



SMOKE ON THE WATER

A social and human rights impact assessment of the
destruction of the Tompoun/Cheung Ek wetlands

Report issued in July 2020



This publication was produced with the support of the Office of the United Nations High Commissioner for Human Rights. Its contents are the sole responsibility of Cambodian League for the Promotion and Defense of Human Rights (LICADHO), Cambodian Youth Network (CYN), Equitable Cambodia (EC), and Sahmakum Teang Tnaut (STT) and do not necessarily reflect the views of the United Nations.



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**Cambodia is a society of half-earth, half-water
and cities should be built not by landfill but by
incorporating water into their design.**

– Vann Molyvann¹

¹ French Cultural Centre Conference (speech), (Phnom Penh, 21 May 1999), taken from Falser, M, Cultural Heritage as Civilizing Mission: From Decay to Recovery, Springer International Publishing, 2015.

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List of abbreviations

CYN	Cambodia Youth Network
EC	Equitable Cambodia
EIA	Environmental Impact Assessment
FPIC	Free, Prior and Informed Consent
ICCPR	International Covenant on Civil and Political Rights
ICERD	International Convention on the Elimination of All Forms of Racial Discrimination
ICESR	International Covenant on Economic, Social and Cultural Rights
IUCN	International Union for Conservation of Nature
JICA	Japanese International Cooperation Agency
LICADHO	Cambodian League for the Promotion and Defense of Human Rights
MEF	Ministry of Economy and Finance
MPP	Municipality of Phnom Penh/City Hall/Phnom Penh Capital Hall
MOWRAM	Ministry of Water Resources and Meteorology
NHS	National Housing Policy
OHCHR	Office of the United Nations High Commissioner for Human Rights
RGC	Royal Government of Cambodia
SHRIA	Social and human rights impact assessment
SIA	Social Impact Assessment
STT	Sahmakum Teang Thaut
UDHR	Universal Declaration of Human Rights
UN	United Nations

1. EXECUTIVE SUMMARY

“Development is the tears of the poor people.”

-Farmer from the Tompoun/Cheung Ek wetlands, May 2020.

Since 2004, the ING City project has been progressively destroying the Tompoun/Cheung Ek wetlands in Phnom Penh, threatening the livelihoods and homes of more than a thousand families, devastating the wetlands ecosystem, placing more than a million people at increased risk of flooding, worsening food insecurity, and polluting the Mekong and Bassac rivers with untreated sewage and harmful pollutants. The wetlands are a vital flood protection area for Phnom Penh, as well as the city’s only wastewater treatment system. ING City, and other proponents, are currently infilling the wetlands with sand and dirt to create land for real estate.

The wetlands cover at least 1,500 hectares in the south of Phnom Penh, in Mean Chey district, and

border Ta Khmao city. Approximately 70% of all rain and wastewater in Phnom Penh exits into the wetlands, making it a critical part of Phnom Penh’s flood mitigation system.² The planting of aquatic crops on the wetland’s surface is semi-effective in treating wastewater before the water exits from the wetlands into the Bassac River.³ Phnom Penh does not yet have an artificial wastewater treatment plant, leaving the wetlands as the only barrier between much of Phnom Penh’s untreated sewage and contaminated waters and the fish stocks in the Mekong and Bassac rivers.

Recent land cuts indicate that over 90% of the wetlands area is slated to be destroyed.⁴ As a result, what was once a rich biodiverse area covering more than 1,500 hectares will be reduced to a small river, less than 107 hectares in size. Current satellite imagery suggests that roughly a third of the wetlands has been infilled with sand already and only 1,000 hectares remain intact.⁵



² Ville de Paris & Municipality of Phnom Penh, (2018) Livre Phnom Penh extensions et mutations, p 38.

³ JICA research has demonstrated that the wetlands are semi-effective at treating wastewater across several indicators; JICA, ‘Preparatory Survey Report on the Project for Sewerage System Development in the Phnom Penh Capital City in the Kingdom of Cambodia’, 2019.

⁴ Sub-Decree N 26, ‘Amendment of Sub-Decree N 124 2008’, 2012; Sub-Decree N 70, ‘Amendment of the Cheung Ek Lake and Canals in Khan Meanchey and Khan Dangkao of Phnom Penh and Ta Khmao Town of Kandal Province’, 2017; Sub-Decree N 5, ‘Amendment of the Cheung Ek Lake and Canals in Khan Meanchey and Khan Dangkao of Phnom Penh and Ta Khmao Town of Kandal Province’, 2018; Sub-Decree N 12, ‘Amendment of the Cheung Ek Lake and Canals in Khan Meanchey and Khan Dangkao of Phnom Penh and Ta Khmao Town of Kandal Province’, 2018, Sub-Decree N 148, ‘Amendment of the Cheung Ek Lake and Canals in Khan Meanchey and Khan Dangkao of Phnom Penh and Ta Khmao Town of Kandal Province’, 2018; Sub-Decree N 168, ‘Amendment of the Cheung Ek Lake and Canals in Khan Meanchey and Khan Dangkao of Phnom Penh and Ta Khmao Town of Kandal Province’, 2018.

⁵ See Sand infilling map on page 6.

Human rights and the rule of law

The wetlands are home to more than one thousand families that either live within the wetlands or use the area for farming and fishing.⁶ Cambodia has ratified several international conventions to recognise, protect and fulfil human rights through international law⁷, but there are concerns that human rights abuses will occur without better protections in place. The right to housing, the right to social security, the right to work, the right to food, the right to participate in social affairs, the rights to water and sanitation, the right to education, and the right to health may all be impacted, or are already being impacted, by the project.

Forced eviction is a very real possibility for the hundreds of families that live within the wetlands area. In a report from 2018, which was approved by the Governor of Phnom Penh, it is noted that displacement of numerous houses is likely to occur in areas where canals must be widened to allow water to flow from the wetlands to the Bassac River⁸. This research indicates that most families living on or around the wetlands do not possess hard land titles and some communities have already begun to receive threats of eviction without consultation.

Loss of livelihood is already being experienced by families who have lost areas to plant crops in the wetlands, a practice they have relied upon for years. Aquatic farming provides a valuable public service as the aquatic plants semi-effectively purify the wastewater and allow poor families to sell vegetables at the market. These same families are heavily indebted to microfinance institutions and private lenders, with the result that any further negative impact upon their livelihoods could force them into worse situations.

Many communities remain unaware of the ING City plans and no communities have received consultation or prior notice from ING Holdings or the Royal Government of Cambodia (RGC). While the communities can name the largest companies that are responsible

for the wetlands destruction, such as AEON Mall or Chip Mong Group, only one group has met a company representative directly.

Approximately 370,000m³ per day of water is pumped from Phnom Penh into the wetlands, much of which is raw sewage. If the wetlands continue to be infilled, it is likely that nearly half of Phnom Penh, roughly 1.2 million people, will be at an increased risk of flooding from sewage contaminated flood waters. The wetlands are essential in providing storage capacity for flood waters which protect Phnom Penh and Ta Khmao against seasonal back-flooding when the Bassac River flows into the wetlands.

The RGC appears to have leased public land to private companies without consulting the public in any meaningful way. Families in the wetlands complained that they were told they could not own the wetlands, but for companies and private individuals currently building projects in the area, the law seems to apply differently. The wetlands are likely to be public land, although this is unconfirmed. State public land cannot be reclassified for development until it loses its public interest use. The wetlands have many public uses in preventing flooding, treating wastewater and providing a home and livelihood to over a thousand families.

Environmental degradation

The destruction or significant reduction in volume and capacity of the wetlands will render its natural wastewater treatment processes void or significantly diminished and the Mekong and Bassac River will likely be polluted as a result. Aquatic crops planted on the lake's surface currently treat the wastewater before it exits into the Bassac River⁹. These crops are all that stands between polluted waters from Phnom Penh and the fish populations living in the small exit rivers around Ta Khmao, the Mekong and the Bassac. Should the wetlands be lost, wastewater will be unleashed upon fish populations and the communities that are dependent upon these rivers for water and food.

⁶STT survey and field research, 2019.

⁷ *International Covenant on Economic, Cultural and Social Rights (1966); The Convention on the Elimination of All Forms of Racial Discrimination (1969); The Convention relating to the Status of Refugees (1951); The Convention on the Elimination of All Forms of Discrimination Against Women (1979); The Convention on the Rights of the Child (1989); The Convention on the rights of persons with disabilities (2008).*

⁸Ville de Paris & Municipality of Phnom Penh, (2018) *Livre Phnom Penh extensions et mutations*, p 43

⁹JICA research has demonstrated that the wetlands are semi-effective at treating wastewater across several indicators, see JICA, 'Preparatory Survey Report on the Project for Sewerage System Development in the Phnom Penh Capital City in the Kingdom of Cambodia', 2019.

Loss of biodiversity, especially of endangered fish species, is expected. The wetlands are home to a variety of animals¹⁰ including two threatened species of fish and one bird¹¹. Some fish are listed as endangered by Cambodian regulations¹², and as critically endangered under the IUCN Red List¹³¹⁴.

Finally, the huge amount of sand required for the infilling of the wetlands may cause significant damage

to the Mekong and Bassac Rivers where it is dredged. Recent research has linked sand mining in Cambodia with deleterious effects on riverbank stability because of excessive sand dredging practices.¹⁵ The amount of sand required to infill the wetlands is estimated conservatively to be 77,000,000m³.¹⁶ The infilling of the wetlands is expected to require more sand than any other project in Cambodia's history.

¹⁰ IJICA, 'Preparatory Survey Report on the Project for Sewerage System Development in the Phnom Penh Capital City in the Kingdom of Cambodia', 2019.

¹¹ Ibid.

¹² Sub-Decree N 123 on the 'Determination of Fish Species and Products that are Endangered', 2009.

¹³ Hogan, Z. 2011. *Catlocarpio siamensis*. The IUCN Red List of Threatened Species 2011: e.T180662A7649359. <https://dx.doi.org/10.2305/IUCN.UK.2011-1.RLTS.T180662A7649359.en>. Downloaded on 31 January 2020.

¹⁴ Ahmad, A.B. 2019. *Probarbus jullieni*. The IUCN Red List of Threatened Species 2019: e.T18182A1728224. <https://dx.doi.org/10.2305/IUCN.UK.2019-2.RLTS.T18182A1728224.en>. Downloaded on 31 January 2020.

¹⁵ Hackney, C R., et al, 2020. 'River bank instability from unsustainable sand mining in the lower Mekong River'. Nature Sustainability: www.nature.com/natsustain.

¹⁶ Calculation is based on the depth of the wetland's different lakes and infilling to a metre above flood level. The calculation is likely to be significantly different in different areas of the wetlands and cannot be calculated without planning documents of ING and related projects. The total sand required could be lower than the number herein provided but is more likely to be higher based on current infilling that is infilling to height greater than 1m above flood level.

2.METHODOLOGY

This report employs a mixed-methods approach taken from impact assessment theory, especially social impact assessment; human rights-based approach; community-based mapping; site investigations; monitoring reports; desktop review; legal analysis; key stakeholder interviews and a households survey.

Objectives: The report aims to assess the likely social and human rights impacts that vulnerable people will, are currently or have already incurred because of the ING City project or other developments in the wetlands. In addition it aims to: assist in dissemination of information on the project to communities in line with Free, Prior and Informed Consent (FPIC) principles; provide the opportunity for community members to give feedback on the proposed project and its likely outcomes; and alert the public and the RGC to the potential impacts of the wetlands destruction.

Desktop review/legal analysis/key stakeholder interviews: A desktop review was conducted of previous community research and monitoring reports concerning the vulnerable groups in the project area, which was used to draft the social and human rights impact assessment (SHRIA) survey¹⁷. In addition, a review of the relevant legislation and policy was conducted. Selected NGOs working in the area participated in key stakeholder interviews, but companies or Government were not interviewed for the purposes of this research. The main companies involved in ING City, as well as the relevant Government departments, and other projects on the wetlands, were not interviewed for this research due to time restraints and security concerns¹⁸. Finally, a review of key documents and environmental research into the potential impacts of the wetland's destruction informs the environmental impacts findings of this research. The unavailability of the original Environmental Impact Assessment despite its legal requirement was an impediment to a comprehensive perspective of environmental impacts.

Social and human rights impact assessment (SHRIA): A questionnaire was developed focusing on participants' socio-economic status, enjoyment of human rights, knowledge of any projects in the wetlands area, and land tenure security. Interviews and data collection were conducted in May 2020.

Confirmation of findings of SHRIA survey findings: A focus group discussion with community representatives from eight communities was held on 19 June 2020. Due to Covid-19 safety precautions, only representatives from eight communities were invited to participate in the discussions to ensure social distancing protocols could be upheld. Community representatives were asked to confirm or deny many of the main findings and a general discussion was held on the potential impacts that communities may face in the future. Where community representatives disagreed or had different opinions to the key findings from the SHRIA survey, the research has reflected this.

Primary respondents: The target primary respondents for the SHRIA survey were 'vulnerable groups, and any groups who are or were using the wetlands or immediate exit rivers of the wetlands or live inside of the wetlands'. A vulnerable group is defined by the Ministry of Economy and Finance¹⁹ (MOEF) as impoverished households; women-headed households with dependents; elderly-headed households with no means of support; disabled-headed households; customary land users; and indigenous peoples without formal titles²⁰.

Sample size: A total of 469 respondent households participated in the SHRIA survey, of which 359 (77%) of the primary respondents were women. The total number of potential 'vulnerable groups using the wetlands area or immediate exit rivers' is between 900-1,200²¹, putting the sample size at approximately 39-52% of the target group.

¹⁷ Annex VII.

¹⁸ The latest Annual report of the United Nations High Commissioner for Human Rights and reports of the Office of the High Commissioner and the Secretary-General (2019), suggested through Recommendation (e) that the RGC "Allow civil society organizations to undertake activities at the subnational level without harassment and surveillance or any undue restrictions".

¹⁹ According to the Land Acquisition and Involuntary Resettlement Standard Operating Procedures for Externally Financed Projects in Cambodia 2018, promulgated through Article 1 of Sub-Decree No 22 on The Promulgation of The Standard Operating Procedures for Externally Financed Projects in Cambodia, 2018.

²⁰ Ibid, Section VI. Social Impact Assessment (D), pp 28-9.

²¹ STT community survey and mapping data.

Scope: The study area was defined to assess which groups would be likely affected by the project, both within and outside of the project boundaries. The SHRIA survey was implemented at 15 locations in the wetlands area (see Annex V). Many more people may be affected by development projects in the wetlands area, or because of mineral extraction to fill the wetlands area, but due to financial and time restraints the survey did not include those groups. Some of the groups that will likely be affected or are currently being affected by the destruction of the wetlands are: groups affected by sand-mining to infill the wetlands; groups affected by loss of fish populations; and the general public of Phnom Penh and Ta Khmao.

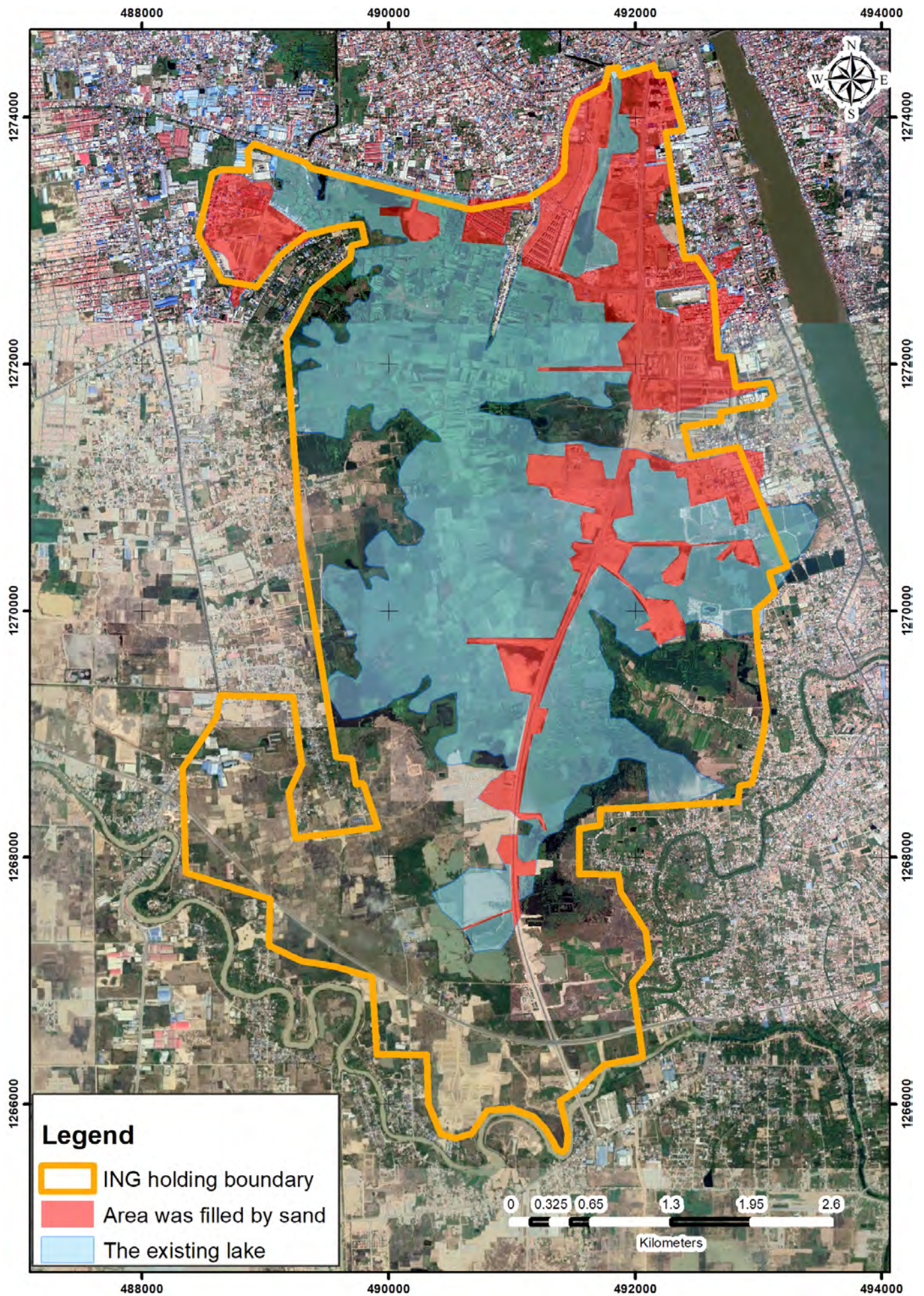
Limitations: The findings in this report are mostly estimates about the projected impacts of the lake developments, and the wetlands destruction, which have been compiled so that the RGC may be adequately

informed of the potential risks the project generates.

The report does not claim to be able to accurately assess the impacts of the project, but instead to provide an assessment of the potential harms and risks that must be understood to avoid further harm. In addition, impact assessment studies are the responsibility of the project owners²². Any assessments of environmental damages that may occur are only predictions. Without a full environmental impact assessment, the environmental damages likely to occur cannot be accurately assessed and any mitigation plans based on this report will require further research as a result.

Finally, while the sample size for SHRIA survey is estimated at 39-52% of the target group, making it statistically representative, some households may disagree with the survey findings.

²²Sub-Decree N 72 on 'Environmental Impact Assessment Process', 1999. Article 6.



Sand infilling map – The wetlands area already infilled with sand (in red) and the area that is inundated with water on a regular basis (in blue).

3. THE WETLANDS

A natural wastewater treatment system, a flood protector, a home to farmers, and a biodiverse region for animals.

The Tompoun/Cheung Ek wetlands are a series of lakes, lagoons, marshes, rivers, streams, and flooded fields that constitute a total area of more than 1,500

flows into the wetlands through three main canals: the Trabek canal, the Stung Meanchey canal, and the Lou Pram canal. Because of the dikes and ring-roads surrounding the city, and the wetlands being elevated compared to the lower parts of Phnom Penh, two of the canals require a pumping station to move rain and wastewater from the canals in the inner parts of



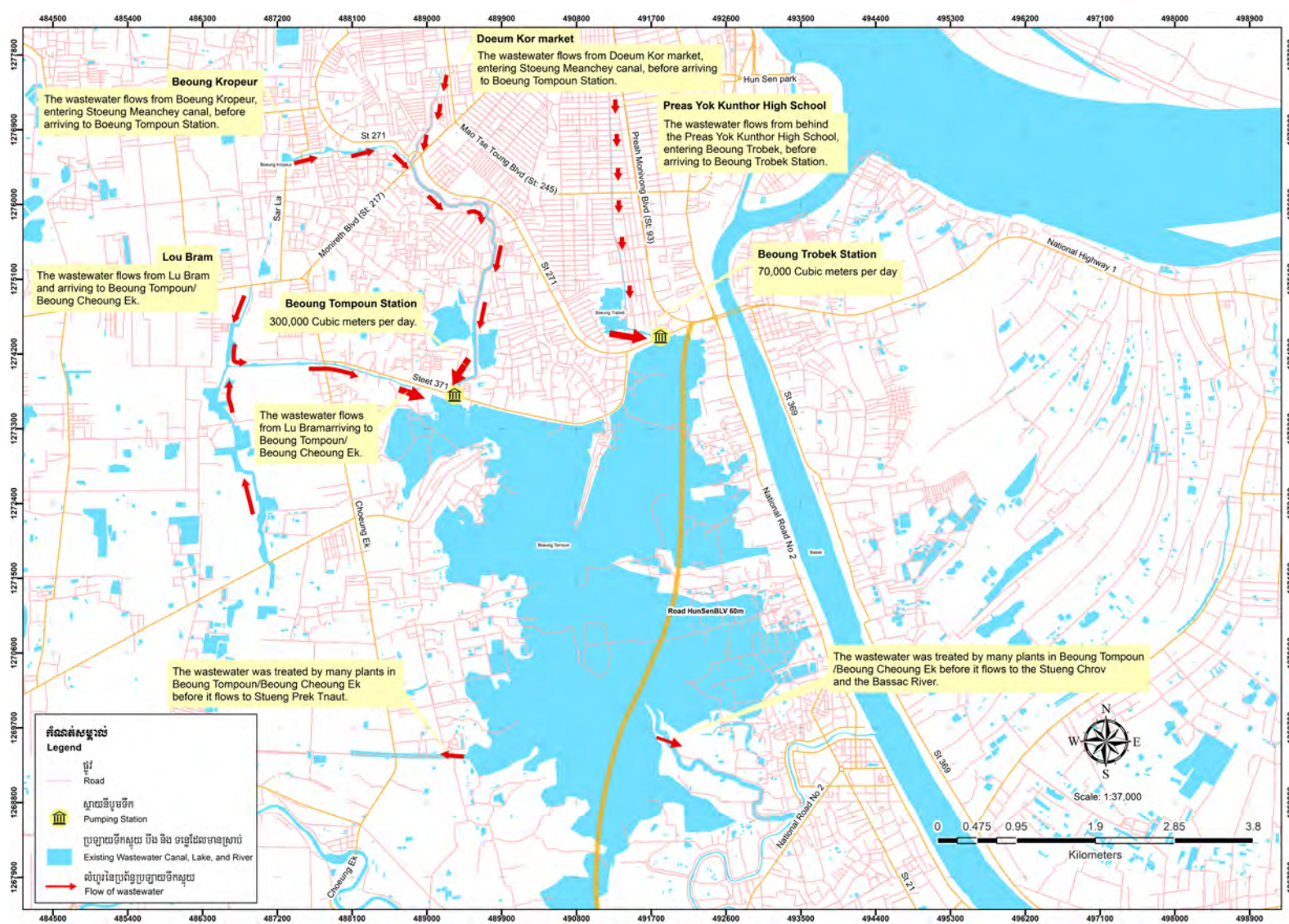
Wastewater from Phnom Penh's Trabek canal being pumped into the wetlands, 2020.

hectares. Despite their environmental importance, the area had never been protected by law until a section in the north, known as Boeung Cheung Ek, a single lake, was demarcated and registered in 2008²³.

Around 70% of Phnom Penh's rain and wastewater

Phnom Penh into the wetlands system. These pumps, for the Trabek and Stung Meanchey canals, record that the total combined rain and wastewater that is pumped into the wetlands is around 370,000 to 380,000m³ per day (see Annex III).

²³ Sub-Decree N 124 on the 'Establishment Of Cheung Ek Lake and Canals, Located in Meanchey and Dangkao Districts of Phnom Penh and Ta Khmao Town of Kandal Province as Public Properties', 2008.



Water from Phnom Penh moves through the wetlands and exits into the Bassac River after undergoing treatment from plants on the water's surface. Morning glory (*Ipomoea aquatica*), water celery (*Oenanthe javanica*), water mimosa (*Neptunia oleracea*), common water hyacinth (*Eichhornia crassipes*), and water reed

(*Cynodon dactylon*) assist in slowing the flow of the water and purifying it naturally by removing some of the harmful pollutants²⁴. Birds, bats, mammals, and insects are also found in the wetlands, in addition to a variety of fish, reptiles and amphibians.

²⁴ JICA, 'Preparatory Survey Report on the Project for Sewerage System Development in the Phnom Penh Capital City in the Kingdom of Cambodia', 2019.

In the dry season the water flows from the Tompoun/Cheung Ek wetlands to the Bassac River. However, during the rainy months of June to November, the water flow changes direction and water from the Bassac River floods the Tompoun/Cheung Ek wetlands through the Stung Chrov and Prek Thnaot rivers. Phnom Penh and Ta Khmao are protected from floods as the wetlands act as a storage reservoir for the water from the Bassac River as it overflows.

Some local communities report having



Morning glory and water celery planted on the wetlands, 2020.



A fishing bird watching for fish in the wetlands, 2020.

lived in the area since the 1970s. While some communities plant aquatic crops on the surface of the lake, others use the area to move cattle, catch fish, raise ducks, or plant crops when the water recedes. Many communities live on the shores of the lakes, whereas others live on the exit rivers or inside the wetlands in houses on stilts. There are estimated to be more than one thousand vulnerable poor families living in and around the area who depend upon the wetlands for housing and to sustain their livelihoods.

LAW AND REGULATION

International law on wetlands and river management

Cambodia acceded to the Convention on Wetlands of International Importance especially as Waterfowl Habitat, more commonly known as The Ramsar Convention, in June 1999. Cambodia has allocated four sites for protection as wetlands of global significance. Although Cambodia has not allocated the Tompoun/Cheung Ek wetlands as protected, there is precedence for it to do so, especially as the convention calls upon parties to acknowledge the interdependence of humans and wetlands and the importance of wetlands for nutrient cycling and flood control.²⁵

Cambodia is also party to the Agreement on the Cooperation for the Sustainable Development of the Mekong River Basin (1995). Cambodia, along with Laos, Thailand, and Vietnam, recognises that the resources of the Mekong River Basin are of immense value to all countries bordering the river and the people of these countries.²⁶ Parties to the agreement must protect the environment and 'ecological balance of the Mekong River Basin from pollution or other harmful effects'.²⁷ Article 7 requires that States make every effort to avoid harming the water quality and eco-systems of the Mekong River Basin through discharge of wastes.²⁸ Article 8 outlines the States' responsibilities for any damages incurred through violation of article 7, as well as the procedures to follow for the resolution of issues.²⁹ The Mekong River is currently being mined to provide sand for the infilling of the Tompoun/Cheung Ek wetlands. In addition, harmful pollutants may enter the river if mitigation plans are not in place to prevent this.

²⁵ Convention on Wetlands of International Importance especially as Waterfowl Habitat (1971).

²⁶ Agreement on the Cooperation for the Sustainable Development of the Mekong River Basin, (1995), Chapter 1 Preamble.

²⁷ Ibid, Article 3.

²⁸ Ibid, Article 7.

²⁹ Ibid, Article 8.

4. PAVING PARADISE – THE PROJECTS DESTROYING THE WETLANDS

ING Holdings has been developing a satellite city project covering 2,572 hectares in the Tompoun/Cheung Ek wetlands area since 2004³⁰. The lease agreement is not publicly available online, despite the wetlands serving a public interest through flood protection and natural wastewater treatment. ING Holdings was established in 2005 and partners with Daun Penh Group, the Foreign Trade Bank of Cambodia, and Cogetel (Online)³¹. ING City is the largest development project in Cambodia³². By in-filling the wetlands with sand, the project creates real estate to be sub-leased to other groups with the full support of the RGC and in-line with the 2035 Phnom Penh Master Plan³³.

The ING-City project phase 1 includes numerous business clusters such as schools; government city; building material city; logistics hub; auto city; factory outlets; Japanese medical facilities; Japanese aged-care facility; Chinese retirement homes; amusement park; housing and local shopping.³⁴

In the plans available for review, the project includes no pro-poor housing or low-income options, instead emphasizing foreign markets as one of the main target consumers, such as China and Japan.³⁵ Secondary consumers are likely to be middle-to-high income earners. Around 300,000 housing units are expected to be created via the project.³⁶

Boeung Cheung Ek is a legally demarcated lake within the wetlands that was given legal status after the leasing of the area to ING City.³⁷ As opposed to the rest of the minimum 1,500-hectare wetlands, the Boeung Cheung Ek lake is clearly demarcated as state public land. The demarcation of the lake raises questions about the legality of ING City's original lease over the wetlands, and why only 520 hectares were demarcated as state public land, when 1,500 hectares is inundated with water on a near permanent basis. Up until 2017, Boeung Cheung Ek was fully intact and would likely mitigate against floods and assist in the treatment of the city's wastewater as a sufficient area of the wetlands would survive ING City³⁸. At least 480 hectares of the wetlands should be preserved to protect against flood and wastewater issues according to Livre Phnom Penh extensions et mutations, a study produced in cooperation with the Municipality of Phnom Penh.³⁹ However, in the last two years, more than 70% of Boeung Cheung Ek has been leased to private companies or individuals, including real estate developers Orkide Villa and Chip Mong Real Estate. The wetlands are now likely to be all but destroyed, with over 95% of the 1,500 hectares already leased to developers.

³⁰ ING company website: <http://www.ing-holdings.com/overview>; <http://www.ing-holdings.com/projectpdfEng>.

³¹ ING company website: <http://www.ing-holdings.com/profile#>.

³² ING company website: <http://www.ing-holdings.com/overproject>.

³³ Ibid.

³⁴ Ibid.

³⁵ Ibid.

³⁶ JICA, 2016, 'The Study on Drainage and Sewerage Improvement Project In Phnom Penh Metropolitan Area', Final Report Vol. II.

³⁷ Sub-Decree N 124 on the 'Establishment Of Cheung Ek Lake and Canals, Located in Meanchey and Dangkao Districts of Phnom Penh and Ta Khmao Town of Kandal Province as Public Properties', 2008.

³⁸ Ville de Paris & Municipality of Phnom Penh, Livre Phnom Penh extensions et mutations, (2018), p 40.

³⁹ Ibid.

LAW AND REGULATION

From public interest to private bank accounts

According to the Land Law of 2001, state public property cannot be sold, but can be reclassified as state private property when it loses its 'public interest use'.⁴⁰ State private property can then be sold, leased and distributed as determined by a sub-decree.⁴¹

Royal Decree No. 339, sets out the rules and procedures on the reclassification of state public property. To be reclassified as state private property, state public property must meet the following conditions:

'The property is no longer in the public interest; or

The property has lost its full functionality in the service of public interest; or

That property is no longer used directly by *the public*.⁴²

Under Sub-Decree No. 129, which sets the principals, strategy and legal procedures for the managing and functioning of state properties, the authority which has the responsibility to publicly observe and report the on the public interest conditions of state-public property is the State Property Management Authority.⁴³

Based on the conditions which must be met to reclassify state public property as state private property, the loss of 'public interest use' in the wetlands area is difficult to imagine. The wetlands continue to provide benefits to the public via flood mitigation and natural wastewater treatment.

Clarity regarding classification of the land by the RGC would limit rights violations by providing transparency, security and predictability for residents and land users. As tenure security is a key component of the right to adequate housing⁴⁴, the provision of clarity surrounding the legal situation of the land in the area would put Cambodia more in line with its international obligations to ensure this right⁴⁵. Currently, many wetlands users report fear of eviction as they do not have land titles where they live but have yet to be consulted on their tenure situation by authorities.

⁴⁰ Land Law 2001, Article 16.

⁴¹ Ibid.

⁴² Royal Decree 'Provisional Guidelines and Principles Regarding the Reclassification of the State Public Properties and of Public Entities', Article 1, No. 339, 2006.

⁴³ Sub-Decree 'Rules and Procedures on Reclassification of State Public Properties and Public Entities', Article 1 and Chapter 6, No. 129, 2006.

⁴⁴ According to the United Nations Office of the High Commissioner for Human Rights adequate housing is housing that has: (1) legal security of tenure; (2) availability of services, materials, facilities and infrastructure; (3) affordability; (4) habitability; (5) accessibility (6); location allowing access to other aspects of adequate housing and especially to opportunities for employment; and (7) cultural adequacy. UN Office of the High Commissioner for Human Rights (OHCHR), Fact Sheet No. 21, The Human Right to Adequate Housing, November 2009, Fact Sheet No. 21/Rev.1.

⁴⁵ International Covenant on Economic, Cultural and Social Rights (1966), Article 11.

Table 1 – Companies involved in ING City or other development projects

Company	Project description
ING Holdings	Residences, industry, transport, infrastructure
AEON Mall No. 3*	Shopping centre (17.4ha) ⁴⁶
Borey Peng Huoth	Villas (+1000 units)
Borey Chip Mong Land	Villas (6,450 units) ⁴⁷
Chip Mong Land Group	Villas/Mall
International School of Phnom Penh (ISPP)	International private school
Lingnan Garden*	Condominiums
Star Auto Cambodia (Mercedes – Benz)	Car dealership
Orkide Villa	Unconfirmed, expected to be housing
Urban Village*	Condominiums (4,000 units) ⁴⁸
R & F City*	Condominiums (3,850 units) ⁴⁹
Versaille Square*	Apartment building
PH Eco Mall	Shopping Mall
Maritime Group	Office/Apartment building

* *International company or international parent company.*

JICA's wastewater treatment plant

Although not a company or project aimed at the destruction of the wetlands, the Japanese International Cooperation Agency's (JICA) wastewater treatment plant will be built upon a section of the wetlands under control of the Municipality of Phnom Penh. The plant will treat 5,000m³ of water per day⁵⁰ and has a start-up cost of US\$26 million in addition to on-going recurring costs for maintenance, repair, training of staff, staff salaries and expansion where necessary, which will fall to the RGC or the Municipality of Phnom Penh in the future.

The total amount of wastewater and rainwater entering the wetlands is estimated at 370,000m³ per day, which is likely a minimum. This puts the JICA wastewater treatment plant at less than 2% treatment capacity of the wastewater entering the Tompoun/Cheung Ek wetlands, making the plant wildly unfeasible in terms of wastewater treatment/cost effectiveness without

the preservation of the Boeung Cheung Ek lake. Without the 520 hectares of the lake, the Bassac River, other rivers, and Phnom Penh, could be contaminated with 365,000m³ of untreated water daily.

JICA has released an impact assessment-styled report for its proposed treatment plant titled 'Preparatory Survey Report on the Project for Sewerage System Development in the Phnom Penh Capital City in the Kingdom of Cambodia'⁵¹. The report fails to mention the total wastewater entering the wetlands system, does not discuss the potential impacts of the wetlands destruction by the ING City project and other developments, fails to properly conduct consultation with NGOs, and states that gender equality is no longer a serious issue in Cambodia⁵². JICA's wastewater treatment plant will not efficiently treat the wastewater entering the wetlands and may be used as a justification by companies and proponents for the destruction of the wetlands.

⁴⁶ AEON Mall website: <https://www.aeonmall.com/en/business/list.html>.

⁴⁷ Ville de Paris & Municipality of Phnom Penh, *Livre Phnom Penh extensions et mutations*, (2018), p 83.

⁴⁸ Urban Village website: <http://villagephnompenh.com>.

⁴⁹ Ville de Paris & Municipality of Phnom Penh, *Livre Phnom Penh extensions et mutations*, (2018), p 83.

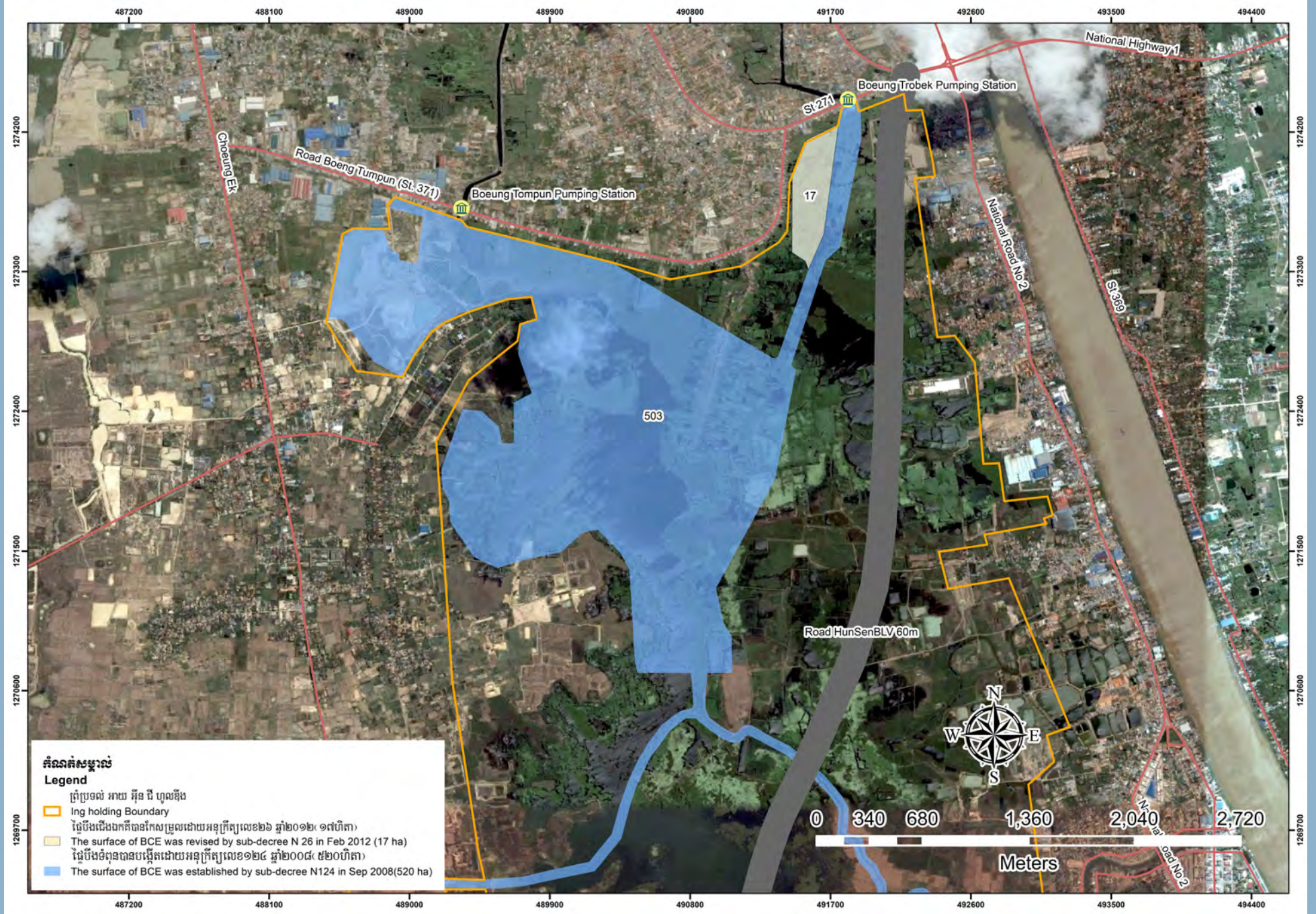
⁵⁰ Interview with JICA, 2019.

⁵¹ JICA, 'Preparatory Survey Report on the Project for Sewerage System Development in the Phnom Penh Capital City in the Kingdom of Cambodia', 2019.

⁵² JICA, 'Preparatory Survey Report on the Project for Sewerage System Development in the Phnom Penh Capital City in the Kingdom of Cambodia', 2019. See page 1-65 for reference to gender equality.

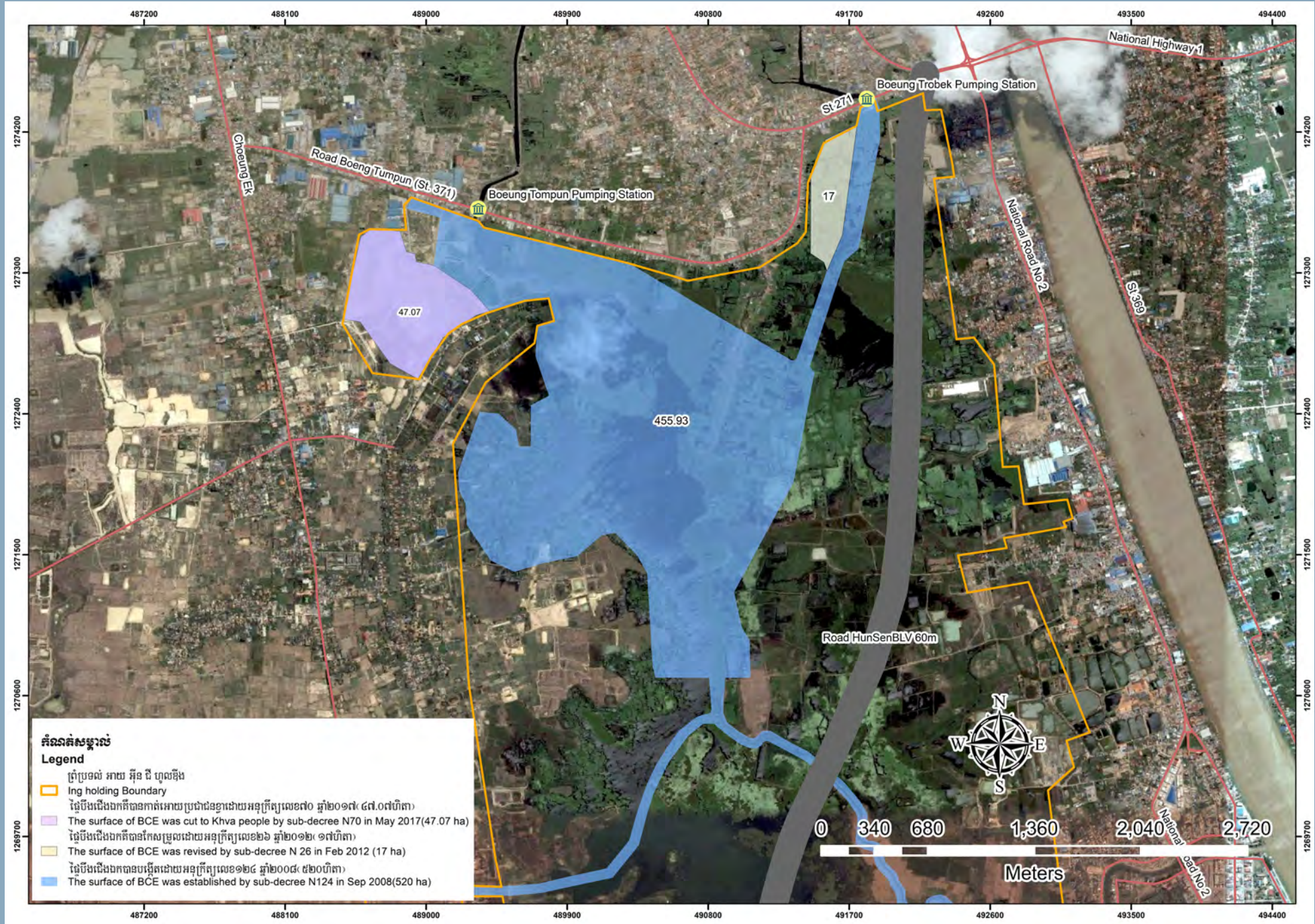
TIMELINE OF THE LOSS OF THE TOMPOUN/CHEUNG EK WETLANDS





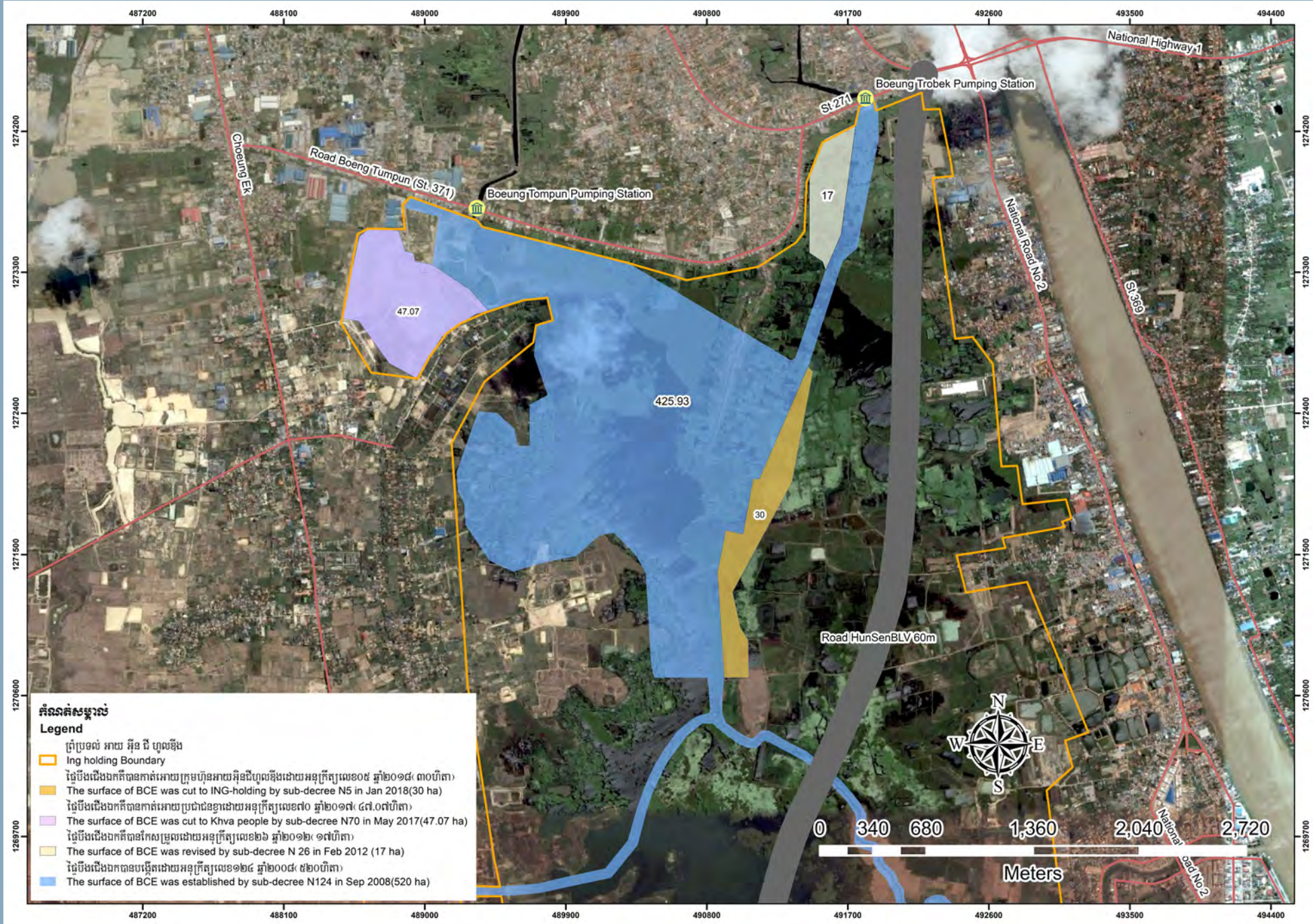
2012 - Lake area 503ha

In February 2012, the lake surface was revised, and 17 hectares were removed via Sub-Decree N 26 'Amendment of Sub-Decree N 124 2008'. It is not specifically stated within the sub-decree whom this land was leased to, but the Chip Mong group is currently building there.



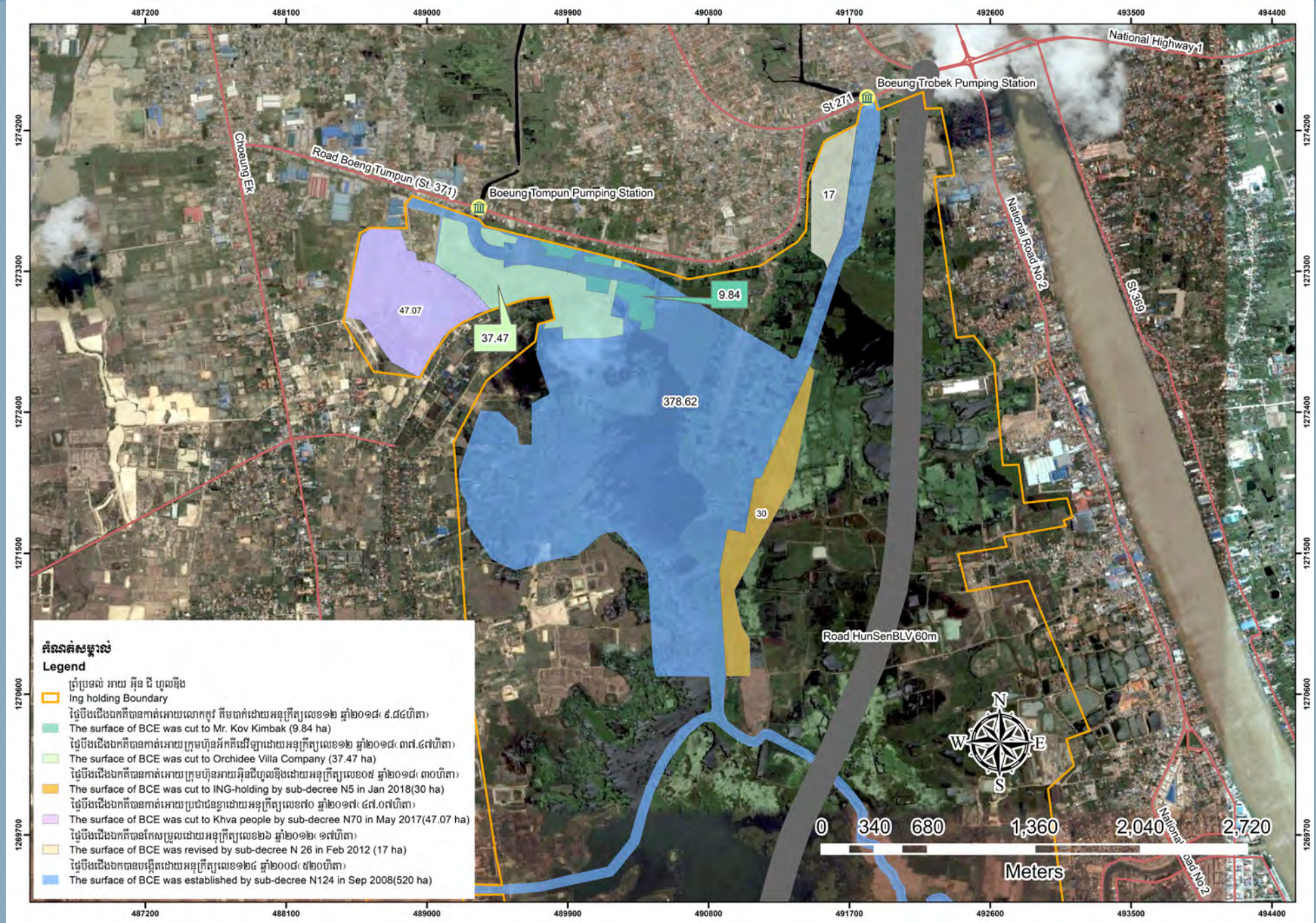
2017 - Lake area 456ha

In May 2017, 47 hectares of the lake was reallocated to the Khva people via Sub-Decree N 70 (see footnote 4). The “Khva people” appears to be a group of persons from Khva, however, when researchers attempted to contact persons in the area, local respondents said they were not aware of any land grant to any group known as the “Khva people”.



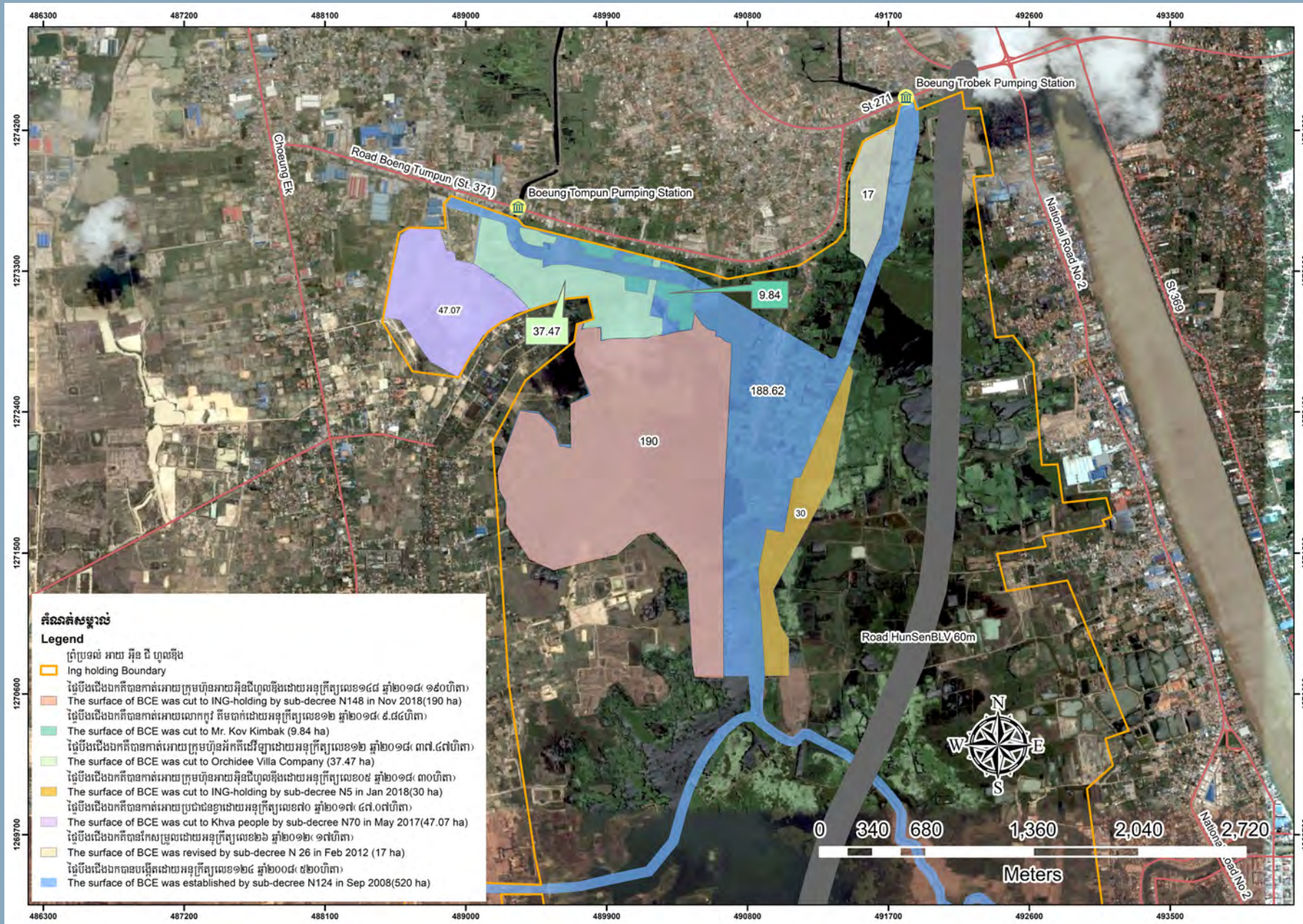
January 2018 - Lake area 426ha

In 2018, the lake surface was again leased to different groups on four separate occasions. First, in January, 30 hectares of lake was given to the ING-Holdings company in a compensation-styled exchange for 10 hectares of land that the company provided to the Ministry of Interior via Sub-Decree N 5 ‘Amendment of the Cheung Ek Lake and Canals in Khan Meanchey and Khan Dangkao of Phnom Penh and Ta Khmao Town of Kandal Province’.



February 2018 - Lake area 379ha

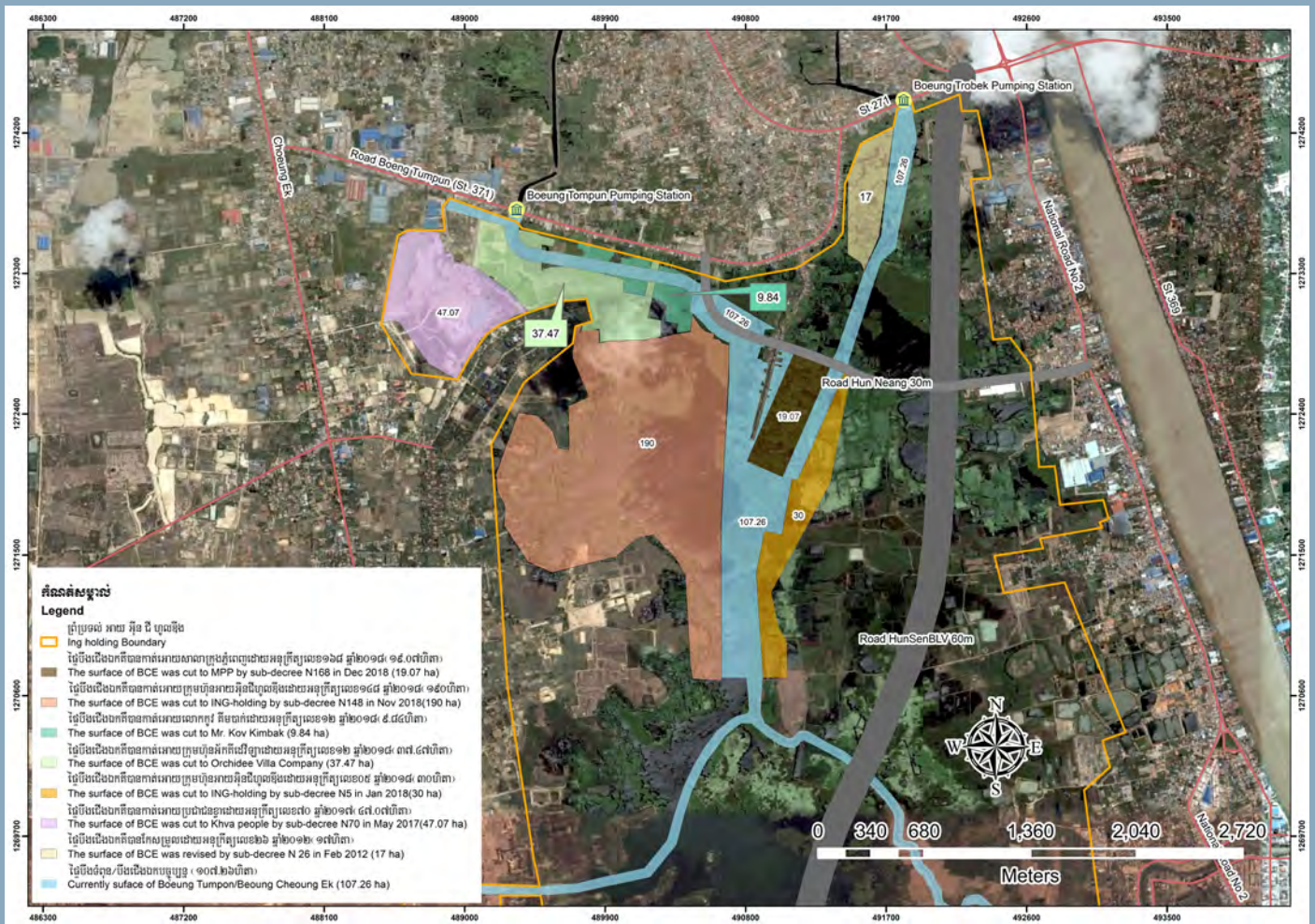
In February 2018, more than 47 hectares was provided to two groups via Sub-Decree N 12 (see footnote 4); Orkide Villa received more than 37 hectares of the lake and a private individual received nearly 10 hectares.



November 2018 - Lake area 189ha

An additional 190 hectares of lake area was granted to ING-Holdings via Sub-Decree N 148 (see footnote 4). This land has recently been revoked but may be provided to another company for development in the future⁵⁴.

⁵⁴ Fresh News Asia, 2019. Accessed at: <http://m.en.freshnewsasia.com/index.php/en/localnews/14701-2019-07-22-06-03-39.html>.



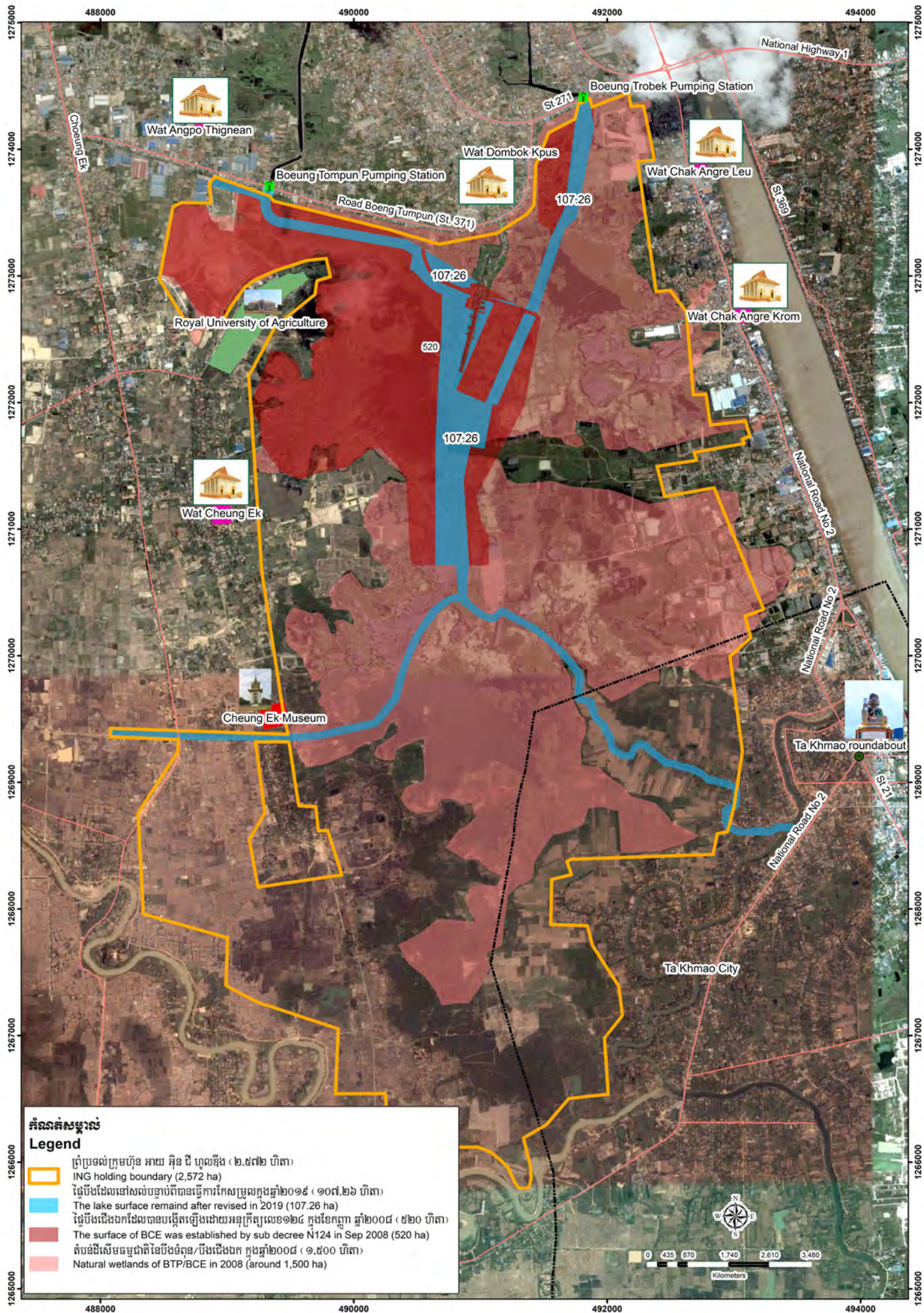
**December 2018
 - Lake area 107ha**

In December 2018, Sub-Decree N 168 ‘Amendment of the Cheung Ek Lake and Canals in Khan Meanchey and Khan Dangkao of Phnom Penh and Ta Khmao Town of Kandal Province’, provides that nearly 20 hectares of lake was provided to Phnom Penh Capital Hall for the building of a wastewater treatment station, which is being built with supporting fund and technical assistance from JICA. Sub-Decree N 148 ‘Amendment of the Cheung Ek Lake and Canals in Khan Meanchey and Khan Dangkao of Phnom Penh and Ta Khmao Town of Kandal Province’, provides the ultimate clarification for the remaining area of the lake under Article 3, which notes it is now 107 hectares. Nearly 80% of the lake has been leased since its demarcation in 2008, a demarcation that was already one third of the natural size of the wetlands area.

In addition, Sub-decree N 05 ‘Amendment of the Cheung Ek Lake and Canals in Khan Meanchey and Khan Dangkao of Phnom Penh and Ta Khmao Town of Kandal Province’, 2018, is now abrogated by Sub-decree N 141 on the ‘Cancellation (abrogation) of the Sub-Decree N 5 2018’, 2019, and Sub-decree N 142 ‘Amendment of the Cheung Ek Lake and Canals in Khan Meanchey and Khan Dangkao of Phnom Penh and Takmao Town of Kandal Province’, 2019 transfers the land that was revoked by Sub-decree N 141 and reallocates it to six individuals and the government.

Since 2008, when the lake was demarcated as 520 hectares, the lake has been reduced by approximately 413 hectares. In a report signed off on by Phnom Penh Governor Khuong Sreng, it was noted that the Cheung Ek Lake must maintain an area of at least 480 hectares to avert risking serious environmental consequences⁵⁵. Currently, only 107 hectares of the lake are likely to survive.

⁵⁵ *Ville de Paris & Municipality of Phnom Penh, Livre Phnom Penh extensions et mutations, (2018) p 40.*



Sand infilling map – The wetlands area already infilled with sand (in red) and the area that is inundated with water on a regular basis (in blue).

5. MAIN FINDINGS



Human rights and social impacts

“It will be difficult when they fill the lake and I don’t know what to do for our daily life.”

- Farmer from wetlands, May 2020.

Around one thousand households are expected to be directly affected, or are already being affected, by the ING City project or other projects underway in the Tompoun/Cheung Ek wetlands area. Cambodia has ratified numerous conventions that ensure the human rights of people living in Cambodia must be respected, protected, and fulfilled by the RGC⁵⁶. The following impacts suggest significant issues persist in the protection and fulfilment of human rights for wetlands users.

A significant amount of families living in the wetlands are vulnerable, and will likely face harsher effects

because of poor education, lack of social security support, gender-related biases, and indebtedness. The majority of households do not have hard land titles, making them tenure insecure and vulnerable to eviction. Aquatic farming families, fishing families, and snail harvesting families also face loss of livelihoods as a result of wetlands destruction. Prior consultation has not been given to most households, many of whom are unaware of what development means for them and their families. Finally, flooding is a serious risk for groups living along exit rivers and in areas where drainage and other flood protections do not exist. There are likely to be severe effects on quality of life for an estimated 1 to 2 million people living in Phnom Penh, Ta Khmao and along the riverbanks of the Mekong and Bassac rivers. Many of these people are likely to suffer from increased vulnerability to flooding, water pollution, habitat destruction and loss of livelihood.

⁵⁶ *International Covenant on Economic, Cultural and Social Rights (1966); The Convention on the Elimination of All Forms of Racial Discrimination (1969); The Convention relating to the Status of Refugees (1951); The Convention on the Elimination of All Forms of Discrimination Against Women (1979); The Convention on the Rights of the Child (1989); The Convention on the rights of persons with disabilities (2008).*

It was beyond the scope of this research to fully investigate the effects of the ING City project and other developments, so instead those most directly affected by this project are focused upon.

Survey respondents

While most respondents to the questionnaire were women (77%), only 32% of respondent households reported being female-headed households. Reasons for this varied but are likely linked to women being more likely to be at home during the day when interviews were conducted because of cultural gender norms, and because fewer men were in some communities due to migration. The average age of respondents was 45 years old, with the youngest respondent being 18 years old, and the oldest respondent being 75 years old.

Respondent households lived within or used the wetlands area directly and often had been doing so for more than 20 years. Some communities have longstanding claims to the area, such as Prek Takong Mouy (1986), Prek Takong 60meters (1990), Prek Takong Bei (1990), Prek Tanou Muoy (1981), Prek Tanou (1999), and Cheung Ek (1999). Additionally, many communities were not officially named, and the survey made sure to include households who did not belong to communities or belonged to unofficially named communities. Most (86%) households had been living in the wetlands for at least 5 years.

More than half of all households (51%) relied upon the wetlands for their livelihoods and had settled in the area because they could not find other areas to live. When asked why respondents had initially migrated to the wetlands, the most common responses (66%) were related to economic opportunities that the wetlands provide. While some respondents had only been living in the wetlands for a few years at the time of interview, others had historical links to the wetlands and had been using the area since before 1970⁵⁷, or right after the fall of the Khmer Rouge.

While some communities in the area are organised and advocate regularly for their human rights to be realised, others are less organised with households spread far

apart. Most households live on the periphery of the wetlands, often near other communities who are not poor and have legally recognised ownership of their land. A small percentage of households live directly within the wetlands, usually on islands, or houses on stilts, and are often isolated from essential services because of their remoteness.

A significant number of primary respondents were vulnerable according to national definitions,⁵⁸ yet less than 20% had access to the ID Poor Program⁵⁹. On average, more than a single family (1.5 families) lived in a household. 55 respondents (12%) said a person living in their household lives with a disability, with walking or vision impairment being the two most common responses. In addition, 31 households (7%) included an elderly person who was unable to work and required looking after.

Respondent households had varying levels of formal education. Only 10% of all households had a family member who had completed primary school and 30% of respondents themselves had no formal schooling. The primary source of income for respondent households was linked closely with the wetlands (see Livelihoods), meaning that many of the households relied upon their location for income generating activities.

Debt

Indebtedness was reported by 294 (62%) respondents. The trimmed average loan size (highest 2% removed) to an MFI was US\$3,826.18.⁶⁰ Only 52% of indebted respondents said they were able to repay their loans on time. Issues related to debt repayments included abuses such as less food to eat (94 respondents), taking children out of school to work to repay debt (32 respondents), and land loss (14 respondents). Other issues reported included having to work more jobs since taking out a loan (93 respondents), and not having enough money to spend on healthcare (8 respondents). Of the 294 respondents that reported having a loan, only 43 (14%) said they had not incurred a serious problem related to it.

⁵⁷ Most respondents with links to the area since pre-1970 are from the Ta Khmao region.

⁵⁸ According to the Land Acquisition and Involuntary Resettlement Standard Operating Procedures for Externally Financed Projects in Cambodia 2018, promulgated through Article 1 of Sub-Decree No 22 on The Promulgation of The Standard Operating Procedures for Externally Financed Projects in Cambodia, 2018.

⁵⁹ ID Poor is a Government program that identifies poor households and provides them with ID Poor cards for use in accessing social services such as healthcare, educational opportunities, and clean water.

⁶⁰ Average loan size for Cambodia is US\$3,804.00 as of 2020. Nikkei Asian Review, S Turton 'Hun Sen to Cambodian banks: Seize property if borrowers won't pay' (2020).

Additionally, a significant number of respondents had used land receipts⁶¹ or personal identification materials to collateralise loans. 64 respondents had provided a farming land title for a loan, and 70 households had provided a land receipt or a land title as collateral. Given recent evidence uncovered by STT and LICADHO linking land loss to predatory lending practices of MFIs⁶², as well as the reports of 14 respondents that

had lost land as a result of loan default, or fear of default, in this research, the fact that land receipts and titles are being used to secure loans is concerning for the tenure security of the households involved. The use of identification documents, including ID cards, family books, and passports, for securing loans was reported by 97 respondents.



Gender Analysis

Several respondents reported that men often migrate away from Phnom Penh to find work. In one community, women typically undertook snail collection and aquatic agriculture when there were wetlands for foraging and planting. Since the infilling in the area, the community reported women were now more likely to work in local factories or to be unemployed and dependent upon their husband's income. In other communities, both men and women undertook work on the lake, such as farming or harvesting snails. Fishing was typically undertaken by men, whereas factory work was more likely to be undertaken by women.

Women were more likely to be affected by flooding also. In some instances, women reported trying to navigate

flood waters by dragging boats or carrying children to send them to school, whereas their husbands would more commonly ride motorbikes through flooded waters or would not have to cross the waters as regularly. Some women indicated that it was their job to ensure their children attend school safely and regularly put themselves in dangerous situations, such as crossing through flooded areas on foot, in order to do so. One woman attributed her frequent skin rashes to the exposure to polluted waters and noted that in the past, before the infilling of the wetlands, her village was not flooded on a regular basis. Many communities had no surrounding streetlights and many women, who were more likely to be factory workers coming home after dark, reported not feeling safe sometimes as a result.

⁶¹ Land receipts refers to evidence that the house or land was purchased or is owned by a person but does not confer legal rights necessarily to that property.

⁶² STT and LICADHO, 'Collateral Damage' (2019).

Women earners also made less than male earners. Women typically earned \$100USD less than male earners per month. In addition, women were more likely to be indebted to an MFI or private lender than men were, but typically had smaller loans. Women's average loan sizes were on average 20% lower than men who had loans. It should be noted that in many cases loans were taken out by a woman in the household, but multiple members of the household were jointly responsible for repaying the loan.

The Right to Adequate Housing⁶³

Cambodia's ratification of five fundamental conventions that recognise the right to adequate housing is an important legal protection against evictions without proper remedy⁶⁴. Cambodia is obligated to ensure that households currently enjoying the right to adequate housing do not have this right violated through increased vulnerability to flooding, forced eviction, or other actions that would impinge upon the right to adequate housing⁶⁵. The RGC is obliged to ensure that its actors do not participate in forced evictions of communities, and should forced evictions take place the RGC must take legal action against the actors who perpetrated the forced evictions⁶⁶. In addition, the right to be free from "arbitrary or unlawful interference" with one's home is protected through article 17.1 of the International Covenant on Civil and Political Rights (ICCPR) (1966). Despite this, actors of the state, such as police, have told some families living in the area that they will be evicted in the future.

Many families will likely face eviction or pressure to relocate because of the ING City project and associated developments in the area. Promisingly, one community

in the project area, Prek Takong Muoy, has now received land titles for their houses, but other communities have not received information on their tenure situations. Prek Takong Mouy has longstanding tenure claims to the area, but other communities, such as Prek Takong 60metres, who have similarly longstanding tenure claims, and live in similar situations with respect to the boundaries of the wetlands and their houses, have not received land titles or undergone any titling processes. When asked why Prek Takong Muoy had received land titles the community respondents told researchers that the Government recognised their longstanding claims to the area. The respondents could not point to any legal mechanisms which were used in the process of titling. Many communities have expressed dismay over what they see as the unequal application of the law when it relates to ownership of the area.

Only 18% of respondents said that they possessed a hard land title for their households⁶⁷. Over 80% of all respondents lived along or on a body of water. Of these, the majority lived next to or on the wetlands directly. Others lived along canals and exit streams. The Land Law (2001) states that ownership of state public land, including lakes and rivers, is prohibited⁶⁸, and some communities living in the area have been explicitly told they will not receive land titles because the state owns the land where they live.

Of the 469 respondents asked, 79 (16%) respondents had heard rumours that they may be evicted, and 84 (17%) respondents were told by local authorities that they would be evicted soon. Despite the rumours, no respondents had received an official notice to evict, leaving them feeling insecure about their tenure and unable to plan for the future.

⁶³ Universal Declaration of Human Rights (1948), Article 25(1).

⁶⁴ International Covenant on Economic, Cultural and Social Rights (1966), Article 11; The Convention on the Elimination of All Forms of Racial Discrimination (1969), Article 5(e)(iii); The Convention relating to the Status of Refugees (1951) Article 25 (1); The Convention on the Elimination of All Forms of Discrimination Against Women (1979), Article 14(2); The Convention on the Rights of the Child (1989) Article 27(3); International Convention On the Protection of the Rights of All Migrant Workers and Members of Their Families (1990), Article 43(1); The Convention on the rights of persons with disabilities (2008), Article 28(1).

⁶⁵ Ibid.

⁶⁶ Committee on Economic, Social and Cultural Rights, 'General comment No. 7: The right to adequate housing (Article 11 (1) of the Covenant): Forced evictions', (1997), para 8.

⁶⁷ A 'hard land title' is one which is recognized nationally and confers the strongest legal rights of ownership.

⁶⁸ Land Law, 2001. Article 43.

INTERNATIONAL MECHANISMS

Cambodia's Universal Periodic Review⁶⁹

The RGC accepted the following recommendations made during Cambodia's Third Universal Periodic Review as of 12 September 2019:

S - 110.20 Complete land reform to facilitate access to and use and development of land for individuals and small and medium-sized enterprises;

S - 110.22 Implement a coherent resettlement policy and simplified process for granting communal land titles, consulting communities, civil society and indigenous groups;

S - 110.23 Ensure that all pending lands disputes, evictions and relocations are settled in a fair, transparent, negotiated and adequately compensated manner.⁷⁰

Additionally, in the latest Concluding observations on the sixth periodic report of Cambodia (2019), the Committee on the Elimination of Discrimination against Women (CEDAW) makes four recommendations aimed specifically at improving women's access to housing (20 [c]), ensuring improved access to housing through national policy (21 [b]), and providing access to housing to ethnically Vietnamese Cambodian women being resettled from boat-houses along the Tonle Sap (32, 33 [a]).

Covid-19 and evictions

In its guidance note about the Covid-19 pandemic, the Special Rapporteur on the right to adequate housing, Leilani Farha, noted that housing is significant protection against the spread of the disease and called for an end to all evictions during and in the aftermath of the pandemic. Noting the serious consequences of the current climate as it relates to Covid-19, the Special Rapporteur decried any evictions as a potential death sentence for those evicted.

Adequate housing was generally not observed at interview sites⁷¹. Houses were typically one or two rooms, although there was variation, with an average of six people living in a single unit building. Construction materials were primarily cheap, such as aluminium, scrap metal, and bamboo. Respondents reported that heat and flooding affect their standard of living. Over half of all respondents reported that flooding affects their communities, with 165 households reporting flood waters inside their communities that had last for more than four weeks during the rainy season (see Flooding). Flooding has particularly dangerous affects for children, who were often forced to navigate polluted flood waters to attend school. As a result, some communities reported that children would not attend school when floods were ongoing, and that

flooding had often caused children to miss significant amounts of schooling during the rainy season, affecting their right to education⁷².

89 households (19%) reported that they had no toilet facilities, 309 households (66%) reported their streetlights did not work or that they had no streetlights, and 323 households (69%) reported that they had no access to waste collection services.

More positively, respondents tended to be close to some essential services and locations such as the market, public health services and schools. In reference to the wetland's destruction, one respondent said "I do not want to move from here as we have very good schools and access to employment. That's why I don't want to be evicted".

⁶⁹ The Universal Periodic Review (UPR) is a unique process which involves a review of the human rights records of all UN Member States. The UPR is a State-driven process, under the auspices of the Human Rights Council, which provides the opportunity for each State to declare what actions they have taken to improve the human rights situations in their countries and to fulfil their human rights obligations. Information on Cambodia's 2019 UPR review can be accessed at: <https://www.ohchr.org/EN/HRBodies/UPR/Pages/KHIndex.aspx>.

⁷⁰ Universal Periodic Review for Cambodia, Responses to Recommendations, Session 32, Third Review, 2019. Accessed at: < https://www.upr-info.org/sites/default/files/document/cambodia/session_32_-_january_2019/2rps_cambodia.pdf>.

⁷¹ According to the United Nations Office of the High Commissioner for Human Rights adequate housing is housing that has: (1) legal security of tenure; (2) availability of services, materials, facilities and infrastructure; (3) affordability; (4) habitability; (5) accessibility (6); location allowing access to other aspects of adequate housing and especially to opportunities for employment; and (7) cultural adequacy. UN Office of the High Commissioner for Human Rights (OHCHR), Fact Sheet No. 21, The Human Right to Adequate Housing, November 2009, Fact Sheet No. 21/Rev.1.

⁷² Cambodia has ratified the *International Covenant on Economic, Cultural and Social Rights* (1966), which provides that education shall be available to all children under Article 13.

The Right to Social Security⁷³

Cambodia has ratified the International Covenant on Economic, Cultural and Social Rights (ICECSR) (1966) and accordingly recognises the rights of everyone to social security⁷⁴. The RGC through its ratification of the covenant and in accordance with article 2(1) must take effective measures to fully realise this right without

discrimination⁷⁵.

Despite this, access to social services were not realised for most respondent households. 393 respondents (84%) said they had no ID Poor card holders in their households. ID Poor is a program to support the linking of poor and vulnerable families with social services such as healthcare, education, and water.



LAW AND REGULATION

‘Gimme shelter’

Although ownership of public property is prohibited⁷⁶ in Cambodia and persons are required and forced to leave their occupied area immediately⁷⁷, there is some confusion on the legal situation of lake farming residents in the Tompoun/Cheung Ek wetlands. Many poor aquatic farmers have been told they cannot own the wetlands but still use the wetlands area to plant crops and pay rent to private individuals or the authorities for the use of the land. In addition, in many cases the wetlands families could not understand how they could not own the land where they lived, but private companies were able to develop the areas surrounding them. Currently, families do not have enough information to understand their rights under the Cambodian law, and until this is changed, evictions should not be carried out.

Illegal occupation

The ‘Circular on Resolution on Temporary Settlements on Land Which Has Been Illegally Occupied in The Capital, Municipal and Urban Areas’⁷⁸, more commonly known as Circular 03, outlines what is essentially a dispute resolution mechanism for communities living on state property and the relevant authorities to implement in order to resolve conflicts over land occupation. Circular 03 is mostly unused in Phnom Penh. As of the date of this publication, Circular 03 had not been used with any communities engaged in this research in the wetlands area.

⁷³ Universal Declaration of Human Rights (1948), Article 22.

⁷⁴ Article 9.

⁷⁵ Committee on Social, Economic and Cultural Rights, ‘General Comment No. 19 - The right to social security (Article 9)’ (2007), para 4.

⁷⁶ Land Law, 2001. Article 43.

⁷⁷ Land Law, 2001. Article 259.

⁷⁸ Circular on Resolution on Temporary Settlements on Land Which Has Been Illegally Occupied in The Capital, Municipal and Urban Areas, 2010.

The Right to Work⁷⁹

Under article 6 of the ICESCR, Cambodia has recognised the right of everyone to freely choose their work. The Government has become obliged to ensure individuals are not deprived of this right unfairly⁸⁰. Disparagingly, this right may be eroded for aquatic farmers, some of whom have been working in the wetlands for generations.

242 (51%) respondents are at direct risk of income loss because of the destruction of the wetlands area. These respondents use the wetlands area to fish (25%), collect snails (11%), and plant aquatic crops (59%). Many are already feeling the effects of the wetland's destruction. Over 50% of respondents reported that over the last five years their income had decreased. Aquatic farmers reported land loss (wetlands area loss), and fishing families reported less fish, as the main reasons for why they perceived their income as reduced. Farmers had lost land because of sand infilling in most cases, or sometimes had lost land because of claims by ING City to the same land.

A significant area of the Tompoun/Cheung Ek wetlands is currently being farmed with aquatic plants. On average, local farmers sold aquatic crops for US\$0.40 per kilogram at the market. Additionally, they subsidised their own food costs by consuming around 3% of their crop on average. Fishing, grazing of cattle, and foraging (for local plants, frogs, and insects) also subsidizes food costs and can provide additional income for residents. Local farmers and fishing families reported that the fish were smaller now, and that they were scarcer in the northern part of the wetlands. In the past, fishing families across the wetlands area told researchers that fish could weigh up to 30 kilograms.

If wetlands' farmers are not able to access the wetlands for income generating activities, they may be forced into unemployment or greater indebtedness. Most respondents said that they had not completed primary education, and 140 (30%) said they had never attended school at all. When an aquatic farmer was asked by

researchers what he would do if the authorities told him to leave, he responded that he would leave, but that he would have to find another lake where he could work because this is the "only thing he knew how to do".

Around 25% of all female-headed households relied upon wetlands-based income generating activities as their primary household income. Roughly 23% of all households had a primary earner making an income from the wetlands. When asked why respondents had ended up living and working in the wetlands area, 309 (66%) respondents had said that economic factors were the main reasons for being there. 84 (18%) respondents said that they had nowhere else to live.

Although some communities have faced sand infilling around them, others have simply lost the ability to use the lake because of sand infilling and have left the area to find other work. Self-eviction is a human rights violation⁸¹, and the RGC should endeavour to respect the housing rights of communities like they have in Prek Takong Muoy.

The Right to Food⁸²

Article 25 of the *Universal Declaration of Human Rights (UDHR)* (1948) and article 11 of the *ICESCR* recognise the rights to food and freedom from hunger. Cambodia has agreed to recognise and take measures against hunger through conservation of food and utilising scientific and technological knowledge of food production through its ratification of the *ICESCR*⁸³. General Comment No 12 (1999) recognises that the right to food can only be realised when women, men, children, and communities are able to access food both physically and economically⁸⁴. Many communities living in the wetlands area access food sources by planting crops on the wetlands, as well as through fishing and collecting of snails. The RGC is obliged to protect communities against any deprivation of their access to food as well as to conserve food stocks, such as fish populations, to protect against hunger.

⁷⁹ Universal Declaration of Human Rights (1948), Article 23(1)(3).

⁸⁰ International Covenant on Economic, Cultural and Social Rights (1966), Article 6; Committee On Economic, Social and Cultural Rights, 'General Comment No. 18 – The Right to Work', 24 November 2005.

⁸¹ Office of the United Nations High Commissioner for Human Rights to Cambodia, 2009. 'Human Rights Commentary and Guidelines on Eviction and Resettlement', p 31[51].

⁸² Universal Declaration of Human Rights (1948) Article 25(1).

⁸³ International Covenant on Economic, Cultural and Social Rights (1966), Article 11(2)(a).

⁸⁴ Committee on Economic, Social and Cultural Rights, 'General Comment 12: The right to adequate food (Article 11)', (1999), para 6.

Food security may become a serious concern as the wetlands is destroyed. Currently, the wetlands system provides an area for fish, snails, and crops to live and grow. The loss of the wetlands threatens snail and crop production, and, combined with sand mining and the potential polluting of the exit rivers and the Bassac or Mekong Rivers, fish species will be threatened as

well. For communities that rely upon the wetlands for food such as fish, vegetables and snails, food security may become a key concern and push communities into greater economic distress. Currently, families dependent upon the wetlands for their incomes are able to subsidize their food costs by foraging for local plants and snails, and by fishing.

An urban village

The residents of Prek Takong 60metres first arrived in the wetlands following the fall of the Khmer Rouge. With nowhere left in Phnom Penh to go, they found a small peninsula and began to set up their houses. For nearly 30 years, they lived surrounded by water on both sides. Today, they are surrounded by sand and concrete.

“In the past we had a beautiful environment. We planted crops on the water, we could catch snails and fish, and it was so much cooler because of the breeze that came from the lake.”

Today, Prek Takong 60metres is the lowest point in the area. The neighbouring plots have infilled the lake with sand and now the village regularly floods with dark black water that makes it hard for children to go to school. Some houses have begun to show structural damage because of changes to the soil, other houses have had their roofs smashed by saws, bricks and rocks dropped from large buildings being constructed next door. Throughout, the community has prevailed, even when they were told that they could not receive land titles, despite their neighbours erecting condominiums on adjacent plots.

“It’s sandy now, and we work in factories. Our lake is gone. In the past, the women could make their own living from working on the lake, now we must work in the factories, or we are unemployed. If we are unemployed, then we must depend on our husbands. It was easier when we had the lake.”

The community continues to fight for its right to live where they are. In 2018, a community leader was arrested after organizing an event to promote the importance of World Habitat Day, but she continues to fight for the rights of her community today.

“We do not want to be evicted or relocated. We want to live here, where we have always lived and where we have the right to live.”





The Right to Participate in Public Affairs ⁸⁵

Cambodia has ratified the ICCPR and in doing so the RGC has guaranteed Cambodians the right to participate in public affairs⁸⁶. Under the Guidelines for States on the effective implementation of the right to participate in public affairs (2018) a key recommendation towards realising this right is the transparency and openness of state's decisions⁸⁷. In addition, the right to participate directly in the conduct of public affairs, such as public administration and the implementation of policy, should be recognised by the RGC to fulfil this right⁸⁸.

“Development is great for the rich people. But we are not rich. It's not great for us.”

– Farmer from the wetlands, May 2020.

Currently, many respondents have little knowledge about the key decisions being made that will ultimately affect their future and that have been made without

their input.

A study conducted in 2017 found that many of the vulnerable communities in the area were not aware of the ING City project being developed⁸⁹. Today, more respondents can identify projects being undertaken in the wetlands. AEON mall, JICA's wastewater treatment plant, the ING City project, and Chip Mong projects were identified by many respondents when asked what they knew about development in the area. Discouragingly, only four respondents (<1%) had heard anything directly from companies developing projects in the wetlands. Most of these respondents were from Prek Takong 60metres community and had been involved in discussions with the Urban Village project developers. These discussions only occurred after the project was underway and no respondents reported being consulted by private companies before the commencement of projects.

The right to prior knowledge about a project that might affect households living in the wetlands area is of vital importance for households to make decisions about

⁸⁵ *International Covenant on Civil and Political Rights* (1966), Article 25.

⁸⁶ *Ibid.*

⁸⁷ Office of the United Nations High Commissioner for Human Rights, *Guidelines for States on the effective implementation of the right to participate in public affairs* (2018), para 15.

⁸⁸ Human Rights Committee, General Comment No. 25 (1996).

⁸⁹ AsienHaus, 'Development at the expense of the local population' (2018).

their futures. Without prior information, households are unable to realise their Constitutional rights to file complaints against companies and freely express their opinions about the development of their city.⁹⁰

Respondents generally looked at the development of Phnom Penh in a positive light but were less optimistic about the benefits of ING City. When asked about how the wetlands project might affect the city, respondents were concerned about flooding, and noted that many of the benefits would flow to companies rather than the poor who had lived and farmed on the wetlands for decades. Some respondents wanted to know how the wetlands destruction would affect them so that they could begin to think about what they would do in the future. Others reported a fear that relocation

would mean that their kids could not access school as easily, and that they would not be able to find income generating activities without the use of the lake.

Even though most respondents had never been consulted about the project, more than half of all respondents (53%) thought that the ING City could be a good idea. Many participants felt that a project like the ING City could bring economic opportunities to the area. On the other hand, communities in the northeast, who were closer to sand-infilling and more likely to be witnessing or suffering from the effects of development, had a more negative view on the ING City. One community member commented that the development “looks good, but it doesn’t give much to us”.

LAW AND REGULATION

Externally financed projects

Sub-Decree N 22 has promulgated a set of standard operating procedures which work to ensure relocation processes are standardised⁹¹. Often externally financed projects will have more substantial procedures in place to regulate eviction and resettlement processes than the operating procedures provide. However, for groups such as AEON Mall and R & F City, these procedures are applicable through Article 2⁹².

Guiding Principles on Business and Human Rights

Businesses have a responsibility to respect human rights through the *United Nations Guiding Principles on Business and Human Rights*⁹³. Their responsibilities include avoiding human rights abuses, or making abuses worse, through business activities, as well as mitigating or preventing human rights impacts linked to their business projects⁹⁴. This research provides many instances in which companies such as R & F Group, AEON Company, Urban Village, Versailles Square, Lingnan Garden, Mercedes Benz, International School of Phnom Penh, and other international companies are implicated in potential or already occurring human rights abuses. Any documentation, research or mitigation strategies that companies have in place to protect against these specific abuses should be made public as soon as possible. It is the responsibility of companies involved in projects to undertake human rights due diligence.⁹⁵

⁹⁰ Cambodian Constitution, 1993, Articles 39 and 41.

⁹¹ Sub-Decree N 22, ‘The Promulgation of the Standard Operating Procedures for Land Acquisition and Involuntary Resettlement for Externally Financed Projects in Cambodia’, 2018.

⁹² Ibid, Article 2.

⁹³ The UN Guiding Principles on Business and Human Rights are a set of guidelines for States and companies to prevent, address and remedy human rights abuses committed in business operations. They were proposed by UN Special Representative on business & human rights John Ruggie, and endorsed by the UN Human Rights Council in June 2011. Available at: https://www.ohchr.org/documents/publications/guidingprinciplesbusinesshr_en.pdf.

⁹⁴ Guiding Principles on Business and Human Rights, 2011. United Nations. Section II, 13 (a)(b).

⁹⁵ Ibid.

The Right to Water and Sanitation⁹⁶, and the Right to Health⁹⁷

Cambodia has the responsibility to protect the rights of its people to health. In ratifying the ICESCR, Cambodia has agreed to improving environmental hygiene and preventing diseases⁹⁸. The right to health contains underlying determinants such as: safe drinking water and adequate sanitation; safe food; adequate nutrition and housing; healthy working and environmental conditions; health-related education and information; and gender equality⁹⁹. In addition, the RGC is responsible for the provision of health facilities that are accessible to all without discrimination and for the protection of the right to prevention, treatment, and control of diseases¹⁰⁰. Despite this, the RGC is allowing the ING City project to continue without adequate wastewater treatment or flood protection plans available for public review.

Nearly 70% of Phnom Penh's rainwater and wastewater enters the Tompoun/Cheung Ek wetlands¹⁰¹ before it reaches the Bassac River at Ta Khmao. According to a report produced in conjunction with the Municipality of Phnom Penh, *Livre Phnom Penh extensions et mutations* (2019), the loss of the wetlands would result in 25 to 30 million cubic metres of water annually needing to be managed elsewhere,¹⁰² potentially leading to backlog which would increase flooding in low-lying parts of the city, or downstream flooding, across exit river areas in Ta Khmao city, or both.

Flooding in Phnom Penh could be disastrous and have

dangerous effects on residents as the water would largely be comprised of untreated sewage and harmful chemicals¹⁰³. Disease, contamination of drinking water, inundation of houses and destruction of infrastructure are all possible effects if the wetlands area is not adequately preserved or other systems are not put in place to mitigate against such risks. Communities in the wetlands area are particularly vulnerable to flooding and have encountered floods regularly that have impeded children attending school and increased the risk of disease.

Flooding has been linked to gendered impacts as well, with many women reporting that the effects of flooding are often felt heavily in the domestic sphere, which women are more likely to be responsible for culturally. Navigating contaminated flood waters to ensure children attend school, or to buy food for shopping were reported as difficulties more likely to affect women.

The likely flood impact area stretches across the south of Daun Penh, Prampi Makara, Chamkarmon, the southern part of Tuol Kork, the eastern part of Dangkor, and the western part of Meanchey. It includes more than one hundred factories, and more than 1.5 million inhabitants¹⁰⁴ and communities living around the wetlands who are vulnerable to flooding. Areas outside of Phnom Penh, such as Ta Khmao also incur a severe risk of flooding and are likely to be affected heavily during the rainy season when the Bassac River reverses its flow.

⁹⁶ International Covenant on Economic, Cultural and Social Rights (1966), Articles 11 and 12.

⁹⁷ Universal Declaration of Human Rights (1948) Article 25(1).

⁹⁸ Article 12(2)(b)(c).

⁹⁹ Office of the United Nations High Commissioner for Human Rights & World Health Organisation, 'Fact Sheet No 31 – The Right to Health', (2008), p 3.

¹⁰⁰ *Ibid.*

¹⁰¹ Ville de Paris & Municipality of Phnom Penh, *Livre Phnom Penh extensions et mutations*, (2018), p 38.

¹⁰² *Ibid.*, p 27.

¹⁰³ JICA, 'Preparatory Survey Report on the Project for Sewerage System Development in the Phnom Penh Capital City in the Kingdom of Cambodia', (2019), p 26.

¹⁰⁴ Ville de Paris & Municipality of Phnom Penh, *Livre Phnom Penh extensions et mutations*, (2018), p 26.

LAW AND REGULATION

Environmental protections

The Law on Water Resources Management stipulates that the Kingdom's water resources are to be sustainably managed but does not mention wetlands under Article 2.¹⁰⁵ Article 7 promotes the collaboration of the RGC with private institutions and NGOs for the benefit of protecting and developing water resources but it is unclear if any NGOs were involved in the process of the Boeung Cheung Ek Lake demarcation or the ING City project lease. Article 17 allows the Ministry of Water Resources and Meteorology (MOWRAM) to cancel licenses over water resources should they cause a negative impact on public health or the environment and Article 23 allows the MOWRAM to declare protected water use zones when watersheds are being degraded by human activities or when a risk of disease spreading becomes apparent¹⁰⁶.

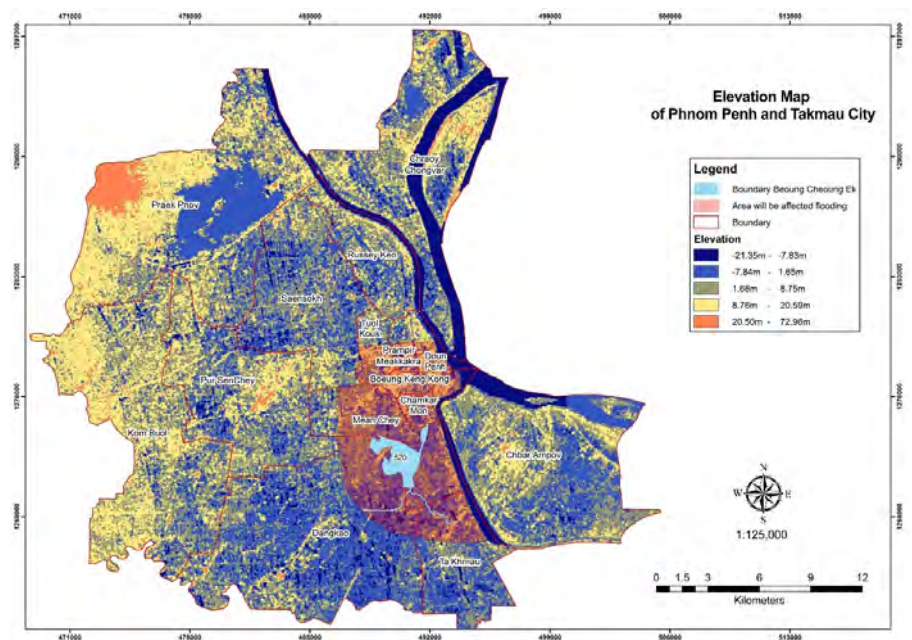
The right to water

In 2010, the United Nations General Assembly recognised the human right to water through Resolution 64/292. Clean drinking water and sanitation are essential for a dignified life, but the current plans to destroy the wetlands may place many families in a position where their water sources become polluted. Flooding in Phnom Penh could lead to the spread of disease as sewage and rainwater floods the streets. When asked how the ING City project could help the people of Cambodia, many respondents noted the need for a proper drainage system to avoid floods.

Ta Khmao is especially vulnerable to flooding due to the Bassac river overflowing during months of heavy rainfall and inundating the Tompoun/Cheung Ek wetlands. During the rainy season, the Bassac river's water level rises more than 7 meters, sometimes up to 9 meters. Exit rivers from the wetlands, especially Stung Chrov, wind into the Prek Thnaot river in the heart of Ta Khmao city before exiting into the Bassac river during the dry months (January – May). Water flow changes direction when the Bassac river reaches a critical height during the rainy season (June – November). The wetlands are then below the level of the river, so they can no longer drain by the only outlet: the Stung Chrov.

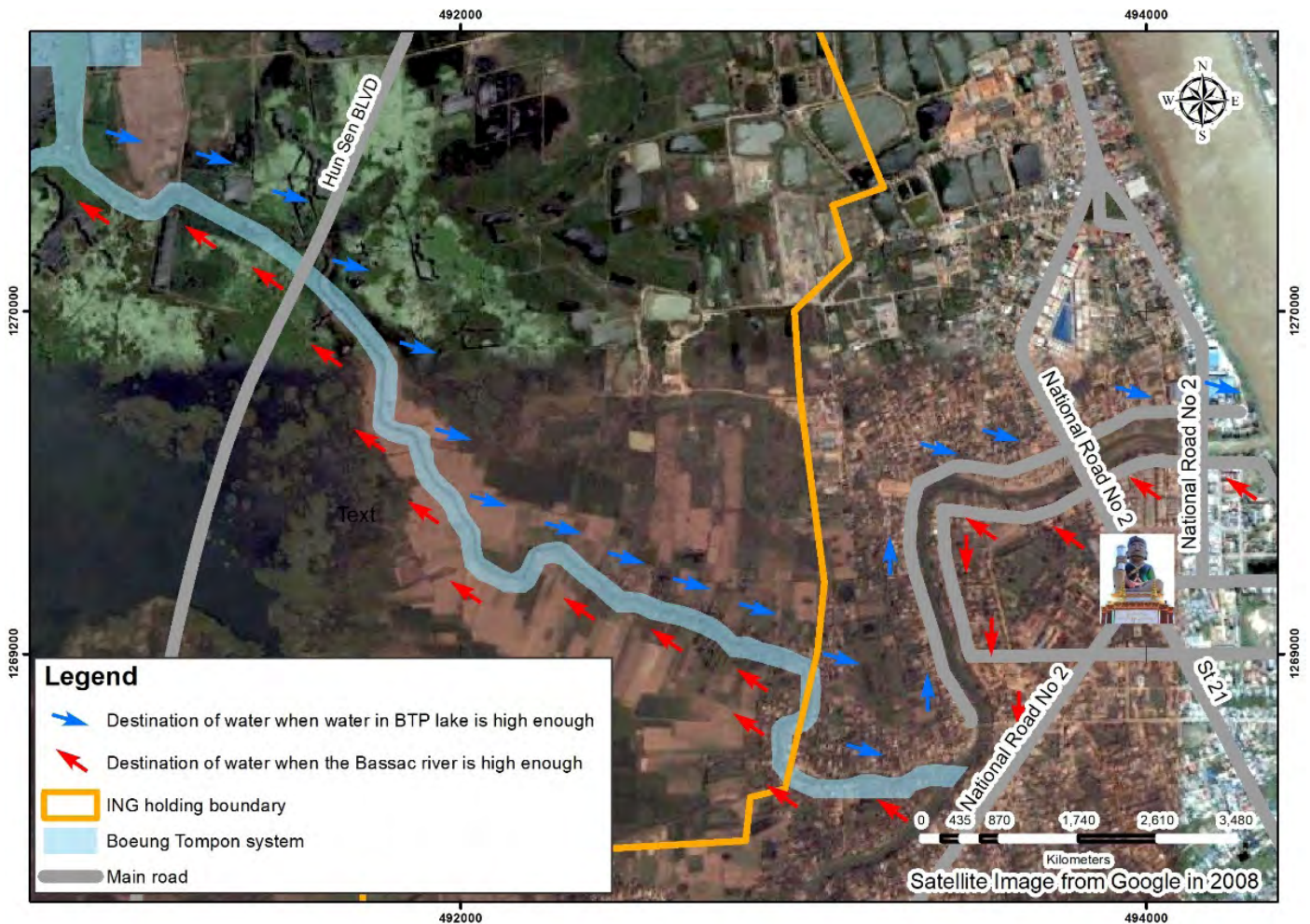
The Bassac river in turn overflows

through the Prek Thnaot River which releases water into the Stung Chrov and finally into the Tompoun/Cheung Ek wetlands, effectively protecting both Ta Khmao and Phnom Penh from floods.



¹⁰⁵ The Law on Water Resources Management of the Kingdom of Cambodia, 2007.

¹⁰⁶ Ibid, Article 23.

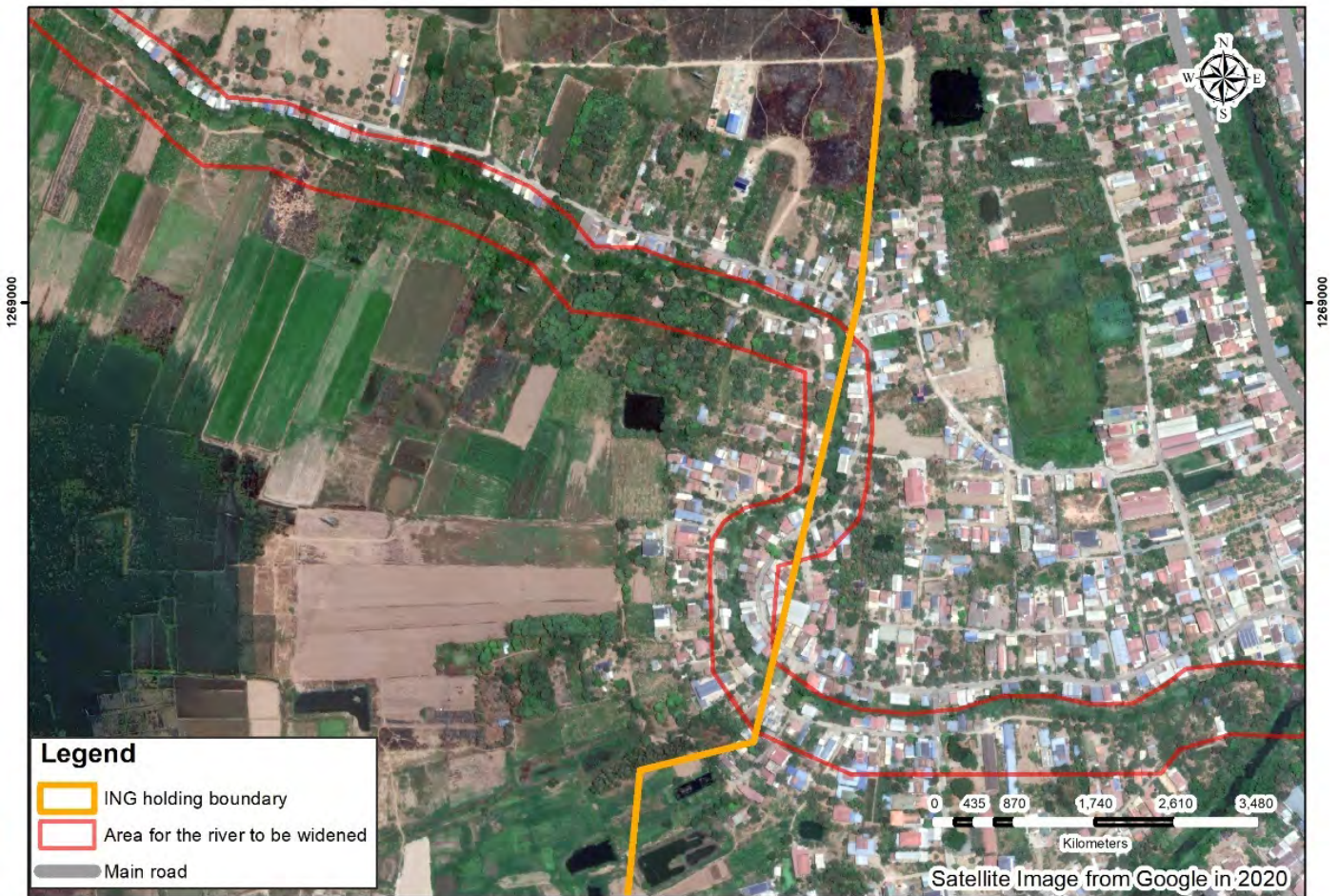


The reverse flow of the Bassac – Blue arrows indicate the direction of the river flow as water is exiting the Tompoun/Cheung Ek wetlands and into the Bassac River. Red arrows indicate the reverse flow of the river during the months when the Bassac River is high enough that it partially drains into the Prek Thnaot River and wetlands. The orange line indicates the ING City boundary.

The current project outlines a proposed canal area that would drain the remaining wetlands area into the Prek Thnaot river at Ta Khmao. The canal construction area is currently demarcated by boundary posts along the Stung Chrov river and is expected to result in the eviction of numerous households that are situated within the boundary of the proposed canal. This is confirmed by the report produced by the Municipality

of Phnom Penh, which notes that these houses will likely require displacement.¹⁰⁷ Houses living along the area planned for canal restoration have not been notified of any plans for their eviction despite marker poles being placed in the area. When asked what the poles were for most respondents said that they did not know, or that they marked the land owned by the Government.

¹⁰⁷ Ville de Paris & Municipality of Phnom Penh, *Livre Phnom Penh extensions et mutations*, (2018), p 43.



Possible relocations – Red lines indicate the likely area for the river to be widened to create the eastern drainage canal.

An additional exit canal is expected to the west of the project and may force the evictions of a community living in the area. This community has lived along the

canal in the area for more than 30 years and is unaware of any canal widening or construction plans in the future.



Environmental impacts

The Tompoun/Cheung Ek wetlands provide a home to fish, birds, and other wildlife that are endangered, and offer natural treatment of Phnom Penh's wastewater, and prevention against floods. In addition, the sand

required to infill the wetlands may have devastating effects when it is removed from riverbeds and riverbanks of the Bassac and Mekong, potentially leading to fish stock depletion, house collapse, loss of life and increased risks of flooding throughout the country¹⁰⁸.

LAW AND REGULATION

Legal protections over environmental sustainability

Article 59 of the Constitution stipulates that the State shall protect the environment and establish a precise plan for managing natural resources.¹⁰⁹ The Law on Environmental Protection and Natural Resource Management (1996), has the objective of protecting the environment and encouraging public participation in its protection and management.¹¹⁰ What 'public participation' means in this context is unclear and it appears most decisions concerning environmental management related to the wetlands, such as the JICA wastewater treatment plant or the leasing of Boeung Cheung Ek, are made without public consultation. The law decrees that National and Regional plans for the management and protection of the environment be set forth and reviewed once every five years under the responsibility of the RGC and the Ministry of Environment with other ministries and institutions as necessary.¹¹¹

¹⁰⁸ Koehnken, L , *Impacts Of Sand Mining On Ecosystem Structure, Process & Biodiversity In Rivers*, (2018) World Wildlife Fund.

¹⁰⁹ Constitution of Cambodia, 1993. Article 59.

¹¹⁰ 1996, Article 1.

¹¹¹ 1996, Articles 2, 3, 4 and 5.

Sand dredging

Sand in-filling, the practice whereby sand is used to fill a lake or waterbody to create real estate for construction of buildings, requires sand dredging to harvest or mine the required amount of sand. For this project, sand is typically taken from riverbanks¹¹², where it is then shipped to a nearby point, mixed with water and pumped through tubes into the lake area (see Annex III).

Infilling the wetlands is estimated to require 77,660,000m³ of sand. This number is a conservative estimation based on likely minimums that would be required to avoid inundation levels of households in the project area.¹¹³ It is possible that the project will require a greater amount of sand than 77,660,000m³. However, it is also possible that part of the infilling process could utilise soil instead of sand, and so the real figure remains difficult to assess without access to more information.

River sand dredging has been linked with many serious environmental concerns and human rights issues.¹¹⁴ Environmental concerns related to river sand dredging

include river embankment destruction; increased flood risk; fish death; groundwater table retention reduction; changes in flow velocity; loss of land; and animal habitat loss.¹¹⁵ Fishing communities, riverside communities, and communities that rely on ground water, are the most at risk of serious harm because of the environmental effects of river sand dredging.¹¹⁶

Hero King Company is one of the groups involved in providing sand to the project for infilling (see Annex I). Hero King has a license to mine sand from the Mekong¹¹⁷ and it is likely that some of the sand currently being used to infill the wetlands is taken from this area. In addition, the company Global Green (Cambodia) Energy Development Co., Ltd., has also been documented supplying the project with sand through at least one sand-dredging boat (see Annex I). Hero King boats have been linked to a sand field that likely contributed to or caused a massive riverbank collapse along the Mekong (see Annex II). It has not been confirmed that the Hero King boats seen at the sand field where riverbank collapses occurred are supplying sand to the ING City project.

¹¹² Interview with sand pump operator, 2019; Interview with sand boat operator, 2019.

¹¹³ Boeung Tompoun Lake total area estimated for infilling is 17.3km². Avg. depth is 1- 2m so 3 metres is calculated as the height required for sand-infilling in order to ensure the base is above flood level. Calculation is 17300000 x 3 = 51,900,000m³. Cheung Ek lake total area estimated for infilling is 3.68km². Avg depth can reach 6m during rainy season, as such, the minimum height required for sand-infilling in order to ensure the base is above flood level is 7m. Calculation is 3680000 x 7 = 25,760,000m³. Total amount of sand required to infill the lakes = 77,660,000m³. Depth according to JICA, (2016), The Study On Drainage And Sewerage Improvement Project In Phnom Penh Metropolitan Area, Final Report Vol. II.

¹¹⁴ Cambodian Centre for Human Rights, 'Human Rights Impacts of Sand Dredging in Cambodia', (2016), briefing note.

¹¹⁵ Koehnken, L (2018) Impacts Of Sand Mining On Ecosystem Structure, Process & Biodiversity In Rivers, World Wildlife Fund.

¹¹⁶ Cambodian Centre for Human Rights (2016) 'Human Rights Impacts of Sand Dredging in Cambodia', briefing note.

¹¹⁷ CES website: <http://ces.com.kh/hero-king-co-ltd>.

Bopha, Rosa and Dara

About two months ago, across the road from the houses of siblings Rosa (5 years old) and Dara (4 years old) and their cousin Bopha (3 years old), a bird landed in the upper branches of a tree. Rosa and Dara's father crossed the road to try and catch the bird, but fell, and was brought into his house by his wife to treat his wounds. Bopha's mother was already selling vegetables in the market and her father had gone to work at a garment factory, meaning the three children were unsupervised.

Most of the streets nearby were quiet and the children were not afraid to venture the nearby roads by themselves. The children reached the entrance to a nearby sand quarry, operated by Sok Tieng Import Export Co., Ltd. If there were security guards at the entrance, they either failed to see the children or failed to prevent them from entering. There were no gates or fences to stop the children, and the guards and workers at the sand quarry were aware that children regularly came from the nearby communities to play in the sand.

The water where the bodies of the children were found.



The sand from the quarry is used to infill some areas in the Tompoun/Cheung Ek wetlands along the Hun Sen Boulevard.

By the time Bopha's father arrived back from the factory and went to the quarry, the children were dead, having drowned in a small pool of water used for pumping sand.

"I got into the water, where I found my daughter (Bopha)... and my nephew (Dara). For twenty minutes I searched in the water for my niece (Rosa). When I found her, she was trapped inside of a sand dredging pipe." – Bopha's father.

The police questioned the parents over the incident, asking why no one was watching their children and how they could allow their kids to enter a sand quarry where they might drown. The parents were told later that night that the company's workers had been called into the police station to file a report. The police acknowledge that the children died in the sand quarry of Sok Tieng Import Export Co., Ltd.¹¹⁸ The mother of Rosa and Dara is currently seeking medical support for mental harm suffered.

As of the date of publication, nearly two months after the deaths of Bopha, Rosa and Dara, the sand quarry still does not have fencing to prevent children from entering. Children regularly access the quarry where they play in the sand. The company's representatives have not met with either of the families who lost their children.

When asked what she would say to Sok Tieng Import Export Co., Ltd company, the mother of Bopha asked that they put up a fence to protect other children. She is currently pregnant.

¹¹⁸ Annex VI.

Loss of biodiversity through wetlands destruction

Biodiversity loss, the loss of animals and plants, is all but guaranteed should the project go ahead as planned. Currently, the wetlands are home to 52 species of fish, 20 species of reptiles and amphibians, 43 species of birds, and two mammals¹¹⁹.

“Of course, there are no fish here now. The fish don’t want to live in the black water.”

– Fisherman from the wetlands, May 2020.

Two threatened species of fish and one bird were identified through a JICA study conducted in 2019¹²⁰. Under Sub-Decree No 123 ANK/BK¹²¹ the Isok barb

(*Probarbus jullien*) and the Giant barb (*Catlocarpio siamensis*) are endangered. Under the IUCN Red List of Endangered Species, the Giant barb (*Catlocarpio siamensis*) is critically endangered¹²² and the Isok barb (*Probarbus jullien*) and Iridescent shark-catfish (*Pangasius Hypophthalmus*) are classified as endangered¹²³. In addition, the Green Sandpiper (*Tringa guttifer*), a bird found in the wetlands, is threatened¹²⁴.

The area may be a critical zone for fish breeding as evidence from farmers and research suggest that fish from the Bassac and Mekong rivers may use the wetlands as an area to breed seasonally^{125 126}. More research is required into migratory fish species to confirm this and is a key recommendation of this report.

Fish out of water

“Ten years ago, the fish were big, very big. 30 to 40 kilograms. But they are not that big anymore. As they infill the lake the water becomes worse, and the fish don’t want to live in the black water.”

The fish of the wetlands were, and continue to be, a source of food and income for residents. Now, interviews confirmed that the fish are scarcer, and they are smaller. For communities living along the Mekong and the Bassac, fishing is a primary source of income, and the sand required to infill the wetlands threatens their livelihoods along the Mekong River.

“The fish aren’t there. Maybe they hide from the noise, or they can go deeper because they take sand out of the river. It’s harder to catch them now.”

Sand dredging isn’t the only risk to fish living in the rivers of the Mekong or the Bassac either. Once the wetlands are not able to treat the wastewater of Phnom Penh, then the polluted water will eventually end up in the Bassac River, or the Mekong, or both.

¹¹⁹ IJICA, ‘Preparatory Survey Report on the Project for Sewerage System Development in the Phnom Penh Capital City in the Kingdom of Cambodia’, (2019).

¹²⁰ Ibid.

¹²¹ August 12, 2009.

¹²² Hogan, Z. 2011. *Catlocarpio siamensis*. The IUCN Red List of Threatened Species 2011: e.T180662A7649359. <https://dx.doi.org/10.2305/IUCN.UK.2011-1.RLTS.T180662A7649359.en>. Downloaded on 31 January 2020.

¹²³ Ahmad, A.B. 2019. *Probarbus jullieni*. The IUCN Red List of Threatened Species 2019: e.T18182A1728224. <https://dx.doi.org/10.2305/IUCN.UK.2019-2.RLTS.T18182A1728224.en>. Downloaded on 31 January 2020; Vidthayanon, C. & Hogan, Z. 2011. *Pangasianodon hypophthalmus*. The IUCN Red List of Threatened Species 2011: e.T180689A7649971. <https://dx.doi.org/10.2305/IUCN.UK.2011-1.RLTS.T180689A7649971.en>. Downloaded on 31 January 2020.

¹²⁴ BirdLife International 2016. *Tringa guttifer*. The IUCN Red List of Threatened Species 2016: e.T22693225A93391729. <https://dx.doi.org/10.2305/IUCN.UK.2016-3.RLTS.T22693225A93391729.en>. Downloaded on 31 January 2020.

¹²⁵ STT field survey notes, 2019.

¹²⁶ Ville de Paris & Municipality of Phnom Penh, *Livre Phnom Penh extensions et mutations*, (2018), p 28.

Sewage treatment

Acting as a large natural wastewater treatment area, the wetlands is semi-effective at treating wastewater through the use of plants morning glory (*Ipomoea aquatica*), water celery (*Oenanthe javanica*), water mimosa (*Neptunia oleracea*) common water hyacinth (*Eichhornia crassipes*), and water reed (*Cynodon dactylon*), most of which are planted by local aquatic farmers. JICA's preparatory study for their proposed wastewater treatment plant includes tables that demonstrate the effectiveness of the wetlands in treating total suspended solids (TSS), biochemical oxygen demand (BOD), total nitrogen (T-N), and total phosphorus (T-P)¹²⁷.

Without a wastewater treatment system, much of Phnom Penh's wastewater will enter the small exit

rivers and the Bassac river untreated. Should untreated wastewater enter the Bassac river, then this would likely lead to the death of fish populations in the area and present a significant health risk for communities nearby.¹²⁸ In addition, as the wetlands becomes further destroyed, the communities and animals living on and near the wetlands are being exposed to more pollutants as the wetlands becomes less capable of treating the wastewater due to decreased total area.

Although JICA intends to fund a wastewater treatment plant for Phnom Penh, it will be expensive and largely ineffective compared to the current wetlands treatment system. Japan has ratified the ICCPR, the ICESCR, the Convention on the Elimination of All Forms of Discrimination against Women (1979) and its Government must uphold its responsibilities under these agreements.



¹²⁷ JICA, 'Preparatory Survey Report on the Project for Sewerage System Development in the Phnom Penh Capital City in the Kingdom of Cambodia', (2019).¹⁰⁹ Constitution of Cambodia, 1993. Article 59.

¹²⁸ Confirmed through interview with environmental scientist and environmental impact assessment professional.

6. CONCLUSION

The Tompoun/Cheung Ek wetlands are currently being destroyed by development groups building high-end condominiums, gated communities, and megamalls. The wetlands' vital importance for wastewater treatment, flood protection, livelihood production for the poor and housing of poor inhabitants, is well understood, and evidence herein suggests a strong link between the wetlands and benefits for the public. However, the destruction of the wetlands is continuing unabated, and this research suggests that devastating human rights abuses and environmental impacts may

follow if the current trends continue.

Without transparent and scientific research into the importance of the wetlands and the effects of their loss, their destruction threatens more than one million inhabitants of Phnom Penh, Ta Khmao and the surrounding areas with dangerous floods and water pollution. Further research is urgently needed. This report has outlined serious issues that should warrant a review of the project's environmental sustainability and human rights abuses.

7. RECOMMENDATIONS AND ALTERNATIVE OPTIONS

Based on the findings of this research, as well as feedback and suggestions from local residents of the wetlands, the following recommendations and alternative options are presented.

To the relevant Government authorities

- 1. Cease further developments in the wetlands area until all land disputes and environmental and human rights impacts are clearly understood.**

There is significant evidence to suggest that the situation in the wetlands is perilous for local families and Phnom Penh and Ta Khmao residents. No further development should occur until the issues outlined in this research are further investigated, publicly reported on, and deliberated upon by representatives of the public, CSOs, and environmental scientists.

- 2. The RGC must ensure that more research is produced to fully understand the effects of the ING City project and the loss of the wetlands.**

The report has made clear that much more research is needed into the largest development project in Cambodia. Research should be conducted, if it has not already, into the environmental, hydrological and sanitation impacts of losing the Tompoun/Cheung Ek wetlands. Any research should be released for public and professional review.

- 3. The Ministry of Land Management, and other relevant Government bodies, must ensure that evictions and land disputes are dealt with in accordance with the law, human rights norms on eviction and resettlement, and must not create legal inconsistency.**

The reclassification of the Tompoun/Cheung Ek wetlands have exemplified issues with rule of law as it relates to ownership of public property. One community in the area, Prek Takong Muoy, has been provided with land titles and this process should be extended for all communities using and living inside and around the wetlands.

- 4. The Royal Government of Cambodia should adhere to its international human rights commitments.**

The RGC must endeavour to abide by its international commitments to respect, protect and fulfill the human rights of Cambodians and people living in Cambodia. The right to adequate housing, the right to social security, the right to health, the right to sanitation, the right to work, the right to food, the right to education, and the right to participate in public affairs of local communities are all in danger of being impacted upon by the destruction of the wetlands area. As outlined in the main findings sections, the RGC has obligations by ratifying or acceding to the following international conventions: the International Covenant on Economic, Cultural and Social Rights (1966), the Convention on the Elimination of All Forms of Racial Discrimination (1969), the Convention relating to the Status of Refugees (1951), the Convention on the Elimination of All

Forms of Discrimination Against Women (1979), Article 14(2); the Convention on the Rights of the Child (1989); and the Convention on the rights of persons with disabilities (2008).

5. **Sand dredging environmental licenses should be publicly released to ensure that the public is not endangered by sand mining practices. The Ministry of the Environment should consider banning all sand mining from the Bassac and Mekong rivers.**

Sand dredging continues to pose significant issues for transparency and monitoring. Sand mining licenses, as well as all regulations and laws surrounding the mining of sand in major rivers of Cambodia should be clarified. Licenses together with an environmental impact assessment for each license should be published to an open public database.

6. **The State Property Management Authority should release the report that outlines which areas of the Tompoun/Cheung Ek wetlands are public property, and where public property has lost its public interest use this should be published for public review.**

Public property should not be reclassified without meaningful participation of members of the public in the process. One such way to achieve this is to publish this information for public review before a proposed reclassification.

7. **The Ministry of Water Resources and Meteorology should consider suspending all licenses over the Tompoun/Cheung Ek wetlands to protect the public against pollution and water deterioration. In addition, the Ministry should seriously consider the complete protection of the remaining 1,000 hectares of the wetlands as a critical zone for endangered fish, and as a wetland of critical importance for Cambodia.**

Article 23 of the Law on Water Resources Management of the Kingdom of Cambodia (2007) allows the Ministry to protect areas where human activities are actively destroying watersheds and where a significant risk of disease spreading has become apparent. The Ministry should use these powers in the interest of the public when required.

8. **Alternative options to the current ING City and related developments must be considered. The hybrid model proposed below is one such way to appease private and public interests in managing the wetlands area.**

The Hybrid Model

Public consultation is crucial for the management of public resources, such as the Tompoun/Cheung Ek wetlands. In this case, the benefits of a partially intact wetlands are massive when compared to the private benefits of the proposed ING City and other developments. Research must be conducted and shared publicly that indicates how much wetlands requires preservation in order to provide benefits to the public and private companies.

Alternative options can co-exist with ING City and other developments in the wetlands area. Wetlands management should be assessed based on benefits to different groups, however the public's interests should have priority as the wetlands are, in theory, owned by the public as a natural resource for public use.¹²⁹ The public benefits of keeping the wetlands intact are expected to be:

- I. Low-cost wastewater treatment system already in place (a JICA funded wastewater treatment plant can be used to increase the capability of the existing system).
- II. A natural flood reduction system already in place.
- III. Income generating opportunities for poor communities remain intact.

A balanced model that protects the rights of people, the environment and biodiversity with those of urban development is possible. But not unless these needs are appropriately considered through meaningful consultation and research and the application of FPIC principles.

¹²⁹ Land Law 2001, Article 15.

To JICA, and the Government of Japan

The proposed wastewater treatment plant in the Tompoun/Cheung Ek wetlands area is not aligned with a responsible approach to development from a human rights perspective, an environmental perspective, or a fiscal management perspective. The project must be reconsidered, and more research must be done to assert its effectiveness as a project.

To the companies currently operating as a part of ING City or within the wetlands area

All companies must ensure that their projects mitigate against human rights before, during and after the completion of their projects.¹³⁰ Companies must endeavour to create transparency in their projects and should abide by the United Nations Guiding Principles on Business and Human Rights to demonstrate good faith and social responsibility.

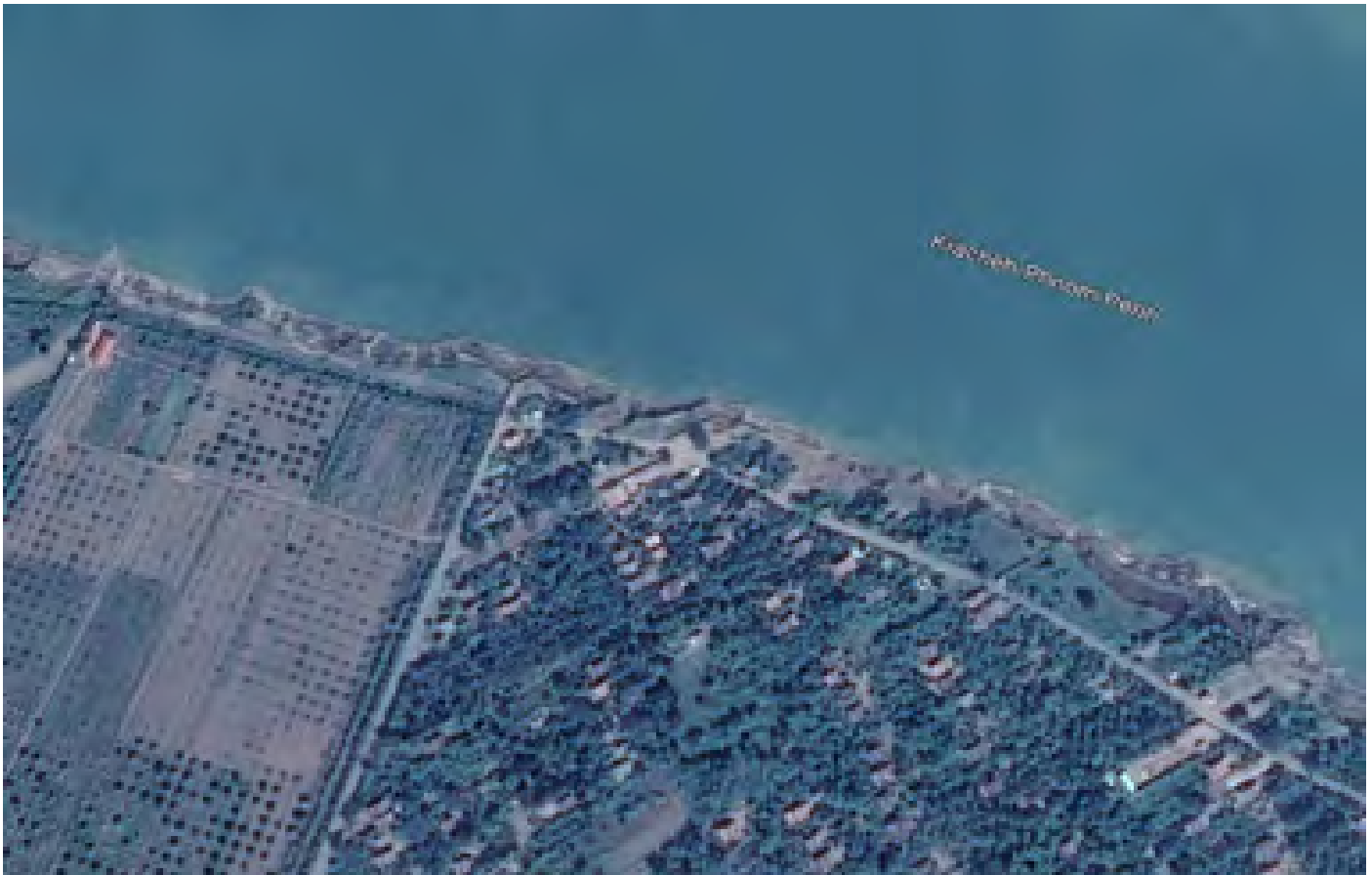
¹³⁰ Guiding Principles on Business and Human Rights, 2011. United Nations. Section II, 13 (a)(b).

8. ANNEXES

I - Boats supplying sand to pumping station at Chak Angkre Leu Pagoda



II - Riverbank collapse along the Mekong near to sand dredging site





III - Pumping station figures (Trabek and Tompoun stations)

Time	Flow (m³/s)	Flow (m³)	Flow (m³)	Flow (m³)	Flow (m³)	Flow (m³)	Flow (m³)
01	0.5	0.5	0.5	0.5	0.5	0.5	0.5
02	0.5	0.5	0.5	0.5	0.5	0.5	0.5
03	0.5	0.5	0.5	0.5	0.5	0.5	0.5
04	0.5	0.5	0.5	0.5	0.5	0.5	0.5
05	0.5	0.5	0.5	0.5	0.5	0.5	0.5
06	0.5	0.5	0.5	0.5	0.5	0.5	0.5
07	0.5	0.5	0.5	0.5	0.5	0.5	0.5
08	0.5	0.5	0.5	0.5	0.5	0.5	0.5
09	0.5	0.5	0.5	0.5	0.5	0.5	0.5
10	0.5	0.5	0.5	0.5	0.5	0.5	0.5
11	0.5	0.5	0.5	0.5	0.5	0.5	0.5
12	0.5	0.5	0.5	0.5	0.5	0.5	0.5
13	0.5	0.5	0.5	0.5	0.5	0.5	0.5
14	0.5	0.5	0.5	0.5	0.5	0.5	0.5
15	0.5	0.5	0.5	0.5	0.5	0.5	0.5
16	0.5	0.5	0.5	0.5	0.5	0.5	0.5
17	0.5	0.5	0.5	0.5	0.5	0.5	0.5
18	0.5	0.5	0.5	0.5	0.5	0.5	0.5
19	0.5	0.5	0.5	0.5	0.5	0.5	0.5
20	0.5	0.5	0.5	0.5	0.5	0.5	0.5
21	0.5	0.5	0.5	0.5	0.5	0.5	0.5
22	0.5	0.5	0.5	0.5	0.5	0.5	0.5
23	0.5	0.5	0.5	0.5	0.5	0.5	0.5
24	0.5	0.5	0.5	0.5	0.5	0.5	0.5
25	0.5	0.5	0.5	0.5	0.5	0.5	0.5
26	0.5	0.5	0.5	0.5	0.5	0.5	0.5
27	0.5	0.5	0.5	0.5	0.5	0.5	0.5
28	0.5	0.5	0.5	0.5	0.5	0.5	0.5
29	0.5	0.5	0.5	0.5	0.5	0.5	0.5
30	0.5	0.5	0.5	0.5	0.5	0.5	0.5

စာအုပ်အတွက် အချက်အလက် 19.03.19 → 26.06.19
 စာအုပ် 318.38 မြစ်
 SCHEDULE FOR OPERATION PUMP
 BOENG TRABEK
 800 VTP, MOTOR 8

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ថ្ងៃ/ខែ/ឆ្នាំ	ម៉ោងបើក/បិទ	អំពូលភាព (ឡ A)	អំពូលភាព (ឡ B)	អំពូលភាព (ឡ C)	UP	DOWN	Currents (A)	Total Hour
01-04-19	7:00	87	36	77	88	36	85	309.304.304
	11:00	82	85	88	89	69	59	306.324.323
02-04-19	19:30	31	30	30	7	32	21	219.208.304
	07:00	81	85	82	84	48	58	328.322.325
04-04-19	08:40	21	32	31	31	21	31	312.307.307
	09:00							
05-04-19	6:00	21	20	21	21	20	21	308.202.305
	10:40	92	84	83	49	59	322	4 th 40' 3-40
07-04-19	6:00	22	32	32	23	21	32	308.308.308
	11:00	85	87	86	50	60		314.389.327 5
08-04-19	6:30	35	22	22	32	22	2	308.318.322
09-04-19	20:00	32	21	21	21	21	305.312.310	
	22:00	27	28	27	50	59	318.320.318	2 ^h
10-4-19	2: PM	36	36	36	36	36	36.308.310	
	7:	75	76	75	47	55	809.302.306	5 ^h
12-4-19	6:	32	32	30	54	49	316.316.310	
	11:	85	89	87	53	62	334.330.329	5 ^h
13-04-19	13:30	75	76	77	24	24	211.309.305	
	18:00	84	86	85	51	61	326.324.320	4-30

ថ្ងៃ/ខែ/ឆ្នាំ	ម៉ោងបើក/បិទ	អំពូលភាព (ឡ A)	អំពូលភាព (ឡ B)	អំពូលភាព (ឡ C)	UP	DOWN	Currents (A)	Total Hour
19-03-19	07:00	30	31	30	31	30	308.305.305	(11:30)
	11:00	24	25	24	44	54	320.322.324	2 ^h
21-03-19	17:30	22	23	22	32	27	310.303.307	
	19:00	63	66	64	40	45	316.316.317	1-30 ^h
23-03-19	16:15	26	27	26	36	35	307.306.304	
	19:00	22	29	27	42	56	312.312.313	2-45 ^h
04-03-19	7:00	27	27	26	27	25	309.305.309	
	11:00	24	26	25	42	60	342.339.326	2 ^h
24-03-19	19:00	41	41	41	39	38	308.305.305	
25-03-19	21:15	27	28	27	51	62	318.322.325	5-45
25-03-19	7:30	37	27	28	28	25	305.302.308	
	02:30	86	87	85	50	61	327.314.319	5 ^h
26-03-19	6:20	41	40	40	28	26	308.307.308	
	11:00	86	89	85	51	61	325.312.320	4 ^h -30
27-03-19	19:40	30	31	31	21	20	208.308.308	
	20:40	24	28	25	43	54	320.322.324	3 ^h
28-3-19	11:30 AM	31	31	30	31	31	234.235.234	
	3: PM	82	84	83	51	59	237.237.235	3-30
31-03-19	6:20 AM	21	21	20	21	21	303.303.302	
	6: PM	46	40	42	54	65	235.234.233	11:30

IV - Mathematics used to calculate all sand infilling

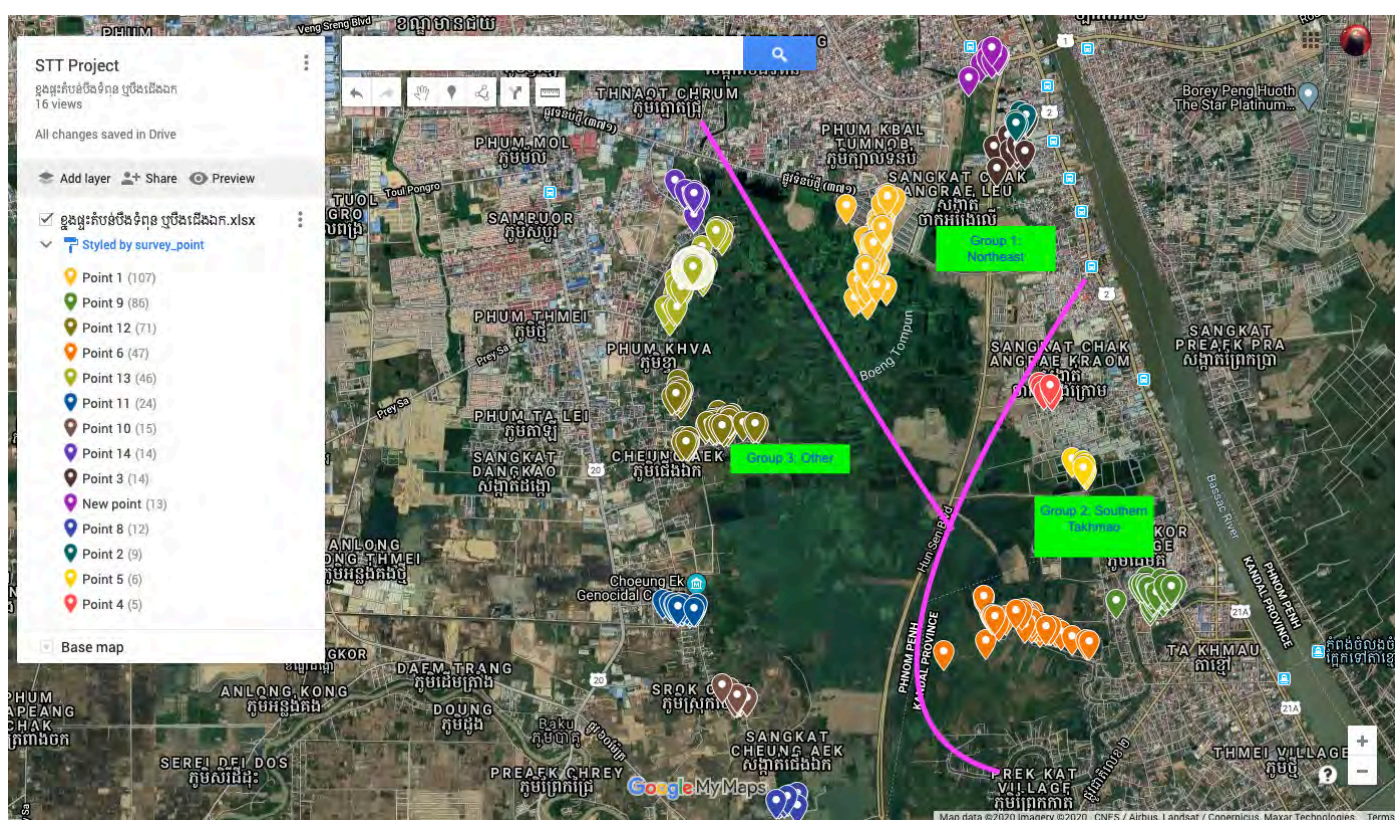
Boeung Tompoun Lake total area estimated for infilling is 17.3km². The average depth is 1 – 2m so 3m is calculated as the height required for sand-infilling in order to ensure the base is above flood level. Calculation is $17300000 \times 3 = 51,900,000\text{m}^3$.

Cheung Ek lake total area estimated for infilling is 3.68km². The average depth can reach 6m during rainy season, as such, the minimum height required for sand-infilling in order to ensure the base is above flood level is 7m. Calculation is $3680000 \times 7 = 25,760,000\text{m}^3$.

Total amount of sand required to infill the lakes = 77,660,000m³.

Depth according to JICA, (2016), The Study On Drainage And Sewerage Improvement Project In Phnom Penh Metropolitan Area, Final Report Vol. II.

V - SHRIA interview location points



VII – SHRIA Survey Questionnaire (English version [unofficial version])

QID001: Interviewer: _____ QID002: Date of Interview: ___/___/2019/20

QID003: Survey Number: _____

QID004: GPS location X: _____

Y: _____

Supervised by: _____ Checked by: _____

Date of check: ___/___/2020

I. BACKGROUND INFORMATION AND DEMOGRAPHICS

QID	Questions	Answer code	Skipping
Q1.1.	What is the name?		
Q1.2.	Phone number		
Q1.3.	Respondent Gender	1. Male 2. Female	
Q1.4.	How old are you?		
Q1.5.	What is your marital status?	1. Single 2. Married/Domestic Partnership 3. Married/Live far away 4. Widowed 5. Divorced 6. Single with Children	
Q1.6.	What is your ethnicity?	1. Khmer 2. Vietnamese 3. Chinese 4. Cham 5. Indigenous community 6. Kampuchea Krom 7. Other	
Q1.7.	How many families are in the household?	Approximate #: _ _ _ _	
Q1.8.	How many people are in the household?	M: F:	
Q1.9.	Is the head of the household a woman?	1. Yes 2. No	
Q1.10.	How many people under the age of 18 are there in your family?		
Q1.11.	How many people in your family are currently attending tertiary school?		

Q1.12.	Are any of the members of the household disabled? In relation to any one of the following: seeing, hearing, walking, concentrating, self-care and communication, do they have a lot of difficulty or can't do at all?		
Q1.13.	If yes, which one	1. Seeing 2. Hearing 3. Walking 4. Cognition 5. self-care 6. communication	
Q1.14.	Are any members of the household too old to work?	1. Yes 2. No	
Q1.15.	Are any members of the household too old to require looking after?	1. Yes 2. No	
Q1.16.	Does the area/community/grouping have a name?	1. Yes 2. No	
Q1.17.	What name is it?		
Q1.18.	If there is a Village Chief, what is their contact?	1. Name: _____ 2. Ph: _____	
Q1.19.	Are the majority of families in the household renters or owners?	Owners Renters Half owners, half renters Don't know Other	

II. EMPLOYMENT AND EDUCATION

QID	Questions	Answer code
Q2.1.	What is your job? (Multiple answers allowed)	1. Farmer (farming) 2. Fishermen (fishing) 3. Labor worker 4. Own Business 5. Government employee 6. Private employee 7. Organization employee 8. Factory worker 9. Driver/Mechanic 10. Construction worker 11. Animal raising 12. Food Processor 13. Others (.....)
Q2.2.	What is your income from your primary occupation?	Monthly income USD

Q2.3.	Do you have a secondary occupation?	1. Yes 2. No
Q2.4.	What is your income from your secondary occupation?	Monthly income USD
Q2.5.	Is your income dependent upon your location? (is the income dependent upon the lake, or living in the immediate area?)	1. Yes 2. No
Q2.6.	If you have income from the lake, do you pay rent or do you own the land?	1. pay rent 2. own the land 3. Gov't land or public land 4. Owner gave or do on their land
Q2.7.	What do you use the lake for?	1. Farming (growing crops) 2. Fishing 3. Animal raising 4. Others (.....)
Q2.8.	If you use the lake for planting crops, then what percentage of the crop do you sell and what percentage does you and your family eat?	Sell: %. Price per kilo: Eat: %.
Q2.9.	What are the main sources of income for the family?	1. Farming (grow vegetables) 2. Fishermen (fishing) 3. Labor worker 4. Own Business 5. Government employee 6. Private employee 7. Organization employee 8. Factory worker 9. Driver/Mechanic 10. Construction worker 11. Animal raising 12. Food Processor 13. Others (.....)
Q2.10.	How much for the main sources of income?	____ USD
Q2.11.	How many people in your family are employed? (Please list their occupations)	
Q2.12.	What is your total household income? (combined from all jobs across all earners)	Monthly income?
Q2.13.	What is the highest educational level you have achieved?	1. No formal school 2. Incomplete primary 3. Completed primary 4. Incomplete lower secondary 5. Complete lower secondary 6. Incomplete upper secondary 7. Complete upper secondary 8. Higher than secondary

Q2.14.	What is the highest level of education anyone in your household has achieved?	<ol style="list-style-type: none"> 1. No formal school 2. Incomplete primary 3. Completed primary 4. Incomplete lower secondary 5. Complete lower secondary 6. Incomplete upper secondary 7. Complete upper secondary 8. Higher than secondary
Q2.15.	Has your income level changed in the last 5 years?	Options: <ol style="list-style-type: none"> 1. Decreased a lot 2. Decreased a little 3. Stayed the same 4. Increased a little 5. Increased a lot
Q2.16.	If so, what are the reasons for this change?	
Q2.17.	Do you have any loans? (microcredit or other)	Yes/No
Q2.18.	If yes, what is the total amount of the loan, which bank or MFI is the loan with, and what is the collateral used to secure the loan?	Total amount: MFI name: Collateral used: <ol style="list-style-type: none"> 1. Land/house 2. Relative assets 3. Salary or income 4. Other
Q2.19.	Are you able to repay the debt? If no, do you have a plan for the future?	Yes/No
Q2.20.	(Why did you take out the loan?) Are there any of the following issues associated with your debt? (If so please discuss).	<ol style="list-style-type: none"> 1. Loss of land or house 2. Eat less food 3. Children do not go to school and work instead 4. Having to work more than one job or a dangerous job to repay the debt 5. Running away from the debt collectors 6. Migration 7. Other: _____

III. LAND TENURE

QID	Questions	Answer code
Q3.1.	What kind of land is the household located on? Add visual confirmation from enumerator?	<ol style="list-style-type: none"> 1. Along/on a river 2. Along/on a canal 3. By/on a natural pond 4. By/on an artificial or man-made pond 5. By/on a lake 6. By/on a road 7. On a rooftop 8. Along railway tracks 9. Inside a warehouse/other structure 10. Along wall (e.g pagoda, school, market...) 11. Inside a pagoda complex 12. No distinctive feature 13. Other
Q3.2.	Has anybody informed the household member which type of land they are living on? If respondent is a renter, skip this question	<ol style="list-style-type: none"> 1. Yes – state private 2. Yes – State public 3. Yes – Private land which belongs to us 4. Yes – Private land which belongs to someone else 5. No information
Q3.3.	If yes, who told you this?	<ol style="list-style-type: none"> 1. Neighbours/friends 2. Village chief/community leader 3. Sangkat level 4. Khan level 5. Authorities conducting land registration 6. 'Owner' of land 7. Other
Q3.4.	If yes, when were you told?	DATE QUESTION
Q3.5.	Does the household have written documentation establishing status of land? (If yes, describe and get a copy)	<ol style="list-style-type: none"> 1. Hard title 2. Soft title 3. Land tenure certificate 4. no document 5. Other
Q3.6.	Have you ever been told you will be evicted in the future?	Yes/No
Q3.7.	Who gave you this information?	<ol style="list-style-type: none"> 1. Village chief/community leader 2. Sangkat level 3. Khan level 4. Authorities conducting land registration 5. 'Owner' of land 6. Company representative 7. Other
Q3.8.	Has anything happened since then?	

IV. HOUSING STRUCTURES, INFRASTRUCTURE, AND SERVICES AND LIVING CONDITIONS *Note: Grey questions can be filled in by researchers using observation and mapping.*

Q4.1.	What is the primary material use for your house flooring?	<ol style="list-style-type: none"> 1. Earth/Clay 2. Wood/Bamboo planks 3. Concrete/Brick/Stone 4. Polished stone 5. Parquet or polished wood 6. Masaic/ceramic tiles 	
Q4.2.	What is the primary material use for your house walls?	<ol style="list-style-type: none"> 1. Bamboo/Thatch/Grass/Reeds 2. Earth 3. Wood/Plywood 4. Concrete/Brick/Stone 5. Galvanised Iron/Aluminium/Other metal sheets 6. Asbestos cement sheets 7. Salvaged/Improvised materials 	
Q4.3.	What is the primary material use for your house roofing?	<ol style="list-style-type: none"> 1. Bamboo/Thatch/Grass 2. Tile 3. Wood/Plywood 4. Concrete/Brick/Stone 5. Galvanised Iron/Aluminium/Other metal sheets 6. Asbestos cement sheets 7. Plastic/Synthetic material sheets 	
Q4.4.	How long has your family lived in this area?	<ol style="list-style-type: none"> 1. Under 1 year 2. 1 to 2 years 3. 2 to 3 years 4. 3 to 5 years 5. More than 5 years 	
Q4.5.	Why did they come to live in the area?		
Q4.6.	Is the household connected to PPWSA piped water?	<ol style="list-style-type: none"> 1. Yes 2. No – previously had but now disconnected 3. No – never had a connection 	
Q4.7.	Is there a different source of water for drinking and for other uses (ie bathing, washing dishes)	<ol style="list-style-type: none"> 1. If yes, please list where drinking water comes from: 2. PPWSA piped water 3. PPWSA piped water charged by landlord/middleman 4. Private piped water through an external supplier/middleman 5. Water bought from a vendor or tanker truck 6. Purified water (bottle or container) 7. Pump well 8. Open well 9. Rain water 10. Pond, lake or river 11. Other: _____ 	

Q4.8.	Which primary water facility does the household use?	<ol style="list-style-type: none"> 1. PPWSA piped water 2. PPWSA piped water charged by landlord/middleman 3. Private piped water through an external supplier/middleman 4. Water bought from a vendor or tanker truck 5. Purified water (bottle or container) 6. Pump well 7. Open well 8. Rain water 9. Pond, rice field, river 10. Other 	
Q4.9.	How much does it cost for water from the above supplier?	<ol style="list-style-type: none"> 1. _____USD/m3 2. _____USD/container 3. _____USD/month 	
Q4.10.	If a well is used for water, either drinking water or other water, who collects the water?	<ol style="list-style-type: none"> 1. Parent 2. Child 3. Uncle/aunt 4. Grand parent 5. Other 	
Q4.11.	how far away is the well?	<ol style="list-style-type: none"> 1. Water on premises 2. Less than 30 minutes 3. More than 30 minutes 4. Don't know 	
Q4.12.	Does the house have an Electricite du Cambodge electricity connection?	<ol style="list-style-type: none"> 1. Yes 2. No – previously had but now disconnected 2. No – never had a connection 	
Q4.13.	Which primary electricity source does the household use?	<ol style="list-style-type: none"> 1. EDC connection 2. EDC charged by landlord/middleman 3. Private electricity provider 4. Private generator 5. Solar 6. Battery 7. No electricity 	1,5->5.8
Q4.14.	How much does it cost for electricity?	<ol style="list-style-type: none"> 8. 1. _____USD/Kwh 9. 2. _____USD/month 	
Q4.15.	Where does rainwater go?	<ol style="list-style-type: none"> 1. Underground sewerage system 2. Overground sewerage system (e.g ditch) 3. Directly from house into pond/lake/river/rice field 4. No system 5. Other 	

Q4.16.	Does the rainwater system function?	<ol style="list-style-type: none"> 1. Yes – System is very good 2. Yes – System is good 3. Yes – System is bad 4. Yes – System is very bad 5. No - Previous functioning but no longer functioning 6. No – No system at all 	
Q4.17.	If there is a rainwater system, who supported/provided the system?	<ol style="list-style-type: none"> 1. Khan 2. Sangkat 3. Village 4. Self-paid 5. NGOs 6. Company 7. Other 	
Q4.18.	Where does human waste go?	<ol style="list-style-type: none"> 1. Underground sewerage system 2. Overground sewerage system (e.g ditch) 3. Directly from house into pond/lake/river/rice field 4. No system 5. Other 	
Q4.19.	Does the human waste system work?	<ol style="list-style-type: none"> 1. Yes – the system is very good 2. Yes – the system is good 3. Yes – the system is bad 4. Yes – the system is very bad 5. No – previously had but now is not functional 	
Q4.20.	If there is a system, who supported/provided the system?	<ol style="list-style-type: none"> 1. Khan 2. Sangkat 3. Village 4. Self-paid 5. NGOs 6. Company 7. Other 	
Q4.21.	<p>Has the household been affected by flooding at least once during the last 3 rainy seasons?</p> <p>If yes, how long does rainwater take to go away?</p>	<ol style="list-style-type: none"> 1. Yes – taking 1-2 hours 2. Yes – taking less than 1 day 3. Yes – taking less than 1 week 4. Yes – taking 1-2 weeks 5. Yes – taking 2-4 weeks 6. Yes – taking longer than 4 weeks 7. No 	

Q4.22.	What the main sort of access does the household have?	<ol style="list-style-type: none"> 1. 2 lane road (can fit two cars) 2. 1 lane road (can fit one car) 3. Small alley/path (can fit a moto) 4. Sturdy bridge (can support car) 5. Weak bridge (can support moto only) 6. Railway track 7. Stairs 8. Other 	
Q4.23.	What material is the access route constructed from?	<ol style="list-style-type: none"> 1. Concrete 2. Wood 3. Unpaved/dirt/mud 4. Stone 5. Other 	
Q4.24.	Does the household have street lights/communal lighting?	<ol style="list-style-type: none"> 1. Yes – Functional 2. Yes – not functional 3. No 	
Q4.25.	Is there solid waste collection service for the household?	<ol style="list-style-type: none"> 1. Yes, every day collection 2. Yes, twice a week collection 3. Yes, once a week collection 4. Yes, once every two weeks collection 5. No 	
Q4.26.	If yes, how much does this cost?	<ol style="list-style-type: none"> 6. Price range 	
Q4.27.	Who provide the solid waste collection service?	<ol style="list-style-type: none"> 1. CINTRI company 2. CSARO organization 3. Other 	
Q4.28.	If don't have solid waste collection service, how does the household manage its solid waste?	<ol style="list-style-type: none"> 1. Burning 2. Burying 3. Dumping in an area that has solid waste collection service 4. Dumping (no collection service) 5. Other 	
Q4.29.	What toilet facilities does the household use?	<ol style="list-style-type: none"> 1. Individual facilities (attached to the house or within five metres of the household) 2. Shared facilities between 2-3 households 3. Public facilities (used by the whole community) 4. No facilities (use the lake, river or ground) 5. Other 	
Q4.30.	If toilet facilities are public or shared, how far away are the toilets?	<ol style="list-style-type: none"> 1. Less than 50m 2. 50m to 100m 3. 100m to 200m 4. More than 200m 	

Q4.31.	and are their lighting systems in place?	1. Yes 2. No	
Q4.32.	What kind of toilet does your family use?	1. None, not using toilet 2. Pour flush (or flush) connected to sewerage 3. Pour flush (or flush) to septic tank or pit 4. Pour flush (or flush) to elsewhere (i.e. not a sewer or pit/tank) 5. Pit Latrine with slab 6. Pit Latrine without slab or open pit 7. Latrine overhanging field or water (drop in the field, pond, lake, river, sea)	
Q4.33.	Are any household members holders of ID Poor cards?	1. No 2. Yes – Level 1 3. Yes – Level 2	Ask for type of ID poor card? Level 1 or 2
Q4.34.	If household members are ID Poor card holders, do they possess an up-to-date card?	Yes/No/Don't know	
Q4.35.	When were the ID Poor cards provided?	4. Price range	
Q4.36.	How long does it take to travel (by moto) to closest...?	1. ...Market _____min 2. ...Public health services ____ min 3. ...Pagoda _____ min 4. ...Public Primary school ____min 5. ...Public Secondary school __min	

V. PROJECT AWARENESS

QID	Questions	Answer code (answers to be voice-recorded)	Skipping	Remark
Q5.1.	Are you aware of the ING City development project, or of any project that is currently being implemented in the lake area? (Other projects might be AEON Mall, Borey Peng Huoth, JICA funded wastewater treatment plant, Hun Sen Boulevard etc.)	Y/N	If no, skip to ...	
Q5.2.	What do you know about it?			
Q5.3.	How did you get this information?	1. Village chief/community leader 2. Sangkat level 3. Khan level 4. Authorities conducting land registration 5. 'Owner' of land 6. Company representative 7. Other		

Q5.4.	Did you, or the community, have any meeting or consultation with the company about its project, or was any meeting announced?	Y/N		
Q5.5.	If there were meeting or consultations with the community, did you attend?	Y/N		
Q5.6.	If yes, what were you told about the project and its impacts on your community? Were you provided with any written document/ notification/information?			
Q5.7.	Did you feel you were consulted about the project?	Y/N		
Q5.8.	What was the consultation like? Please describe the scene (was there a presentation/was the information clear/could you ask questions?	RECORDED ANSWER		
Q5.9.	Were you given notice before the company commenced its operation?	Y/N		Ask when they were given notice if they don't know how much notice they were given
Q5.10.	If yes how much?	<ol style="list-style-type: none"> 1. Upto 6 months 2. 1 year 3. 1 year to 2 years 4. 2 years to 3 years 5. Over 3 years 		
Q5.11.	Did the company ask for your consent?	Y/N		
Q5.12.	Have you been affected by any project related developments?	Y/N		
Q5.13.	What are the effects? Are the effects different for different people? What about old people, young people, disabled people?	voice-recorded		
Q5.14.	Have you lost anything because of the project?	<ol style="list-style-type: none"> 1. Income 2. Housing 3. Land 4. Economic opportunities 5. Road 6. Other 		
Q5.15.	Have you made any attempts to seek redress for your loss?	Y/N		

Q5.16.	What was the result of these attempts?	<ol style="list-style-type: none"> 1. Compensate with money 2. Give land in another place 3. No compensation 4. Other 		
Q5.17.	Are there any foreseeable effects that you are concerned about in the future? (If so please list them).	voice-recorded		
Q5.18.	If you were you offered compensation for your losses?	Y/N		
	Q5.18.1 Who offered you the compensation?	<ol style="list-style-type: none"> 1. Government 2. Company 3. Other 		
	Q5.18.2 When were you offered compensation?			
	Q5.18.3 What were the compensation options?	<ol style="list-style-type: none"> 1. Compensate with money 2. Give land in another place 3. No compensation 4. Other 		
	Q5.18.4 If money, how much compensation were you offered?			
	Q5.18.5 Was it the same compensation for everybody?	Y/N		
	Q5.18.6 Who was involved in the compensation discussions?	<ol style="list-style-type: none"> 1. Village chief/community leader 2. Sangkat level 3. Khan level 4. Authorities conducting land registration 5. 'Owner' of land 6. Company representative 7. Ciziten 8. NGOs 9. Other 		
	Q5.18.7 How long did they take?	<ol style="list-style-type: none"> 1. Upto 6 months 2. 1 year 3. 1 year to 2 years 4. 2 years to 3 years 5. Over 3 years 		
	Q5.18.8 Which documents were required?	<ol style="list-style-type: none"> 1. Hard title 2. Soft title 3. Land tenure certificate 4. Family book 5. Citizen Identification 6. no document 7. Other 		
	Q5.18.9 Any documents provided?	Y/N		

Q5.19.	If you were offered compensation, did you accept it?	Y/N		
	Q5.19.1 If no, why didn't you accept it?	<ol style="list-style-type: none"> 1. Little money compensation 2. Move to leave in difficult area 3. Something that we don't want 4. Other 		
	Q5.19.2 Are you happy with the compensation?	Y/N		
	Q5.19.3 If not, have you complained about the compensation?	Y/N		
	Q5.19.4 What was the compensation?	<ol style="list-style-type: none"> 1. Compensate with money 2. Give land in another place 3. No compensation 4. Other 		
Q5.20.	What remedy does your family want from the company or government for your losses?	voice-recorded		

VI. PERCEPTION OF ING CITY PROJECT

For groups unaware of the project, please provide a small amount of information on the project (its scope, likely environmental effects and the project owners)

QID	Questions	Answer code (answers to be voice-recorded)	Skipping	Remark
Q6.1.	Have you ever met with ING about the project?	Y/N		
Q6.2.	Have you ever met with any other groups about the project?	Y/N		
Q6.3.	Do you think the project is beneficial to all Cambodians?	Y/N		
Q6.4.	Do you think the project is a good idea?	Y/N		
Q6.5.	How do you feel about development in general in Cambodia?	<ol style="list-style-type: none"> 1. Very bad 2. Bad 3. Neutral 4. Good 5. Very good 		
Q6.6.	How do you feel about this development in Beoung Tampoun?	voice-recorded		
Q6.7.	Have you experienced anything similar to this project before?	Y/N		If so, please ask participant
Q6.8.	Do you know any other people who have experienced development like this?	Y/N		
Q6.9.	If you could provide comments to ING City and its proponents, what comments would you provide?	voice-recorded		

