

# Toward more inclusive wetland governance and the role of women and other marginalized groups in the Cambodian Mekong Delta: a case study of Boeung Preklapov Wetland in Takeo Province

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## សង្ខេប

អត្ថបទនេះជួយបង្កើនការយល់ដឹងឱ្យកាន់តែស៊ីជម្រៅថែមទៀតស្តីពីបញ្ហាប្រឈមនៃការគ្រប់គ្រងធនធានដីសើមបែបចូលរួមនៅតំបន់ដីសណ្តទន្លេមេគង្គកម្ពុជា។ អត្ថបទនេះបង្ហាញថា ទោះជាមានការកើនឡើងនៃគោលនយោបាយលើកកម្ពស់ការចូលរួមរបស់ស្ត្រីក្នុងការសម្រេចចិត្តផ្នែកគ្រប់គ្រងធនធានក៏ដោយ ក៏ការអនុវត្តគោលនយោបាយទាំងនេះនៅមិនទាន់ស៊ីសង្វាក់គ្នា និងមិនសូវមានប្រសិទ្ធភាពនៅឡើយ។ ការសិក្សានេះបានផ្តោតទៅលើសហគមន៍ដែលរស់នៅដោយពឹងផ្អែកលើតំបន់ដីសើមនៅតាមបណ្តោយព្រំដែនប្រទេសកម្ពុជា-វៀតណាម ដែលការសិក្សាបែបនេះមិនមានច្រើនទេខាងភាគីកម្ពុជា។ ការសិក្សាបានរកឃើញនូវឧបសគ្គចំបងៗ ដែលរាំងស្ទះដល់ការចូលរួមរបស់ស្ត្រីក្នុងលំដាប់ថ្នាក់ផ្សេងៗនៃអភិបាលកិច្ច។ ការសិក្សានេះក៏បានពិនិត្យផងដែរនូវតួនាទីរបស់ក្រុមឯទៀតដែលងាយរងគ្រោះដូចជា ជាជនជាតិភាគតិច និងក្រុមអ្នកក្រដែលពុំមានដី ក្នុងការគ្រប់គ្រងតំបន់ដីសើម។ ការសិក្សាបានរកឃើញថា នៅកម្រិតគ្រួសារ ទាំងបុរសទាំងស្ត្រី អាចបាននេសាទ បានអាស្រ័យផលនិងបានធ្វើកសិកម្មលើតំបន់ដីសើម ព្រមទាំងបានចូលរួមក្នុងការសម្រេចចិត្តដោយយុត្តិធម៌និងស្មើភាពគ្នា។ ប៉ុន្តែ បើពិនិត្យនៅកម្រិតថ្នាក់ឃុំ ថ្នាក់ស្រុក និងថ្នាក់ជាតិ ការចូលរួមរបស់ស្ត្រីទំនងមានតែឈ្មោះជាតំណាងប៉ុណ្ណោះ។ ជាពិសេស ការសិក្សាបានរកឃើញថា នៅថ្នាក់ឃុំ ដែលគេរំពឹងថាគួរតែមានការចូលរួមច្រើនពីប្រជាជនមូលដ្ឋាននោះ សម្លេងរបស់ក្រុមស្ត្រី និងក្រុមអ្នកក្របែបនោះតែមានយ៉ាងខ្លាំងក្នុងការសម្រេចចិត្ត។ ឧបសគ្គដល់ការចូលរួមរបស់ក្រុមស្ត្រីក្រីក្រដែលការសិក្សានេះបានរកឃើញរួមមាន៖ (1) ពុំមានការយកចិត្តទុកដាក់គ្រប់គ្រាន់នូវការកំណត់តួនាទីនិងការទទួលខុសត្រូវច្បាស់លាស់ និងប្រកបដោយអត្ថន័យ, (2) ធនធានស្ថាប័នមិនគ្រប់គ្រាន់,

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(3) ទំនាក់ទំនងអំណាចមិនស្មើភាពគ្នា, និង (4) ជាញឹកញាប់ ពួកគាត់ត្រូវបានគេផាត់ចោលពីដំណើរការសម្រេចចិត្តនិងការច្បាប់យកធនធានដីសើមពីក្រុមមានឥទ្ធិពល។

**A B S T R A C T**

This paper advances the understanding of the challenges of participatory wetland management in the Cambodian Mekong Delta. It shows that despite the increasing number of policies promoting women’s participation in resource management decision-making, the implementation of these policies remains inconsistent and ineffective. The research focuses on wetland-dependent communities along the Cambodia-Vietnam border that have been studied less on the Cambodian side. It identifies the main obstacles that impede women’s participation at different levels of governance. It also looks at the role of other marginalized groups, such as ethnic minorities and the landless poor, in wetland management. The study reveals that at the household level, both men and women participate in fishing, harvesting wetland resources, and farming activities and partake in decision-making fairly and equally. However, women’s participation remains nominal at best at the commune, district, and national levels. Particularly at the commune level, where local participation is expected to be higher, the voice of women and the poor is strikingly absent. The identified obstacles to women's participation include inadequate attention paid to assigning clear and meaningful roles and responsibilities, lack of institutional resources, unequal power relations, and frequent instances of exclusionary elite capture.

**1. Introduction**

Despite the existence of studies highlighting the importance of wetland ecosystems in supporting rural livelihoods (Pross et al., 2022; Vigil & Le, 2020), the participation of marginalized women and the poor in local decision-making processes is often overlooked. The Mekong Delta is undergoing extensive changes in wetland use and governance. These changes include wetland conversion and agricultural intensification, which occurred first on the Vietnamese side (Be et al., 2007; Käkönen, 2008) and led to an increase in global rice exports (The Socialist Republic of Vietnam & The Kingdom of Netherlands, 2013), and more recently on the Cambodian side (Beban & Gorman, 2017). The delta areas show women outnumber men in agricultural labor, domestic work, and outside work (GIZ, 2020), but less attention has been paid to their marginality and the increase in migration across the border. However, starting from transboundary history and issues in the two countries related to migration and ethnic minority relations (Taylor, 2014; Taylor, 2013), this study is relevant to uncovering the emerging trends in cross-border migration and ethnic relations. There has been a significant trend in migration among ethnic Khmer individuals from the Vietnamese delta (As A Giang, Kieng Giang, Soc Trang, and Can Tho) since the early 1980s, which intensified in the 1990s and 2000s.

Unfortunately, the water development policies (GIZ, 2020) addressing the transboundary Mekong Delta region seem to have overlooked the plight of these groups. In the aftermath of the third Indochina War (1970s-early 90s) and agricultural modernization in Vietnam (Käkönen, 2008), these communities have not benefited economically. Instead, they have experienced social inequality and marginalization in terms of economic opportunities and land ownership. This has amounted to a sizeable migratory movement across the border to Cambodia to locations that include the study sites covered in this article. The study thus highlights that some of the pressures faced by the wetlands on the Cambodian side are a result of long histories of ethnic marginalization on the Vietnamese side of the Mekong Delta region, mostly in An Gian,

Kien Gian, Can Tho, Soc Trang (Taylor, 2014).

The Cambodia Mekong Delta region encompasses several provinces located to the South of Phnom Penh, which receive seasonal water flow from both the Mekong River and its tributary, the Bassac River, and the Cardamom Mountains. These provinces include Kampong Speu, Kandal, Prey Veng, Svay Rieng, and Takeo (MOWRAM & JICA, 2012). This study focuses on wetlands located in Takeo province, which is experiencing significant agricultural growth but is also prone to floods and droughts in certain districts along the border. In recent years, there has been an increase in the conversion of wetland lakes and flooded forests along the river floodplain and associated areas for agricultural and industrial purposes. This conversion has been more intense in Vietnam (Ben et al., 2007), but it has been increasing on the Cambodian side of the delta, mostly in Takeo, where the research sites were located.

This article analyzes the policy gaps in wetland resource governance, in particular policies on the environment, water resources, women’s affairs, and agriculture development and conservation, at four levels that hinder equitable and meaningful participation of marginalized groups, including impoverished resource users and women. Its objective is to identify and address the obstacles that hinder the participation of women and other marginalized groups, such as the poor who depend on wetland resources in wetland management on the Cambodian side of the transboundary Mekong Delta. This is done by addressing three research questions. (i) How do national policies encourage more equitable and meaningful participation in the management of wetland resources at the provincial and local levels? (ii) Do existing policies adequately achieve the aim of increasing women's participation at the local level? (iii) What are the key vulnerabilities and adaptive capacities of both local communities and policies in properly addressing the needs of these vulnerable groups, and what are the constraints in promoting more inclusive participation of women in formal institutional processes from the national to the local level? Through these questions, the paper seeks to

unpack the inequalities related to wetland management as well as the challenges to and prospects for more inclusive decision-making.

The paper is structured into four parts. The first part discusses the empirical baseline used to understand the selected socio-economic status of the studied villages. The second part analyzes intended policies' intentions and actual implementation with regard to promoting the participation of women and the poor (that depend on wetland resources) at the regional, national, sub-national, and local levels. The third part makes use of Agarwal's typology of five modes of participation (2001) to further analyze the participation opportunities of women, the poor, and ethnic minorities. In the final part, we conclude that institutions responsible for wetland, water, and agriculture management are fragmented and require better coordination and participation from impoverished resource users. To ensure that marginalized groups benefit from wetland resources, there is a need to enhance an inclusive decision-making structure with greater social equity.

## 2. The transboundary dynamics and histories of marginalization in the Mekong Delta

A growing body of literature addresses Mekong hydrology and the challenges faced by the river and the riparian communities, resulting from climate change and extensive hydraulic infrastructure projects that are transforming the region and disrupting previous modes of livelihood (Vigil & Le, 2020; MRC, 2021), particularly those centered on fisheries and diverse rice-based farming systems (The Socialist Republic of Vietnam & The Kingdom of Netherlands, 2013). Another significant impact on rural residents in Cambodia stems from large-scale economic land concessions and the overall surge in land prices leading to increased land speculation. In the Cambodian Mekong Delta, the challenges related to land speculation and land access exhibit distinct characteristics pertaining to cross-border dynamics and the influx of migrants from Vietnam seeking fertile land for rice cultivation (Beban & Gorman, 2017).

A notable study conducted by Beban and Gorman (2017) sheds light on the influence of local Cambodian elites who exert control over Vietnamese smallholders crossing the border in search of land in Kampot province, where potential agricultural opportunities exist along the border. However, this study does not encompass all types of migrants seeking land. Importantly, there has been a lack of research examining migrants from Vietnam with an ethnic Khmer background. This demographic is prevalent in Takeo province, including in the villages covered in this study. The marginalization of ethnic Khmers in Vietnam has played a significant role in driving their migration across the border to the Cambodian part of the Mekong Delta. Over time, many Khmer Krom Mekong Delta residents have experienced either the loss of ancestral land ownership or the reduction of their landholdings due to complex political and economic transformations (Taylor, 2013). The Khmers, who were once prosperous landowners,

have gradually become impoverished peasants, bearing the brunt of colonial rule and the Indochinese Wars. Following the war, a noticeable bias against Khmer minority groups emerged within the Vietnamese state. This resulted in officials ignoring the struggles and grievances of the landless and dispossessed Khmer people residing along the border (Taylor, 2014).

Waves of migration have occurred along the Cambodian-Vietnamese border. In the early 1980s, for example, many Khmer people were compelled to flee from Vietnam to Cambodia in search of improved security and livelihood opportunities. Presently, a considerable number of Khmer Krom individuals find themselves in a state of landed poverty or landlessness (ibid). The ongoing environmental degradation caused by rapid infrastructure development upstream and within the Mekong Delta (Käkönen, 2008; Käkönen, 2020), has further exacerbated the challenges faced by these already marginalized groups, resulting in increased willingness to look for new livelihood opportunities across the border in Cambodia, where many of the Khmer Krom may already have relatives or other connections.

At the regional scale, any alterations to Mekong River flows may have detrimental effects on floodplain fertility, wetland productivity, and the ecosystems of flooded forests and fisheries. This impact is particularly significant in the Tonle Sap region but extends to the Mekong mainstream and its tributaries. Infrastructure projects further exacerbate these issues by causing sediment depletion, salinity intrusion, and coastal erosion in the Mekong Delta (MRC, 2021). Numerous assessments have highlighted how these changes contribute to food insecurity, social and economic inequality, and tensions in regional and geopolitical relations. However, insufficient attention has been given to the marginalized and impoverished groups of resource users living in the transboundary areas, especially within designated wetland conservation zones at the border. These overlooked communities face unique challenges and vulnerabilities due to their proximity to the border and their dependence on wetland resources.

Their voices and concerns are often marginalized in the discourse surrounding regional development and conservation efforts. This is particularly the case with women wetland users. In the wetlands surrounding the transboundary area, there are also resource users who are facing double marginalization because of their gender and ethnicity. Along the Vietnam-Cambodia border, there is an increasing number of women who are marginalized not only on the basis of their gender but also because of their ethnic background, further compounding their exclusion from decision-making processes. To explore how equal decision-making could be enhanced in this context, this study makes use of Agarwal's typology of five modes of participation: passive, consultative, active specific, active, and interactive participation. This helps to increase the understanding of why efforts to increase participation in the Mekong Delta of Cambodia have often benefited certain groups at the expense of others and why certain forms of local knowledge and experience get rendered invisible or undervalued (Pross et al., 2022). The field research of this

study revealed that the majority of women interviewed were engaged in the first four levels of participation, namely passive, consultative, and active, with specific participation. However, the fifth level, the lack of interactive participation, emerged during focus group discussions, particularly when addressing concerns related to land encroachment on wetland resources and expressing worries about the future management of these common pool resources (CPR) as they diminish. According to the literature, to promote meaningful participation, it is crucial to examine how women are encouraged to voice their concerns in actual meetings and hold formal positions of authority (Agarwal, 2009).

The study also draws on feminist political ecology, which departs from conventional political ecology approaches that focus solely on contested access and rights to address the complex environmental changes and is influenced by differential needs and challenges of emerging actors from diverse socio-economic backgrounds. The feminist political ecology framework emphasizes the importance of respecting the rights of ethnic groups, gender, race, and socio-economic contexts, allowing people to live in safe communities free from pollution and threatening conditions (Gueldry et al., 2019). Additionally, this study seeks to understand the context of mobile migration-based livelihoods, which heavily rely on geographical access and can create both vulnerability and resilience among different social groups in terms of accessing assets, exclusion from political processes, and maintaining flexible citizenship (Elmhirst et al., 2018). The focus lies on the ability of individuals, social groups, and marginalized populations to cope with and adapt to social changes within the social structure.

Political ecology views vulnerability as a process embedded within social, ecological, and political-economic changes that impact the environment and unequal power relations among social groups, especially in the context of development interventions (Taylor, 2015). Feminist political ecology research on Cambodia has further explored issues of rights and resistance in relation to gender roles (Lamb et al., 2017). For decades, women's representation in government and governance has been overlooked in Cambodia, resulting in women being more visible in protests while men dominate the governance system. In situations where access to resources is highly contested, women are frequently positioned on the front lines, voicing their demands against eviction and violence. Empowering women to gain access rights is critical for securing their family's livelihoods, enabling them to enjoy their human rights, and reducing their burden of unpaid work. As asserted by Esquivel (2016), meaningful participation, in the form of acting as agents and leaders within their communities, is central to achieving this empowerment.

### 3. Research Methodology

This paper is part of transboundary collaborative research efforts, for which data collection has been conducted by our research team from the faculty of development studies and local collaborators from the provincial and district offices. Our

method consists of literature and document review and stakeholder consultation ranging from the national level to the local level in relation to wetland resource management and gender participation. Beginning in late 2020, we consulted with NGOs working on the areas, visiting and holding discussions with local authorities in Koh Andeth and Bourei Chulsar districts to select the sample of studied villages. Based on our typology, we decided to focus on only one district, with different villages and communes associated with the wetland areas and villages located along the border (Fig. 1).

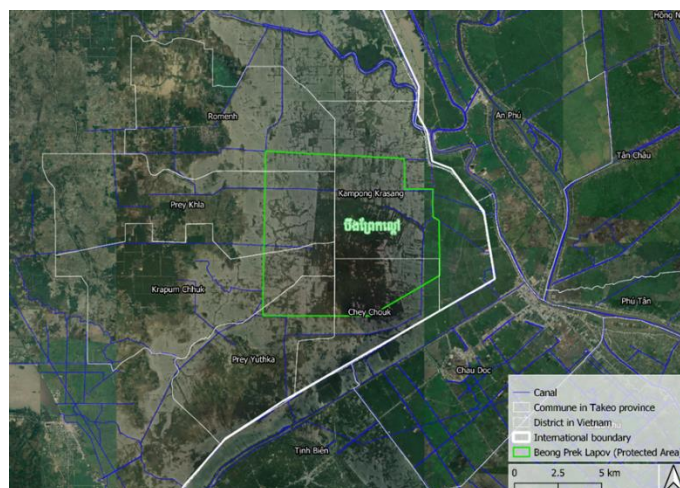


Fig. 1. Research sites in Kampong Krasaing and Chey Chouk. Sources: Map from Google Earth, 2022.

We adopted action research and feminist political ecology to conduct our study on transboundary wetland management and participation from impoverished resource users and vulnerable groups of women. Action research is originally used to conduct social research experiments through the process of creating the reflexive power of thought, discussion, decision, and action by ordinary people who participated in the research, in particular, the creation of consciousness of over-exploitation and colonization practices (Adelman, 1993). It was later used to conduct capacity building for personal, professional, and systemic change within educational systems (Leitch & Day, 2000). Action research is often unwelcome due to positing the truth against existing dominant structures and providing needed change models (Kemmis, 2006). Action research has been used to deal with social change by instigating the creation of responsibility between researchers and research participants in identifying social issues and the result of a less formal relationship between researchers and those studied. The key strength of this approach is that it entails reflection, collaboration, and empowerment of research participants to take action (Adams, 2010).

The materials and data used for this paper are drawn from the literature review and policy documents related to wetland management and gender relations, as well as from stakeholder consultation. This ranged from the national level down to the local level, focusing on the relation of the participation of women and underrepresented groups with formal and informal decision-making processes relevant to wetland resources, water, and agriculture. We have reviewed academic studies

and key regional, national, and sectoral policies that set out the development framework being implemented within transboundary zones in the national context. Our fieldwork started in late 2020. We consulted with NGOs working in the area and had discussions with local authorities in Koh Andeth and Borei Chulsar districts to select the sample of studied villages. Based on our typology, we decided to focus on only one district, with different villages and communes associated with the wetland areas located along the border.

At the local level, we collected information through focus group discussions, village meetings, and key informant interviews. In Sangkum Meanchey, we conducted interviews seven times beginning in late 2020 and through six focus group discussions or FGDs with 33 participants (16 women). Among these, seven women's groups that have been actively using resources in Boeung Preklapov were interviewed four times. In Chey Chouk, we conducted fieldwork two times: once in late 2021 with local authorities (seven people), and another in early 2022 involving three focus groups with a total of 14 people (4 men) and 66 respondents in a household survey. Our FGDs were mostly centered on obtaining information regarding village timelines, wealth ranking in the village, gender activity, access to resources and institutions, and development changes over time since 1980. At the provincial and district levels, we had informal interviews with a ranger in Boeung Preklapov and with officers from the Provincial Department of Environment, the Provincial Department of Women Affairs, the fishery administration, and district authorities, which included the deputy chief, and the head of the office in charge of wellbeing and vulnerable groups. Many key informants in the village were also interviewed in-depth, including farmers, fisherfolk, local fish traders, boat drivers, and impoverished people in the village (mostly in Sangkum Meanchey).

Three non-governmental organizations working on relevant issues were consulted between late 2020 and early 2021. A survey with 212 (68% female) respondents selected was conducted in February-March 2022 to understand gender participation. The survey obtained information from household heads or adult (age 18-34) decision-makers of households that were randomly selected. The survey questionnaire was composed of questions aimed at obtaining information on villagers' basic demographic characteristics (gender, age, level of education, and main occupation), perceptions of the issues affecting their village, and knowledge about the uses of wetland resources. The selected case study for this paper focuses on people of Khmer ethnic speaking groups from the Mekong Delta area whose livelihood is strongly dependent on the Boeung Preklapov protected natural landscape. It is one of the eight zones classified as protected landscapes, covering an area of 8,035 Hectares (MoE, 2017a). This area is recognized as one of the largest remaining remnants of seasonally inundated wet grassland in the lower Mekong and is important for birds, plants, and other wildlife. It is one of 40 globally Important Bird Areas (IBAs) identified as key sites for conservation in Cambodia and one of three sarus crane (*Grus antigone*) conservation areas (IUCN, 2019). Since 1986, the seasonal occurrence of sarus cranes co-existed with

the operation of fishing lots. From 1991-98, a European Union (EU) program started constructing additional canals for irrigation and water transportation. Since then, there has been increased dry season rice cultivation and conflict between farmers, fishing folk, and sarus crane conservation advocates.

The 15 October 2007 sub-decree No. 149 designated the areas as conservation management zones for sarus crane and other water birds under the Ministry of Agriculture, Forestry and Fisheries (MAFF). Fishing lot operations were abolished and replaced by fishery communities in 2001. The conflicting aims of institutions supporting the conservation and production efforts have also intensified, which has required restructuring the role of the line ministries, first in gaining trust from donor agencies and second in restoring the trust of the local farmers to gain voting support. A 2016 sub-decree No. 68, dated 28 April, issued by the Prime Minister, transferred the management system from the MAFF to the MOE (Ministry of Environment).

On May 6, 2016, in an update of sub-decree No.90, approved by both the Prime Minister and the Ministry of Environment, the Boeung Preklapov area was established as a naturally protected landscape that covered existing zones managed by MoE, but also required the MoE to work with other ministries. First, the decree aims to ensure the maintenance and protection of the natural landscape, ecological system, culture, and biodiversity of the areas. Secondly, it seeks to safeguard ecological production and natural services for sustainable uses. Third, it aims to promote participation from local communities and the public in protecting, maintaining, and managing biodiversity and natural resources in a more sustainable and equitable way.

The pre-existing management plan for Boeung Preklapov 2014-18, under the Ministry of Agriculture, Forestry and Fisheries (MAFF)'s authority, had been stalled. Still, management continued under the authority of the new ministry. Its objectives are to (i) increase the habitat area of the Sarus Crane, (ii) maintain the sustainability of biodiversity and hydrological cycle to support livelihoods, and (iii) conduct research to promote community development (MAFF, 2015). Until now, the area has four management zones: the buffer zone (comprised of seasonal inundated grassland, fishing for livelihood scales, and rice fields), the core zone (for scientific research, ecotourism, crane foraging, habitat for waterbirds, and sustainable fishing), the fish sanctuary where fishing is not allowed (for fishery refuge, agriculture, and the collection of resources such as firewood) and the inundated forest protection zone where agriculture is not allowed (for resource collection, which is not regulated). In addition, the designated fishery community has also been stalled, although it was supposed to be established in 2001.

During our study, there was no clear participation from the local community, and the equal participation of women was only nominal. The conservation zone is surrounded by six communes and 14 villages (two communes in Borei Chulsar and four communes in Koh Andeth). In Borei Chulsar, five villages

are more directly related to the use of the wetland, while all villages in Koh Andeth are considered to use it indirectly. During the COVID-19 pandemic, pressures from land encroachment increased within the conservation zones.

By 2022, some efforts from Birdlife International and Wildfowl & Wetlands Trust (WWT) through the Critical Ecosystem Partnership Fund (CEPF) provided some actions for the purpose of restoring water to the degraded forest in the core zone. These included constructing 12 Ha of dikes, digging two ponds with the size of 0.8 Ha, and fixing many small canals and broken areas. The actions did not involve consultation with the residents. The WWT had two meetings with villagers in 2022. Most of the meetings were about protecting birds and flooded forests. The women's groups, whose members directly harvest wetland products daily in the core zone where the construction occurred, were not fully informed. However, the project staff claimed that 50 to 60% of meeting participants were women. Locals accused these projects of belonging to outsiders and wealthy social groups who came to grab and treat the land as their own property. Other development work has been requested to restore canal No.6 to connect it to canal No. 91, with a total length of 6 km being repaired. This proposed project was under study, but questions remained regarding land ownership.

Most villagers came to settle in the commune in the early 1980s, in areas formally known as fishing lots, which were later turned into conservation areas in 2007. Insecurity and risks from natural disasters such as storms were often recorded. Most canals constructed in the 1970s were later extended by some of the local elites and later by an EU-funded program in the early 1990s. Since then, more and more people have settled in the area, both from other parts of Cambodia and the Khmer Krom regions of the Mekong Delta. By 2015, the population survey found that 20 villages with a total of 4,316 households (approximately 18,217 individuals) were associated with direct and indirect use of the Boeung Preklapov area.

The population has increased rapidly since then. For instance, in Dei Leuk, the population increased from 27 households to 120 households by 2020. By 2018, Kampong Krasing commune alone had a population of 4,419, and Chey Chouk commune had a population of 2,603. By 2020, the Kampong Krasing commune, with all five villages, consisted of 1,025 families and 4,062 people (1,873 women) with overall 8.0% decreased. Among these, 516 people were involved in seasonal migration, of which 166 were women. The commune territory is also large, with about 6,500 hectares, and most are paddy fields and wetlands. In Chey Chouk commune, 135 people (or 8% of the population) were reported to migrate for work. This figure decreased from 12% in 2016 to 9% in 2017 and 8% by 2019. In Kampong Krasing commune, 150 people (6% of the total population) migrated inside the country, while 11% (equal to 299 people) migrated outside the country. Our survey of early 2022 found that 212 respondents (45%) were Khmer Krom (Khmer ethnic migrants from the Mekong Delta). Among these, 65% were women, of which 71% were illiterate. Among those surveyed, 32% were classified as poor households with

only a subsistence livelihood, and 67% were medium-income households with land ownership, including a rice paddy field. Also, about 38% of the surveyed population was reported to settle in the villages in 2010. This period of arrival also reflects their access to land ownership, and most of those who obtained land were able to get it through political support.

## 4. Results and Findings

### 4.1 Changes in land and water access in the study villages

The main occupation of the local people is farming, but not all the survey respondent's own farmland. Seventy-three percent of respondents own an average of 2.51 ha of farmland. Access to farmland through political relations accounted for 61% of farmland in Chey Chouk village versus 33% in Sangkum Meanchey village. In Sangkum Meanchey, 24% of respondents gained land access through forest clearance, and nearly 10% in Chey Chouk village. A few respondents said immigration and market access, or infrastructure development, were the main reasons to gain access to land in the area. Border developments, like those in Kandal, were also seen to influence due to the sudden increase in land prices. The survey also found that access to farmland is associated with political relations for 38% of respondents in Sangkum Meanchey and 29% in Chouk Chey. Political relations remain the most dominant means of gaining access to land in the areas studied. Political parties often use these strategies to gain votes, which was first used by the opposition but later became the practice of the ruling party (Fig. 2).

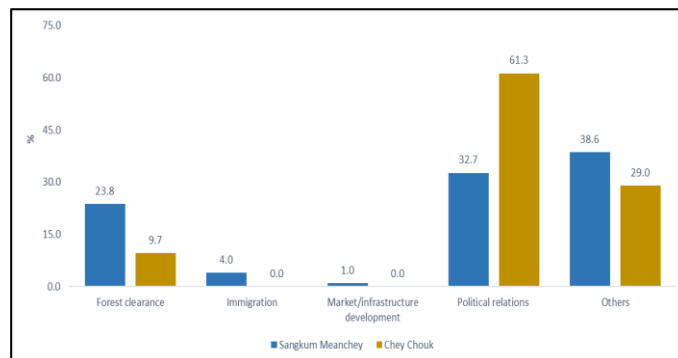


Fig. 2. Access to farmland by village.

### 4.2 Water access for farming and domestic consumption

Access to water for irrigation in the studied villages has been facilitated by the construction of canals since the late 1970s, with the process continuing in stages throughout the 1980s and intensifying in the early 1990s. Various livelihood improvement strategies have been employed, from an attempt to increase market access through enhanced transportation infrastructure to externally funded livelihood programs of the early 1990s, which were mostly supported by the EU. The study identified two main forms of access to water in the villages: private access and state-supported access, as presented in Fig. 3. In Chey Chuok commune, most irrigation systems are semi-private, with farmers required to pay rice crops to operators (approximately 600 kg of rice was reported as the

annual water fee for full access). In contrast, in Sangkum Meanchey, access to irrigation for rice farming is free of charge. Canals connecting remote villages to the communes and district centers have been fully established in the last few decades. Key water sources are from the Bassac River and the tributary of Takeo in the Borey Chulsar district. Most water is dependent on a tidal system during the dry season and is derived from downstream in the Vietnam delta.

used). Only a few households have access to pump wells, mostly in Chey Chouk village. Buying water for consumption and using purification methods for drinking were found to be common practices in both villages.

As Fig. 4 indicates the key sources of water for both Sangkum Meanchey and Chey Chouk villages are family ponds and canals. In Sangkum Meanchey, 76% of households rely on canals, while in Chey Chouk, 68% of households rely on canals. Chey Chouk has a higher proportion of households with additional sources of water, such as community ponds and privately owned water systems, which is likely due to its location at a higher elevation. The interviews conducted suggest that women in both villages play a significant role in household chores, including cooking, food preparation, and water management. Men are primarily responsible for agricultural work, such as land preparation and pumping water into the paddy fields.

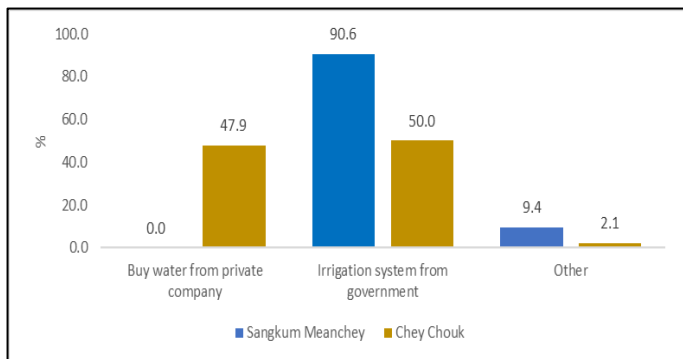


Fig. 3. Sources of water for farming, by village.

Over the past five years, water scarcity has been on the rise, particularly during the second crop of rice cultivation from February to April, which is the driest period. The time period of water scarcity has extended up to late May, with farmers hoping for early rains to alleviate the situation. Additionally, regular water-level rises of the Mekong and Bassac rivers have changed, from the prior normal increase from June to November being delayed to early September to late October. Most of the canals that were constructed are reported to have decayed and become shallower, with boat access from district towns like Koh Andeth and Borey Chulsar being restricted from early February to May (unless there is increased water resulting from tidal movement in the early morning). The short duration of floods and low levels of water in the lake have been reported to affect not only fish migration but also to result in increased pest attacks on early wet rice crops and in more weed growth in the paddy fields. These issues have caused growing concerns among the farmers who were interviewed, particularly in Sangkum Meanchey village. The interviews with conservation officials in the area confirmed hydrological changes over the past five years, with the rise in the water level now being reduced to only one to one and a half months.

Access to clean water has been improved, and households in both Sangkum Meanchey and Chey Chuok villages have access to diverse sources of water for household use. In Sangkum Meanchey, every household has a pond behind their house to store water for household use and to provide additional irrigation support for their paddy fields. In Chey Chuok, more tube wells and open wells have been constructed in the villages to serve as alternate sources of water supply. Domestic water is primarily used for cooking, washing, and drinking. The source of water varies between natural lakes in the wet season and family ponds in the dry season (with a few exceptions in Chey Chouk village, where community ponds are

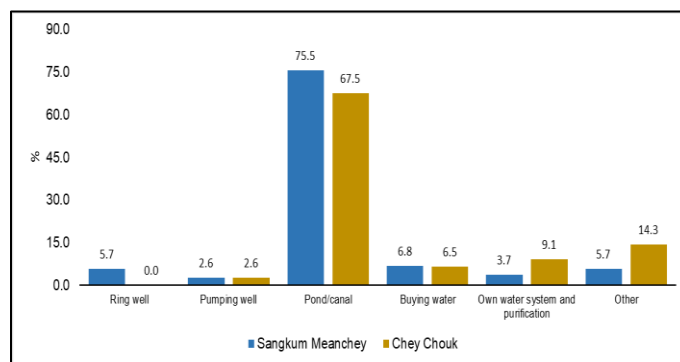


Fig. 4. Sources of Water for Domestic consumption by village.

The water-related changes essentially derive from infrastructure development in the upstream of the Mekong Basin, which has an impact at the regional level. The upstream development in China, Laos and upper Cambodia have had a significant impact on water quality, floodplain productivity, the incidence of floods and droughts, as well as riverbank erosion (MRC, 2021). Impoverished resource user groups whose livelihoods depend on seasonal flows are particularly vulnerable to these impacts. Impoverished resource user groups whose livelihoods depend on seasonal flows are particularly vulnerable to these impacts. Local voices from these transboundary areas are not fully included in transboundary and regional river basin management and decision-making. This includes the conservation efforts that are the direct result of hydrological changes and local community development work.

#### 4.3 Challenges to the participation of women and other marginalized groups

The findings presented in this section are centered on two aspects of women’s participation that were found to be particularly noteworthy. Firstly, we discuss the actual extent of the involvement of women, which contradicts the narrative put forth by national policy. Secondly, we discuss and analyze the findings using Agarwal’s typology of participation and

exclusion (Agrawal, 2001). This reveals a greater level of normative yet nominal involvement in the formal structural and institutional levels from the provincial to the communal, and more equal gender relations and effective women's participation within farming practices of local and more impoverished groups of resource users. This highlights the need to prioritize inclusivity and reform in the more formal institutional decision-making processes from the national to the local level. Finally, I will present findings related to the case of irrigation improvements in the studied villages that reveal important dynamics of access and exclusion in relation to wetland developments in the Cambodian Mekong Delta.

#### 4.4 Actual women's participation vs. existing national policies

In this section, we demonstrate how existing national policies aimed at increasing women's participation in wetland, water, and agricultural management fall short, particularly regarding actual implementation at the commune or village level. Promoting women's participation has been a priority since the early 1990s, with the initial goal being to reduce domestic violence while increasing democracy and human rights development. During this time, there was a significant influx of donor support, with many NGOs implementing programs to achieve these goals. However, progress made in this area was thrown into crisis following the 2013 national elections and matters only worsened by 2017 as civil society and advocacy groups were increasingly regarded by the ruling party as untrustworthy. Despite this setback, women's empowerment remains a priority in policy documents (Frieson, 2011). At least three ministries are currently working to address women's participation in wetlands, water, and agriculture management.

The Ministry of Environment's national policies recognize women's participation in their Strategic Plan for Protected Areas 2017-2031. This policy covers all 46 ministry conservation areas, including 7,430,808 hectares, and can be classified into seven conservation types (MoE, 2017a). The policy acknowledges the particular vulnerability of women to changes in wetland resources within protected areas. It recognizes that promoting gender equity could achieve improvements in nutrition, employment, well-being, and payment of ecosystem services (PES) as part of the implementation plan for 2016-2023 (MoE, 2017b). The agricultural policies recognize the important roles that women play in agricultural livelihoods, given that they are primarily responsible for household chores, generating income, food preparation, child rearing, elderly care, and community services. Men, on the other hand, are primarily responsible for fishing, land preparation, and water management in rice cultivation, while women focus on rice seeding, cooking, collecting firewood, raising animals, and managing household finances (Sophanna & Avent, 2019). However, the policies pay insufficient attention to how women, particularly those from marginalized groups, are being integrated or could be better integrated into formal decision-making processes. Finally, gender and women's participation are viewed as cross-sectoral issues, with the fifth Neary

Rattanak action plan (2019-2023) by the Ministry of Women's Affairs (MoWA) aiming to mainstream women's participation in economics, education, health, legal protection, governance, and climate change. However, this policy is more nominal and passive when it comes to actual wetland management at the local level. The lack of staff and resources and the priorities of other sectors override the objectives of the Ministry of Women's Affairs (MoWA, 2020).

There are signs that the participation of women has improved at different institutional levels. However, this participation remains mainly nominal in the area of water management. Our study shows that in decision-making, most concerns of local resource users and the voice of the poor and women have been mostly absent, and their interests have not been considered. The type and level of participation of women and impoverished resource user groups in the Boeung Preklapov wetland resources management decisions are summarized in Table 1. At the provincial level of institutions, there were only 11 women in 2019, but this number will increase to 15 by 2023, or 1.5 persons per district. Additionally, the number of women working in agricultural cooperatives has increased from 25% in 2019 to a projected 45% in 2023. The Department of Agriculture (PDA, 2020) is carrying out training to increase the capacity and number of female staff.

Table 1. Level of participation associated with Boeung Preklapov protected landscapes.

Administrative level	Key areas of participation	Mode of participation (Agrawal 2001) in practice
Provincial level	Water and canal renovation	Nominal participation
District level	Water, canal renovation, wetland management	Nominal, even in district council meetings
Commune & village level	Sectoral needs, water, wetlands	Nominal participation with specific tasks assigned
Household-level	Decision making, labor in agriculture, water, and accessing wetland resources (based on a gendered division of labor)	More active in discussions linked primarily to water management and wetland conservation.

The Provincial Department of Women Affairs (PDWA) defines women as Satrey, literally meaning freedom, but it has struggled to mainstream women's participation within key sectors such as economic development, promoting girls' education, well-being and legal empowerment, leadership, and climate change response. Gender participation activities rarely take place at the village level. Gender participation is mostly considered when village representatives are invited to



provincial meetings, but this was reported to be managed by the Provincial Department of Environment, not by the PDWA. At the district level, the district office had 69 staff members in 2022, including the governor and his deputies. Only ten were women, accounting for 14% of the total. During our observation at a district-level meeting, only four out of the ten women council members participated. Men mostly set the agenda in the meeting, and the women participants seemed to accept the proposed decisions without further clarification and discussion (28 Dec. 2022 meeting). The women members of district councils were mostly limited to passive participation. According to our observations, overall, the number of women participating in the council meetings is quite low, their engagement is mostly limited to pre-assigned roles, and their voice doesn't carry the same weight as that of the men.

At the commune level, there are a total of 44 members, including the commune chief, with only 13 women, mainly with minor administrative paperwork and money-keeping roles, such as the cashier. The more important positions in the commune are held by men, while lower-level admin work is designated for women. The commune clerks are the ones who receive official training from the Ministry of Interior to manage the administrative operations and have the right to keep the commune stamp. Regarding the commune development plan (CDP), which is often expected to entail inclusive local consultations, there was some participation from the villagers, but this was mainly limited to men and more privileged groups. Moreover, the meager involvement of more marginalized groups did not result in effective influence, particularly on matters that have the greatest impact on those who depend on wetlands for their livelihood. The dynamics around the CDP and local infrastructure development decision-making will be discussed in more detail in the next section.

Regarding decision-making related to the conservation zones, the study findings indicate that there has been nominal participation from the local community in establishing and managing conservation zones for the Boeung Preklapov wetlands despite the fact that these decisions significantly impact wetland access and/or use. Notably, women's voices have been absent in these processes. The WWT staff, however, reported greater participation by women in certain matters, such as tree planting and habitat restoration (but this was not the case in Sangkum Meanchey). Importantly, however, the interviewed WWF staff admitted that they tend to work more closely with the village chief and community leaders rather than with impoverished resource users. The study also found that during the COVID-19 pandemic, there was an increase in pressure from land encroachment within the conservation zones, but the local wetland-dependent groups had little means to influence this encroachment.

At the village and household level, the 212 respondents of our survey (137 female and 75 male) recognized the importance of the role of women in the sustainable management of wetlands. 50 to 60 percent of both males and females agreed that women's involvement has a positive impact on agriculture production systems, water management

systems, cropping systems, inputs and productivity, markets for local produce, and the adoption of new crops. Most men and women also recognized the importance of equal access to wetland resources, irrigation, land ownership, agricultural inputs, and economic outcomes. At the same time, the respondents perceived that the current level of women's participation remains low or average.

The findings from the focus group discussions confirmed that at the household level, both women and men have an important role in wetland-related livelihood activities. Both genders also take part fairly equally in the decisions related to the harvesting of wetland resources, fishing practices, and farming activities. One of the informants (focus group discussion, 28 Dec 2022) explained: "We both take part in harvesting water lilies and go fishing together. My husband often dives into the water to harvest the lilies while I sit in the boat, weaving the lilies into bundles for sale." The Khmer saying is that "men are like a boat, while women are like the propellers to push the boat".

Another woman from Sangkum Menchay (individual interview, 28 Dec 2022) shared her observation that during the wet season, men were involved with fishing using fish traps, and in the dry season, they were involved with rice cultivation, including the application of fertilizer and pesticides, and the heavy work of land preparation. Women help to fix and replant rice in the fields in the affected areas. Additionally, women also assist in mixing fertilizers to be used in the paddy fields. During the wet season, both men and women go fishing, although women may not always join if they have other responsibilities at home. While out on the water, unexpected problems may arise, such as fishing nets, traps, and hooks getting caught or a husband encountering an accident while diving. In such cases, women row the boat to help their husbands.

#### 4.5 Irrigation and the elite capture

Key findings from this study relate to the local politics of access and exclusion regarding infrastructure work, specifically access to irrigation. Our study reveals that irrigation renovation in the study sites has been a central issue for political parties and local elites to extend patronage-based relations through claims of 'merit-making' and creating the expectation of loyal support from the members of the communities targeted by irrigation improvements. At the same time, these infrastructural improvements put pressure on the wetlands, even inside conservation areas. Local authorities in Chey Chouk commune admitted that upgrading and extending irrigation works has increased land prices, even inside conservation areas. In 2002, land prices were as low as US\$2,000/ha, but by 2012, they had risen to US\$5,000/ha. By 2021, the prices had surged to US\$15,000/ha for locations with good access roads. Based on the interviews and observations of this study, this has incited wetland encroachment and land reclamation. What is most striking is that the women and impoverished resource user groups most dependent on wetland-based livelihood activities were not included in the

decision-making processes related to canal renovations. In the meetings regarding commune development plans where canal renovation was discussed, only select people from the village were present, such as deputy village heads. It also seemed that local officials deem decisions regarding irrigation work to be suitable only for men. Very few women participated in the meetings regarding the irrigation canals. Also, the impoverished resource users who obtain daily food from the wetlands during the wet season were excluded from consultations pertaining to local infrastructure.

Another problem related to local infrastructure work is that the costs associated with these projects often exceed the allocated budget for the commune. During this study, there was a side canal and road improvement project to connect the commune office of Kampong Krasaing with the district town. The interviewed commune chief commented that “the commune development funds are too small, but we need to follow the plan. To move forward, we need to seek external support.” This shows that to remedy the lack of sufficient funds for infrastructure improvements, the authorities often approach local wealthy groups. The downside here is that these groups commonly expect to receive resource access in return for their support. This particularly concerns access to areas classified as state land or properties that often are already in use by different local groups. As a result, the local elites have much more say in the process of decision-making than those groups whose livelihoods depend on the wetlands.

The interviewed women’s groups conveyed a profound concern regarding the sustainability of wetland resources. They stressed that the ongoing clearance of flooded forests would have significant and far-reaching consequences. During the wet season, when rain and storms are frequent, they rely on these forests for refuge. The prospect of losing this vital refuge in the future deeply worries them. The forests are also crucial as habitats and sanctuaries for fish and waterfowl. Some women expressed their apprehension that if the flooded forests are destroyed, the fish may migrate to the remaining forests in Vietnam and wonder if a similar fate of displacement awaits the wetland-dependent communities whose livelihood assets are at stake. Furthermore, a specific group of women from Sangkum Menchay explicitly voiced concerns about the detrimental effects of infrastructure development and encroachment on the wetlands designated for conservation. They emphasized the importance of preserving these wetland resources and safeguarding the core and buffer zones to ensure access to resources essential for their daily survival and fishing activities.

## 5. Conclusion

The findings suggest that there have been some improvements in women’s participation, yet several obstacles remain. These include insufficient attention paid to assigning clear and meaningful roles and responsibilities for participating women, a lack of institutional resources, unequal power relations based on patronage, and frequent instances of exclusive elite capture. The study also underlines that the

institutions responsible for wetland, water, and agriculture management are fragmented and require better coordination and participation from impoverished resource users at the local level. To ensure that marginalized groups benefit more from wetland resources, there is a clear need for further enhancement of inclusive decision-making structures. At the commune level, which is considered the lowest level of development programs, there is still a lack of consideration for women’s voices and the perspectives of marginalized resource user groups. Although the formulation of the commune plan involves sectoral discussions with village representatives, and the input of the village chief is sought out, our focus group discussions with women’s groups revealed that their voices are not adequately heard. This issue also extends to wetland conservation management, which is predominantly top-down in nature. Our study suggests that the Ministry of Environment should pay more attention to how to assign clear and meaningful roles and responsibilities for participating women, increase institutional resources, address unequal power relations based on patronage, and seriously consider the frequent instances of exclusive elite capture while imposing participation with designated conservation zones.

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## Declaration of competing interest

The authors declare that they have no competing interests. All authors have read and approved the final, published version of the manuscript.

## Credit authorship contribution statement

**THUON Try:** Conceptualization, research design, data collection, writing-review and editing. **RATH Sethik:** Data collection, writing-original draft, reviewing and editing.

**DUONG Chanmettatchampavieng:** Reviewing and editing. **POK Kaknikar:** Data collection.

All authors have read and agreed to the published version of the manuscript.

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