the mean difference in the respondent’s readiness and challenges, respondents in the Trat province rated their readiness in being consulted, sharing power, and linking output to a final decision higher than any of the other provinces, evidently as well as all settled challenges. Respondents in Chonburi, Rayong, and Chantaburi mostly lived in urban areas, while the respondents from Trat mostly lived in rural areas. Limitation of involvement in water decision-making among the three provinces might show a high density of the population and rapid development. There should be more opportunities and channels of involvement in water policy-making among the people in urban or highly developed areas.

Additionally, farmers thought they were better prepared in water policy participation than self-employed persons and merchants. They also thought that they were more competent than those groups for all challenges they faced. These findings are consistent with the finding that farmers are the community sector and work closest with the water issues at hand. They also have water user groups, which indicates that they are interested in water issues more than self-employed persons and merchants. However, the community sector is comprised of various water users and water usage in the community and can be for multi-purposes. At the same time, the NWRA provides an opportunity for the community to set up and register their water user groups. Therefore, the government and the ONWR might further encourage and nurture more water user groups and comprehend and fully embrace public water consultation to enable opportunities for inexperienced groups to make their voices count.

8. Conclusions and Recommendations

The complexity of water policy decision-making remains a challenge to the community sector. At most, they can only get involved in water resource management at their local level, while involvement in the decision-making process was quite remote from their daily lives. The authors questioned what the real critical challenges were for communities to get seriously involved in water policy decision-making. The NWRC, ECRBC, relevant agencies, specialists, and the community sector in the ECRB of Thailand were selected as key informants and samples in this study.

The community can get involved by being consulted through many public consultations organized by government agencies. They can also get involved in sharing power through the ECRBC or the NWRC. However, the community had to cope with limitations on their characteristics, such as the available time in the policy process, informality, fragmented goals, and budgeting towards activities related to water resources. In contrast, most respondents rated the community’s characteristics as the least of the challenges, whereas the highest challenges to them were the opportunity to get involved in decision making.

With regards to these limitations, the government should set the ECRBC or the NWRC as the ends/pillars of community involvement in water policy decision-making. Then, they should further develop public consultation at every level as the means to practice community experience. The policy-making process is also a platform with concise and
credible information from various sectors. However, the most important gap to be narrowed is to deliver output to final decisions in the NWRC. This is still a myth around water policy decision-making because the output or community requirements disappear in the final plans. In terms of governance, government agencies should inform the communities involved and feed back to the communities why their requirements were not addressed in the final policy and/or plans in order to avoid conflict, frustration, and loss of interest and further participation by the communities who most need and could benefit from it.

For further studies, there should be research to prove whether communities in the rural areas have more or better access and opportunity to get involved in water decision-making, raising the questions of why or why not? Another mentioned proposal is also interesting, whereby the community in selected municipalities feel ready in linking the output to final decisions, so they might gain more accessibility in submitting proposals to their local government. There should be a comprehensive study on whether and how local government provides accessibility for the community in order to link their water requirements to a final decision, as well as how local government can proceed with community involvement to a higher level of water policy decision-making.

**Author Contributions:** Conceptualization, N.P. (Nittaya Ponok); methodology, N.P. (Nittaya Ponok); writing—original draft preparation, N.P. (Nittaya Ponok); review and editing, S.S. and N.P. (Nittaya Ponok); supervision, N.P. (Nathsuda Pumijumnong), N.A., H.H. and S.S.; project administration, N.P. (Nittaya Ponok); funding acquisition, N.P. (Nittaya Ponok) and S.S. All authors have read and agreed to the published version of the manuscript.

**Funding:** This research project is supported by National Research Council of Thailand (NRCT): NRCTS- RGJ63012-128.

**Institutional Review Board Statement:** The study was conducted according to the guidelines of the Declaration of Helsinki, and approved by the Institutional Review Board of Institute for Population and Social Research, Mahidol University (COA. No. 2020/01-003, date of approval: 13 February 2020).

**Informed Consent Statement:** Informed consent was obtained from all subjects involved in the study.

**Data Availability Statement:** The data presented in this study is available on request from the corresponding author.

**Acknowledgments:** We express great thank to all key informants for providing the information. We would also like to thank the anonymous reviewers for their comments and suggestions to improve this paper.

**Conflicts of Interest:** The authors declare no conflict of interest. The funders had no role in the design of the study; in the collection, analyses, or interpretation of data; in the writing of the manuscript, or in the decision to publish the results.

**Appendix A**

**Questionnaires for Community Self Evaluation**

**Instruction:** This questionnaire aims to discover the challenges and readiness of people or community to get involved in water resources decision-making. For each question, please select only one option that matches the most with your facts, opinions, and experiences. There are two parts to the questionnaire.

**Part 1: General Information**

1.1. **Province**

   ( ) 1.Chonburi ( ) 2.Rayong ( ) 3. Chantaburi ( ) 4.Trat
1.2. Sex
( ) 1. Male  ( ) 2. Female

1.3. Education
( ) 1. Primary school  ( ) 2. Secondary school  ( ) 3. Vocational school
( ) 4. Bachelor degree  ( ) 5. Master degree  ( ) 6. Doctoral Degree
( ) 7. Other (Please identify) ..............................................................

1.4. Occupation
( ) 1. Official/governmental staff  ( ) 2. Academic
( ) 3. Businessman/private sector  ( ) 4. Student
( ) 5. Employee  ( ) 6. Farmer
( ) 7. Merchant  ( ) 8. Other (Please identify) ............

1.5. Experience with policy engagement in making plans or strategies during the past 2-3 years (community meetings, municipality consultations, governmental consultations, civil society events, etc.)
( ) 1. Never  ( ) 2. Rarely (1-2 times)
( ) 3. Sometimes (3-5 times)  ( ) 4. Often (6 times till once a month)
( ) 5. Always (More than once a month)

Part 2: Self-Evaluation on Obstacles, Perception, Experience, and Readiness on Water Resources Decision Making

2.1. In your opinion and your experiences, how many of these criteria does your community have or are provided for the involvement in water decision making?

| Items | None | 1 | 2 | 3 | 4 |
|-------|------|---|---|---|---|
| 2.1.1 Information Accessibility | | | | | |
| A. Openness on water resources information to community | | | | | |
| B. Variety sources of water resource information (many media to access like website, community board, television, Facebook, etc.) | | | | | |
| C. Easy accessibility to water resource information (acquiring information is not complex) | | | | | |
| D. Simple language (The water resource information is easy and understandable) | | | | | |
| 2.1.2 Community Capacity | | | | | |
| E. Knowledge about water resources policy | | | | | |
| F. Water resource management skills of the community | | | | | |
| G. Technological skills to water resource management of the community | | | | | |
| H. Discussion skills of the community | | | | | |
| 2.1.3 Opportunity | | | | | |
I. Opportunity to attend community policy forum (community planning etc.)  
J. Opportunity to attend water resource forums of the community  
K. Opportunity to attend provincial and higher-level policy forums  
L. Opportunity to attend water resource forums at provincial and higher-level forums

2.1.4 Acceptance from Other Sectors

M. Trust in community capacity to water resource management  
N. Acceptance to involve the community with water resource decision making  
O. Acceptance to gather community information about water resource decision making  
P. Acceptance to gather community needs and proposals to water resource decision making

2.1.5 Community Characteristics

Q. There are formal and structural management systems on water resource in the community (such as organizing, separating tasks, following up)  
R. Community has the availability of time and convenience to attend water resource policy forums  
S. Community has mutual goals for water resource management  
T. There are monetary budgets to conduct development projects in the community

2.1.6 Relationships and Network

U. Community works with government organizations for water resource management  
V. the community works on water resources with other sectors (Outside organization or networks that the community works with)  
W. The community has practitioners to coordinate with outside networks  
X. The community has a good relationship with water resource policy decision maker

2.2. Readiness of Community

| Items | | | | |
|-------|---|---|---|---|
| 2.2.1 Do you think how much of your readiness to involve in water resources decision? | | | | |
| A. Involvement in water resources policy forum at lower level (community and local level) | 0 | 1 | 2 | 3 | 4 |
| B. Involvement in water resources policy forum at higher level (provincial, river basin, and national level) | 0 | 1 | 2 | 3 | 4 |
|------------------------------------------------------------------------------------------------------------------|---|---|---|---|---|
| C. Readiness to deliver community proposals to policy makers | 0 | 1 | 2 | 3 | 4 |
| D. Readiness to link community proposals to final policy decision | 0 | 1 | 2 | 3 | 4 |

2.2.2 How ready are you to be a consultant to the policy makers?

| A. Readiness to be a member of the river basin committee | 0 | 1 | 2 | 3 | 4 |
|----------------------------------------------------------|---|---|---|---|---|
| B. Readiness to be a member of the National River Basin Committee or NWRC | 1 | 1 | 2 | 3 | 4 |

References

1. Sokile, C.S.; Kashigili, J.J.; Kadigi, R.M. Towards an integrated water resource management in Tanzania: The role of appropriate institutional framework in Rufiji Basin. *Phys. Chem. Earth Parts A/B/C* 2003, 28, 1015–1023.
2. Bäckstrand, K. Civic science for sustainability: Reframing the role of experts, policy-makers and citizens in environmental governance. *Glob. Environ. Politics* 2003, 3, 24–41.
3. Pahl-Wostl, C.; Craps, M.; Dewulf, A.; Mostert, E.; Tabara, D.; Taillieu, T. Social learning and water resources management. *Ecol. Soc.* 2007, 12, 5.
4. Stojanovic, T.; Barker, N. Improving governance through local coastal partnerships in the UK. *Geogr. J.* 2008, 174, 344–360.
5. Mudrakartha, S.; Mehta, M.; Roussel, J.-M. Potential and Prospect of Adaptation through IWRM in Rajasthan, India; Proceedings of the Workshop on Climate Change & Its Impacts on Water Resources-Adaptation Issues, Chandigarh, India, 23–24 November 2010.
6. Lackstrom, K. Institutional Opportunities and Barriers to Climate Adaptation. In Proceedings of the AWRA 2011 Spring Specialty Conference, Baltimore, MD, USA, 18–20 April 2011; p. 6.
7. Wegerich, K.; Van Rooijen, D.; Soliev, I.; Mukhamedova, N. Water security in the Syr Darya basin. *Water* 2015, 7, 4657–4684.
8. Braga, B.; Chartres, C.; Cosgrove, W.J.; da Cunha, L.V.; Gleick, P.J.; Kabat, P.; Kadi, M.A.; Loucks, D.P. *Water and the future of humanity: Resisting water security;* Calouste Gulbenkian Foundation: Lizbon, Portugal, 2014.
9. Van Huy, N. *Community-Based Water Quality Monitoring: A Multi-Benefit Approach to Water Governance in the Red River Basin, Vietnam, in Salween and Red Rivers: Sharing Knowledge;* International Conference on the Mekong, Salween and Red Rivers: Sharing Knowledge and Perspectives Across Borders, Faculty of Political Science, Chulalongkorn University, Bangkok, Thailand, 12 November 2016; p. 962.
10. Jackson, M.; Stewart, R.A.; Beal, C.D. Identifying and Overcoming Barriers to Collaborative Sustainable Water Governance in Remote Australian Indigenous Communities. *Water* 2019, 11, 2410.
11. Saldias, C.; Boelens, R.; Wegerich, K.; Speelman, S. Losing the watershed focus: A look at complex community-managed irrigation systems in Bolivia. *Water Int.* 2012, 37, 744–759.
12. Emery, S.B.; Mulder, H.A.; Frewer, L.J. Maximizing the policy impacts of public engagement: A European study. *Sci. Technol. Hum. Values* 2015, 40, 421–444.
13. Kunton, S. *Organization for Khlong U-tapao Catchment Management in the Context of Songkla Lake Basin Management;* Songkanakharin University: Songkla, Thailand, 2006.
14. Tissamana, A. *Basic Theory and Practice for Water Conflict Resolution in Social Paradigm;* King Prajadhipok’s Institute: Bangkok, Thailand, 2017.
15. Briassoulis, H. *Policy Integration for Complex Environmental Problems: The Example of Mediterranean Desertification,* 1st ed.; Routledge: Abingdon-on-Thames, UK, 2005; p 388.
16. Wright, R.T.; Boorse, D.F. *Environmental Science: Toward a Sustainable Future,* 12th ed.; Pearson: London, UK, 2014.
17. Newton, A.; Elliott, M. A typology of stakeholders and guidelines for engagement in transdisciplinary, participatory processes. *Front. Mar. Sci.* 2016, 3, 230.
18. Michels, A.; De Graaf, L. Examining citizen participation: Local participatory policymaking and democracy revisited. *Local Gov. Stud.* 2017, 43, 875–881.
19. Otieno, T.A. An assessment of community participation in design, implementation and management of Kiambiu Water and sanitation project: Kaksingiri location Homabay county, Kenya, in School of Planning and Architecture; Maseno University: Kisumu, Kenya, 2016.
20. Massawe, F.; Chumbula, J. Community Participation in Water Resource Projects Management in Iringa District Council, Tanzania; Tengeru Community Development Journal: Tengeru, Tanzania, 2018.
21. Piyapong, J.; Thidakar, B.; Jaruwan, C.; Siriphan, D.; Passanan, A. Enhancing citizens’ sense of personal responsibility and risk perception for promoting public engagement in sustainable groundwater resource management in Rayong Groundwater Basin, Thailand. *Groundw. Sustain. Dev.* 2019, 9, 100252.
22. Mbezi, F.D. The Effectiveness of Opportunities And Obstacles Approach to Development (O & OD) in Enhancing Impacts of Projects to Beneficiaries: A Case Study of Ndala Ward in Shinyanga Municipal; The Open University of Tanzania: Dar es Salaam, Tanzania, 2019.
23. Eguavoen, I.; Youkhana, E. Small Towns Face Big Challenge: The Management of Piped Systems after the Water Sector Reform in Ghana, ZEF Working Paper Series; Center for Development Research (ZEF), University of Bonn: Bonn, Germany, 2008.
24. Cooley, P.; Darmsawasdi, R.; Ratanachai, C. A Conceptual Framework for Assessment of Governance Performance of Lake Basins: Towards Transformation to Adaptive and Integrative Governance. Hydrology 2016, 3, 12.
25. Dehghani, Y.; Rasouliazar, S.; Rashidpour, L. Factors Influencing People’s Participation in the Exploitation of Water Resources in Agriculture Sector of Iran. Scientific Papers Series-Management. Econ. Eng. Agric. Rural. Dev. 2018, 18, 79–88.
26. Hegga, S.; Kunamwene, I.; Zierovogel, G. Local participation in decentralized water governance: Insights from north-central Namibia. Reg. Environ. Chang. 2020, 20, 105.
27. Pukogkoi, A.; Zumitavan, V. Sustainability of Water Management of Local Administration: A Case Study of Banton Prayuen Khon Kaen. J. MCU Nakbhandhat 2019, 6, 12.
28. Donald, F.; Kettl, J.W.F. The Politics of the Administrative Process, 4th ed.; CQ Press: Washington, DC, USA, 2009.
29. Elstub, S. Linking micro deliberative and decision-making: Trade-offs between theory and practice in a partisan citizen forum. Representation 2010, 46, 309–324.
30. Fischer, M.; Leifeld, P. Policy forums: Why do they exist and what are they used for? Policy Sci. 2015, 48, 363–382.
31. Handerson, P. Community Consultation in Environmental Assessment and Land Use Planning in New South Wales and Queensland: An overview, in School of Arts and Social Sciences; University of the Sunshine Coast: Sunshine Coast, Australia, 2006.
32. Dhliwayo, M. An Assessment of the Implications of Law, Policy and Institutional Arrangements for Community Participation in Transfrontier Conservation in Southern Africa, in School of Environmental Sciences; University of KwaZulu-Natal: Durban, South Africa, 2007.
33. Freitas, M. Participation and the Construction of Sustainable Societies, in Natural Resources, Sustainability and Humanity: A Comprehensive View; Mendonca, A.C.A., Chakraborti, R., Eds.; Springer: Singapore, 2012.
34. Rashid, A.Z.M.M. Legal Framework for Community Participation in Governance: The Role of Co-management in the Forest Protected Areas Management of Bangladesh, in School of Law; University of Western Sydney: Sydney, Australia, 2012.
35. James, B. A Bicultural Partnership for Te Waihora (Lake Ellesmere): A Case Study in Management Planning; Department of Conservation: Wellington, New Zealand, 1991.
36. Ross, C. Obstacles to Public Participation Under the Resource Management Act 1991, in Centre for Resource Management; Lincoln University: Canterbury, UK, 1996.
37. Barrow, S.B. Collaborative Interaction: Military Managers Consulting with American Indians, in Public Administration; University of Nevada: Las Vegas, NV, USA, 2001; p. 53.
38. Fleming, D.M.; Jones, P.J.S. Challenges to achieving greater and fairer stakeholder involvement in marine spatial planning as illustrated by the Lyme Bay scallop dredging closure. Mar. Policy 2012, 36, 370–377.
39. Wheeler, I.S. Investigation of the Tribal Park Concept and Opportunities for the Blackfeet Nation, in the Graduate School at ScholarWorks; The University of Montana Missoula: Missoula, MT, USA, 2019.
40. Roth, A. Respecting Outcomes in Collaborative Processes: A Low Water Response Case Study; University of Waterloo: Waterloo, ON, Canada, 2014.
41. Herriman, J. Local Government and Community Engagement in Australia; Australian Centre of Excellence for Local Government, University of Technology Sydney: Sydney, Australia, 2011.
42. Vogan, R.J. Frameworks for Environmental Policymaking in Brazil and Chile: A Comparative Policymaking Analysis of the Belo Monte and Hydro/ogen Dams, in Political Science; College of Sciences: Orlando, FL, USA, 2016.
43. Von Winterfeldt, D. Bridging the gap between science and decision making. Natl. Acad. Sci. 2013, 110 (Suppl. 3), 14055–14061.
44. De Vente, J.; Reed, M.S.; Stringer, L.C.; Valentine, S.; Newig, J. How does the context and design of participatory decision making processes affect their outcomes? Evidence from sustainable land management in global drylands. Ecol. Soc. 2016, 21, 24.
45. Michels, A. Innovations in democratic governance: How does citizen participation contribute to a better democracy? Int. Rev. Adm. Sci. 2011, 77, 275–293.
46. Lehtonen, M. Deliberative decision-making on radioactive waste management in Finland, France and the UK: Influence of mixed forms of deliberation in the macro discursive context. J. Integr. Environ. Sci. 2010, 7, 175–196.
47. Landwehr, C. Deliberative Democracy and Non-Majoritarian Decision-Making; ARENA Working Paper 3, ARENA Centre for European Studies, University of Oslo: Oslo, Norway, 2014.
48. Gray, B.; Stites, J.P. Sustainability through Partnerships: Capitalizing on Collaboration; Network for Business Sustainability, Ivey Business School, Western University: London, ON, Canada, 2013; Volume 24, pp. 110.
49. Padawangi, R. Community-driven development as a driver of change: Water supply and sanitation projects in rural Punjab, Pakistan. Water Policy 2010, 12 (Suppl. 1), 104–120.
50. Epiebang, C.E. The Role of the Power Relations and Deliberative Democracy in the Decision-Making Process of Water Management: The Case of the Lake Taminawen Water Council in Uppland, Sweden; Department of Urban and Rural Development, Swedish University of Agricultural Sciences: Uppsali, Sweden, 2011.
51. The Policy Committee for Water Resource Management. The Strategic Plan on Thailand’s Water Resource Management. 2015; Available online: http://division.dwr.go.th/bwrrp/phocadownload/60.rar (accessed on 28 July 2019).
52. Office of the Council of State, Thailand, The Area Government Act, B.E.2457. 1914, 38.# Available online: http://web.krisdika.go.th/data/law/law2/%C503/%C503-20-9999-update.pdf (accessed on 25 June 2019).
53. Office of the Council of State, Thailand, The Environment Protection and Conservation Act B.E.2535. 1992, 47. Available online: http://web.krisdika.go.th/data/law/law2/%CA08/%CA08-20-9999-update.pdf (accessed on 25 June 2019).
54. Office of the Council of State, Thailand, The National Water Resource Act B.E.2561. 2018, 41. Available online: https://www.krisdika.go.th/librarian/get?sysid=824173&ext=pdf. (accessed on 8 January 2020).
55. Institute of Water Resources and Agriculture Information (IWRAI). Implementation of Data Collection and Data Analysis of the Project for Development of Database 25 Watersheds and Drought Flood Models: Eastcoast River Basin. IWRAI: Bangkok, Thailand, 2012.
56. Office of the National Economic and Social Development Board (NESDB). Eastcoast Area Development and Eastern Economic Corridor (EEC): Bangkok, Thailand, 2017. Available online: https://www.nesdc.go.th/ewt_dl_link.php?nid=6677 (Accessed on 14 May 2019).
57. Office of the National Water Resources (ONWR). Master Plan for Water Resources Management (B.E.2561–2580); ONWR: Bangkok, Thailand, 2019.
58. Suksawas, W. Political Science Quantitative Research; Naesuan University Publishing House: Mahasarakham, Thailand, 2017.
59. Gray, D.E. Doing Research in the Real World, 4th ed.; SAGE Publications: Thousand Oaks, CA, USA, 2018.
60. Silanoi, L.; Jindaprasert, K. The Use of Rating Scale in Quantitative Research on Social Sciences, Humanities, Hotel and Tourism Study. J. Manag. Sci. 2019, 8, 15.