



Water Knowledge #5

# Coping with Changes in access to biodiversity and natural resources along the Mekong mainstream and tributaries

Menghoin Hok



October, 2018

*Water Knowledge* is intended as an informal research output focussing on current research discussions and debates around the waters and rivers of Cambodia, Laos, Myanmar, Thailand, Vietnam and the Yunnan Province of China. *Water Knowledge* is not peer reviewed.

Citation: Menghoin, H. 2018. Coping with Changes in access to biodiversity and natural resources along the Mekong mainstream and tributaries. *Water Knowledge #5*. Vientiane, Lao PDR, CGIAR Research Program on Water, Land and Ecosystems.

Responsibility for the contents of this publication lie with the author(s), and do not reflect the opinions or position of the CGIAR Research Program on Water, Land and Ecosystems, its partners or its funding agencies.

This *Water Knowledge* issue has been edited by Kim Geheb and Terry Clayton at Red Plough (clayton@redplough.com). Design and lay-out by Watcharapol Isarangkul (nong.isarangkul@gmail.com).

Production of this *Water Knowledge* issue has been supported by Australian Aid.



This *Water Knowledge* issue has been written by:

**Menghoin Hok:** Environment and Agriculture Program Manager, the NGO Forum on Cambodia (menghoin@ngoforum.org.kh).

Acknowledgement: The author would like thank Dr. Nguyen Huong Thuy Phan and Prof. Christophe Gironde who supervised this assessment for fulfilment of the Executive Master in Development Policies and Practices (2017–2018), Graduate Institute of International Development Studies, Geneva, Switzerland.



RESEARCH  
PROGRAM ON  
Water, Land and  
Ecosystems



Greater  
MEKONG





## Introduction: Coping Strategies

The relationship between people and natural resources in the Mekong River Basin is intimate. Up and down the river, natural resources in the form of Non-Timber Forest Products (NTFPs), fish, water, 'Other Aquatic Animals' (OAAs), agro-ecosystems and other – frequently common property – resources form a significant part of livelihoods. The Lower Mekong basin falls into the territories of five countries (Myanmar, Lao PDR, Thailand, Cambodia and Vietnam), and is home to about 65 million people. The Mekong River flows almost 5,000 km and its basin covers 795,000 km<sup>2</sup>. Hydropower development is a major issue in the region as it affects biodiversity, ecosystem health, livelihoods and water governance (MRC, 2015).

In the Lower Mekong, governments plan to construct eleven dams on the mainstream including nine in Laos and two in Cambodia. There are two mainstream hydropower dams currently under construction in Laos, the Xayaburi and Don Sahong. The scale of hydropower development throughout the region is likely to strongly affect the relationship between people and their resources. As a result, people will need to develop coping strategies to address these changes.

Coping strategies are strategies designed to relieve the impact of a risk once it has occurred (Holzmann, *et al.* 2003). 'Coping' refers to managing resources in difficult situations. It includes finding ways to solve problems, to handle stress and develop defence mechanisms.

Changes to natural resources access alter control over these same resources. Villagers may be unable to access a resource base because it has been flooded, or because it has collapsed as a result of some development intervention. Under this scenario, access is curtailed because the resource has disappeared. Regulations also affect availability.

'Vulnerability' references the ability of an individual or a population to respond to new risks, shocks and seasonal trends through the development and deployment of coping strategies. Shocks are factors that cause changes in access to natural resources. In the context of natural resources use, shocks include natural disasters, floods and droughts, conflict over land and forests, illegal logging and illegal fishing.

The NGO Forum on Cambodia has played an important role in facilitating action by members of the Rivers Coalition in Cambodia (RCC) and other stakeholders to engage with regional NGO partners to work on behalf of dam-affected men and women. To address emerging issues from the rapidly increasing dam developments on the Mekong mainstream, the NGO Forum on Cambodia together with RCC members participated in various activities such as the regional consultations (coordinated by the Mekong River Commission – MRC) on the Xayaburi and Don Sahong dams, the proposed Pak Beng Dam in Laos, the proposed Sambor Dam in Cambodia, and the construction of the Lower Sesan 2 dam in Stung Treng Province.

This paper reports on a project that aimed to increase awareness of the impacts of hydropower dam development and to strengthen the capacity of RCC members to advocate for their rights, livelihoods and for ecologically-sound development.

Through discussion at its quarterly meetings, the case of the proposed Sambor Dam was selected as a priority to be closely monitored by RCC members and their regional

partners. As part of the project, an assessment study was conducted entitled “Coping with Changes in access to biodiversity and natural resources along the Mekong mainstream and tributaries.”

The results contribute to form baseline data supporting RCC members and partners to develop effective work plans to influence policy makers to ensure sustainable development with fair and just compensation and benefit sharing.

## Research methodology and study areas

Qualitative methods were used to analyse changes in access to natural resources and coping strategies of communities in Kaoh Dambang Village, Beoung Char Commune, and Sambor District, Kratie Province, Cambodia.

Kaoh Dambang Village was selected for this study because the village is one of 19 in the proposed reservoir area of the Sambor Dam in Kratie Province, about 130 km from the Lao border, and because it is in the project area of the North-eastern Rural Development Organization (NRD), a civil society group and member of the RCC.

## Access to Natural resources

The results of the study indicated that access to natural resources is important for the livelihoods of people in Kaoh Dambang Village. First, access to land for agriculture was secured for all villagers (75 families) by issuing individual land titles as defined in Cambodia’s Land Law (2001). Second, access to fisheries resources provided daily food and income. The rights of the community to access the Mekong River are recognized by the Fisheries Law of Cambodia (2002), including the rights to create a community fishery. Third, a few people also had access to forest resources, but this was not a common practice in Kaoh Dambang Village.

## Drivers of change

In the last two years, access to natural resources has changed. The key drivers of change are defined by different types of access. The study found that rights to access land for agriculture did not change significantly. Yields from rice cultivation were, however, low. While some families had only a small amount of land for agriculture, they still used traditional, rainfed, practices. In addition, access to fisheries resources in the Mekong River had dramatically decreased. Total productivity of fish catches reduced three-fold compared to two years ago. Access to forest resources and non-timber forest products (NTFPs) had changed significantly. Individuals could not gain access to collect these resources anymore been granted to private companies as Economic Land Concession (ELC).

## Coping with lack of land and drought

Community members have generally failed to cope with the lack of land and drought. Efforts to do so have focussed on applying for Social Land Concessions (SLCs), introducing drought-resistant rice seeds, improving irrigation and other options.



With respect to applying for SLCs, local authorities had informed them they could issue an SLC for villagers who had no or lack of land for agriculture. The procedures for obtaining an SLC are, however, complicated and require both technical and financial support from stakeholders. Not one villager applied for an SLC. For one, the proposed SLC areas are far from their homes and the river. For another, villagers could not comply with some criteria, such as the requirement to settle and actually cultivate the land for five years. According to the law:

“...If there is no residential structure on social concession residential land, the target land recipient shall build at least some part of a permanent shelter within three months after receiving the land and a family member shall actually and permanently reside on the land at least six months in each year. The target land recipient of a [SLC] for family farming shall actually cultivate that land within twelve months after receiving the land and shall continue to utilize the land in accordance with the conditions of the concession program. After correctly complying with the criteria of the [SLC] program for five years, the target land recipient has the right to ownership of the land and may request an ownership title according to procedures determined in the instruction of the Minister of Land Management Urban Planning and Construction” (KoC, 2003).

The decree was applicable to the people of the Kaoh Dambang Village, but they did not submit an application. If they had done so, and it was approved, they would have had to leave their homes. This was not an option for these villagers.

With respect to drought-resistant rice seeds, an initiative to introduce these was applied to build climate change resilience, and funded from provincial NGOs and partners. These are short-duration variants, and mature much faster than traditional varieties. These new varieties were not universally accepted. As one villager<sup>1</sup> said in an interview: *“Some people decided to change rice seeds. But some of them including myself did not change because we would much prefer to grow our traditional seeds to ensure a good quality of food.”*

With respect to improving irrigation, villagers asked local authorities to fix their irrigation system but this has not occurred.

While they have failed to increase their access to land or use the land to improve their agricultural production, they have considered other options for their livelihoods including fishing, raising livestock or migration in search of paid employment. Fishing is attractive because it can provide daily food and also provide some income.

Almost all families in the community raise livestock such as cows, buffalos, chickens and ducks. One woman in the village said<sup>2</sup>, *“I earn income from selling chickens and ducks. Last year, I sold twice and got around 50 US dollars”*. Another<sup>3</sup> said, *“In the last year, I sold my buffalo to pay back a loan.”*

The last alternative for people was migrating to find work. Some would find short-term work with a nearby company following rice cultivation and fishing seasons. Only a few migrated to work in Phnom Penh. For example, a woman from a poor family said, *“Sometimes I work for a company near the village to collect cashew nuts”*. A youth in the village said, *“Me and my family migrated to find work when we couldn’t get enough income*

<sup>1</sup> In-depth interview with villager #3 on 15<sup>th</sup> October 2017 at Koah Dambang Village.

<sup>2</sup> In-depth interview with villager #1 on 14<sup>th</sup> October 2017 at Koah Dambang Village.

<sup>3</sup> In-depth interview with villager #3 on 15<sup>th</sup> October 2017 at Koah Dambang Village.

*from fishing. Generally, we leave the village for around four months from January. We return in the rainy season to grow rice.”*

These various alternative livelihoods strategies are not long-term strategies to improve socioeconomic circumstances or effective ways to manage land for sustainable livelihoods in the community.

## Coping with changes in access to fishery resources

The results were less clear in relation to coping with the changes in access to fisheries resources in the community fishing area and other sites along the Mekong River in Kratie Province. The study found that two main coping strategies were used: (i) joint patrolling to combat illegal fishing; and (ii) strengthening good governance in the fisheries sector to enforce the implementation of laws.

Joint patrolling to combat illegal fishing was classified as a high priority coping strategy. A senior official from the Fishery Administration<sup>4</sup> (FiA) said that the FiA has worked with community members to combat illegal fishing by outsiders and development companies. For example, the FiA built 11 stations along the river in Kratie to monitor and respond to illegal fishing. FiA acknowledged that, however, its capacity to respond to local authorities and members of community fisheries was still limited.

*“Local authorities, police and other stakeholders call us to help them with interventions on cases related to the fishery sector. We have some challenges in terms of staff and time.”*

A member of a commune council<sup>5</sup> said, *“We have good laws and policy but a major challenge is enforcement”*. According to an interview with a senior staff member of an organization<sup>6</sup> in Kratie Province, the organization strongly supported members of the community fishery in Kaoh Dambang Village through technical and financial support. For example, at least twice a month, the organization supported community patrols. In addition, villagers posted photos and videos of illegal fishing activities on social media sites so as to share information with local authorities and provincial line departments. Community fisheries members, however, faced several challenges. It is hard to collect evidence to prosecute people for illegal fishing. Personal security is a concern. For example, an illegal fisher might try to hide fishing gear or drop it into the water and then threaten the patrol. In one case, a community member was shot dead during his patrol in 2004 and in another recent case, a member of the community fishery who was actively involved in combating illegal fishing became a victim. He used a gun to defend himself when the illegal fishers attacked and injured him. He was arrested and is in prison.

Secondly, enforcing the law is fundamental to the good governance of the fishery sector. A senior FiA official in Kratie province said that:

*“We have worked closely with local authorities, members of community fisheries and NGO partners to find ways of addressing key challenges. We organized a platform of quarterly meetings with NGOs and partners. The aim was to discuss fishery management and a joint strategy planning to combat illegal fishing. For example, a video that described mechanisms*

<sup>4</sup> Key Informant Interview with a senior officer of Fishery Administration on 16th October, 2017 in Kratie province.

<sup>5</sup> Key informant Interview with a member of Commune Council on 5th October 2017 at Koah Dambang village.

<sup>6</sup> Key Informant Interview with a staff of local NGOs on 6th October 2017 in Kratie province.



*to combat illegal fishing was developed and shared with other key stakeholders. The video was used by FiA at national level.”*

Through the platform of quarterly meetings and other public fora, FiA and stakeholders have defined many mechanisms to combat illegal fishing such as using a ‘silent box’ for collecting complaint letters and links to social media. The proposed new mechanisms helped mitigate risks to individuals who reported cases of illegal fishing. A member of staff in one organization<sup>7</sup> said:

*“We really appreciated hearing that the provincial court has taken action against some people who committed illegal fishing based on information provided from the silent box and some photos and video shared on social media. This has never happened before.”*

In one of the FGDs<sup>8</sup>, villagers said how much they appreciated the new mechanisms and participated by identifying illegal fishers in the silent box. They heard that the provincial court summoned a few of those named and had undertaken preliminary action which required them to sign a commitment letter to stop illegal fishing. As a result, illegal fishing was reduced 20 to 30% in the period of 2015 to 2017.

## Coping with changes in access to forestry resources

Community members have not been involved in managing forest resources for two main reasons. First, there is no community forest in their area. They can collect forest products from other community forests in Prey Sahakum Krasang but they have no right to manage these.

Second, community members have experience collecting forest products from places close to the Prey Lang protected forests. Some individuals have been logging illegally. A villager in Kaoh Dambang Village said, *“I did illegal logging in the Prey Lang protected forests over 10 years but I don’t do it anymore.”*

## Changing access to natural resources and the Sambor Dam

The Sambor is a dam proposed for the Mekong mainstream to be located about 91 km south of Stung Treng. If the proposed design is maintained, the dam will be 18 km wide, with a reservoir covering some 620 km<sup>2</sup>. It would force the resettlement of over 19,000 people. Community members in Kaoh Dambang Village were aware of the dam. They had received information from different sources including an official letter<sup>9</sup> from the Council of Ministers (CoM) informing them that the Royal Group (a private Cambodian firm with large hydropower interests) had signed a Memorandum of Understanding with the Ministry of Mines and Energy to carry out a feasibility study and environmental impact assessment on the proposed dam in Kratie and two other dams in Stung Treng Province. Information has been shared by academic groups on the negative impacts on people’s livelihoods and access to natural resources from large-scale hydropower dams on the Mekong mainstream such as the Xayaburi and Don Sahong dams in Laos and the construction of the Lower Sesan 2 dam in Cambodia. Other sources of

<sup>7</sup> Key Informant Interview with staff of NGO on 6<sup>th</sup> October 2017 in Kratie Province.

<sup>8</sup> FGD with villagers on 3<sup>rd</sup> October 2017 at Kaoh Dambang Village, Beoung Char Commune, Sambor District, Kratie Province.

<sup>9</sup> The letter was issued by CoM on 31<sup>st</sup> October 2016.

information have been derived through their participation in meetings and fora at national and regional levels. Community members had many views on the proposed Sambor Dam. While almost all villagers were concerned about it, a few believed it would not be built. A villager<sup>10</sup> in Kaoh Dambang Village, said:

*“District authorities told me it is not possible to construct a dam in Kaoh Dambang. The dam would be constructed in another place 30 km from here either downstream or upstream.”*

The villager added that:

*“I believe that local authorities will help us. The chief of the commune informed us during the election campaign in 2016 that if he wins the election, he will tell government they should not allow the construction of the dam in Sambor District.”*

Others interviewed had different perspectives. They were very concerned that if the dam was constructed, they would lose access to land for agriculture, to fisheries, and that there would be increasing deforestation caused by flooding the dam reservoir.

Community members issued a joint petition (along with NGOs and academic groups) entitled “Stop the Sambor Dam,” which was submitted to commune authorities. There has been no official response from the government, however. Significantly, some villagers expressed their strong intention to advocate to stop the dam. For example, a villager<sup>11</sup> said,

*“I will fight to stop the dam. I don’t want to settle in another place. I will advocate with my neighbours in the village and other people. I will do as much as I can, like speaking on the radio to share information with the public.”*

Several villagers said that they did not know what to do if the Sambor Dam was constructed. They worried about fair compensation and other issues such as access to land, fisheries resources, clean water, education and health.

## Conclusions

The results suggest that people in affected communities have some experience in coping with changes in access to natural resources. People use several coping strategies depending on their circumstances. Community members have less experience coping with the specific issue of changing access to land. They have alternative options for livelihoods including fishing in the river, raising livestock or migrating to find a job in another place but these are not long-term strategies or effective ways to manage land resources for sustainable livelihoods in the community. It was less clear how they were coping with the change in access to fishery resources. While law enforcement has been an effective mechanism, implementation is still limited. Illegal fishing activities have, however, been reduced, after implementing initiatives and tools such as using a silent box to collect complaint letters and links to social media.

Community people have little or no experience coping with the changes in access to forestry resources including NTFPs. They have been little involved in managing forest resources.

<sup>10</sup> In-depth interview with villager number 9 on 15th October 2017 at Koah Dambang village.

<sup>11</sup> In-depth interview with villager #5 on 15th October 2017 at Koah Dambang village.



If the proposed Sambor Dam is constructed, they will lose access to land for agriculture and fishery resources. They would be allowed to access fishery resources up or downstream of the dam, but this will not be easy because – they heard – the resettlement area would be far from the river.

The results of interviews with several villagers indicate they do not know what to do if the proposed Sambor Dam is constructed. Actions undertaken by community members include a joint statement and networking with academic groups, NGOs and other partners. The study found there are two main perspectives on the proposed Sambor Dam. First, some have expressed their strong intention to advocate to stop the dam. Second, they worry about fair compensation. Both groups are, however, unclear on their approaches and strategies to address the changes that will result if the dam is built.

## References

Holzmann, R, Sherburne-Benz, L. And Tesliuc, E. 2003. Social Risk Management: The World Bank's Approach to Social Protection in a Globalizing World. Washington DC, World Bank.

KoC (Kingdom of Cambodia), 2003. Sub-Decree #146 on Economic Land Concessions. No. 146 ANK/BK. Phnom Penh, KoC.

MRC (Mekong River Commission), 2015. Mekong Basin Map 2015: Mekong River Commission 20th Anniversary Celebration. Newsletter.



# Water Knowledge

A Series About Water, Rivers and Sustainable Development in the Greater Mekong

The CGIAR Research Program on Water, Land and Ecosystems in the Greater Mekong (WLE Greater Mekong) is a research-for-development initiative that seeks to improve the governance and management of water resources by generating and sharing the knowledge and practices needed to do so. The programme works in the Irrawaddy, Mekong, Red and Salween river basins. WLE Greater Mekong works through a wide range of partners and builds on the work of the CGIAR Challenge Program on Water and Food (2002-2014). The program is based in Vientiane, Lao PDR. For more information, see [wle-mekong.cgiar.org](http://wle-mekong.cgiar.org)

The CGIAR Research Program on Water, Land and Ecosystems (WLE) combines the resources of 11 CGIAR centers, the Food and Agriculture Organization of the United Nations (FAO), the RUAF Foundation, and numerous national, regional and international partners to provide an integrated approach to natural resource management research. WLE promotes a new approach to sustainable intensification in which a healthy functioning ecosystem is seen as a prerequisite to agricultural development, resilience of food systems and human well-being. This program is led by the International Water Management Institute (IWMI) and is supported by CGIAR, a global research partnership for a food-secure future. Find more information at [wle.cgiar.org](http://wle.cgiar.org)



RESEARCH  
PROGRAM ON  
Water, Land and  
Ecosystems



Greater  
MEKONG

