

STUDY



The Mekong River: geopolitics over development, hydropower and the environment



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ABSTRACT

The Mekong River is a vital source of livelihoods and economic activity in continental South-East Asia and extends from the Tibetan Plateau to the South China Sea. Its length is 4 800 km. More than half circulates in China, but its channel runs through Myanmar, Laos, Cambodia, Thailand and Vietnam.

The Mekong has the world's largest inland freshwater fishery industry, vital to the region's food security, representing around USD 3 000 million per year. Its unique and rich biological habitat provides diverse livelihoods as well as four fifths of the animal protein for more than 60 million people. At the level of biodiversity, the importance of this river for global nature is vital.

The Mekong region is extremely vulnerable to the impacts of climate change and to the degradation of ecosystems. The uncontrolled growth of the population both in China and in Southeast Asia is exerting unsustainable pressure on the Mekong in terms of a massive exploitation of all kinds of resources linked to the River: water, food, wood, energy, especially recent infrastructure and hydropower development, together with deforestation, illegal wildlife trade and habitat fragmentation. Water scarcity leads to reduced agricultural productivity, unemployment and poverty

Four countries (Cambodia, Lao PDR, Thailand, and Vietnam) formed an intergovernmental agency in 1950, The Mekong River Commission (MRC), to defend the sustainable development of the Mekong River and to plan its future. The absence of China and Myanmar mitigates and erodes the effective dialogue of the MRC on the management of the River. The lack of implementing mechanisms denatures the organization itself.

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1 Key issues and developments

On the importance of the Mekong region

- The Mekong River springs from the plains of Tibet and flows all the way to the South China Sea. On its way, it crosses through China, Myanmar, Thailand, Laos, Cambodia and Vietnam. It is the longest river in Southeast Asia, with an approximate length of 4 800 km.
- The River waters more than 810 000 square km of land and the total river basin area covers 795 000 square kilometres, being the most important source of livelihoods and economic activity in continental Southeast Asia.
- The Greater Mekong sub-region is the natural economic area surrounding the Mekong River, covering 2.6 million square kilometres with a population of around 339 million people. Considered one of the most biodiverse river basins in the world, the Mekong basin is also one of the most fertile farmland areas.
- Rich in resources, the Mekong provides a highly productive environment for agriculture, aquaculture, capture fisheries, non-fish aquatic goods, timber, water storage and tourism, with plenty of opportunities for hydropower. Mineral resources in the Mekong basin include oil and gas as well as gold, copper, lead, zinc, phosphate, potash, coal and gemstone.

On the geostrategic interests

- In the context of the Belt and Road Initiative, China considers the Mekong Basin as a gateway to Indochina and is willing to develop the necessary infrastructure to facilitate the transportation of goods from the interior Chinese provinces to the South China Sea. For the Lower Mekong countries, it would increase their economic and political integration.
- China is the dominant power in the sub-region, controlling the Mekong's headwaters. The River is one of China's strategies of expanding trade routes and supply lines. The Mekong provides electricity from numerous hydropower facilities, recently built to foster industrialization and development.
- Conflicting border issues persist in the Lower Mekong Basin due to often-inadequate demarcation lines, with small-scale military tensions and standoffs. Armed ethnic groups operate on the borders and military deployment alongside the borders of the Mekong countries is low, which enables illegal trans-border activities between Mekong countries such as illegal timber, wildlife and arms trade, human trafficking and drug trafficking.
- Drug trafficking is a serious problem in the Mekong countries, especially in the 'Golden Triangle' area, which comprises the border area between Myanmar, Laos and Thailand, major producers of opium and methamphetamine. The Mekong River is a major transport way for the drugs.

On the environmental issues, hydropower projects and dam constructions in the Mekong region

- Stress that few places in the world are as threatened by climate change as the Mekong Delta, which is facing serious environmental issues due to salt-water

intrusion and degradation of land due to decreased flow from upstream dams, worsening droughts and rising sea levels, which poses a serious threat to the agricultural sector;

- The entire Mekong Delta in Vietnam is predicted to fully sink under water by the year 2100 caused by the heavy extraction of groundwater.
- Environmental activists have articulated serious concerns over the adverse environmental effects in the Mekong countries. NGOs advocate against the potential degradation of the environment due to the dam constructions.
- The Mekong Basin has a huge hydropower potential. China has three dams on the Mekong River in its territory, Mawan, Duchashan and Jinghong, four are planned, and finally, the Xiowan Dam is being built, which would be the tallest dam in the world with 292 meters and would cause a serious interruption in the natural riverbed to the south.
- Since March 2006, hydropower companies from China, Thailand, Vietnam, Laos, Malaysia and Russia have proposed eleven large-scale hydroelectric dams for the lower reaches of the Mekong River. Seven of the locations would be in Laos, two in Cambodia and two on the border between Thailand and Laos.
- Hydropower development and dam constructions on the Mekong River tributaries do not have the same level of scrutiny as they have in the main river. Dams on the tributaries could have greater negative effects on fish biodiversity and food security than those on the main river.
- There will be a 97 % loss in sediment flow to the delta by 2040 if the planned dams on the Mekong River are carried out.

On the human rights and labour situation in the Mekong region

- Labour-based border mobility and migration in the Lower Mekong sub-region is increasing due to economic disparities and improved connectivity between Association of South East Asian Nations (ASEAN) nations, even though it is hard to estimate due to lack of data and low-skilled irregular migration.
- The ambiguity of legislation concerning the increasing economic corridors or special economic zones (SEZs) along border towns in the Great Mekong Sub-region raises concerns regarding irregular migrants and the rights of workers and their family members.

On the EU presence in the Mekong region and multilateral governance: ASEAN and the Mekong River Commission (MRC)

- The EU is present in the Mekong region through working bilaterally with the Mekong countries (China, Laos, Cambodia, Myanmar, Thailand and Vietnam) and through multilateral agreements with regional bodies such as ASEAN and the Asia-Europe Meeting (ASEM), as well as supporting the Mekong River Commission (MRC) and the Friends of Lower Mekong (FLM).
- The EU's Multiannual Indicative Programme (MIP) for 2014-2020 supports cooperation with Mekong Countries as one of its specific objectives: EUR 207 million to Laos, EUR 410 million to Cambodia, EUR 400 million to Vietnam

and EUR 680 million to Myanmar. This support is distributed either through institutional support to the MRC or through thematic development projects

- The EU is providing humanitarian aid and development assistance. In 2015 through the European Commission Joint Communication, "The EU and ASEAN: A partnership with strategic purpose", the EU reaffirmed the importance of the Mekong region.
- In response to the Mekong's environmental issues, the MRC's Environment Program works to support cooperation among MRC Member countries to secure a balance between economic development, environmental protection and social sustainability, to ensure that basin management and development is guided by up to date environmental and social knowledge.

2 Policy options

EP Members may wish to raise the following points:

On the EU presence in the Mekong region

- Underline that the EU has delegations in all the Mekong countries and express their will to increase the EU's bilateral and multilateral political presence in the Mekong region in order to face the current situation regarding the environment, climate change, deforestation and the displacement of populations, as well as the dam constructions;
- Recall the EU's Multiannual Indicative Programme (MIP) for 2014-2020, allocating EUR 207 million to Laos, EUR 410 million to Cambodia, EUR 400 million to Vietnam and EUR 680 million to Myanmar;
- Support the Voluntary Partnership Agreements with the EU (VPAs) as the main way to implement the Forest Law Enforcement, Governance and Trade Action Plan to fight illegal logging; support cooperation with Mekong Countries to fight illegal logging through the Forest Law Enforcement, Governance and Trade (EU FLEGT) Action Plan;
- Recall that the EU is an important partner in the region in terms of humanitarian relief and disaster preparedness projects and that over 135 000 people in deprived areas of the Mekong region are receiving EU-funded support;
- Underline that the EU holds biannual meetings with the Mekong River commission (MRC), which highlights the interest that the EU takes in the region

On the geostrategic importance of the Mekong region and its security implications

- Underline the importance of the Mekong region, the longest river in Southeast Asia and the most important source of livelihoods and economic activity in continental Southeast Asia;
- Warn that security tensions in the Lower Mekong countries' borders are frequent and armed ethnic groups control some parts of the borders, while military border patrolling in certain areas can even be non-existent;

- Regret that border issues remain an obstacle for better economic cooperation and joint management of the river;
- Point out that border patrolling could help in the fight against illegal trans-border activities between countries in the region, such as illegal timber, wildlife and arms trade, human and drug trafficking;
- Support the work of the United Nations Office on Drugs and crime (UNODC) in the Mekong countries, promoting governance and the rule of law as the crucial tools to any long-term reduction in drug production and trafficking;
- Stress the need to focus on peace and security in the 'Golden Triangle', where border conflicts and the drug production and trafficking are connected;
- Raise concern about the illegal international trade in wildlife from the Mekong riparian countries and support cooperation on this subject in accordance with international conventions such as the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES);

On multilateral governance: ASEAN and the Mekong River Commission (MRC)

- Support the multilateral initiatives involved in the management of the River, particularly the Mekong River Commission (MRC) and the Friends of Lower Mekong (FLM) in their task of finding a balance between economic development, environmental protection and social sustainability;
- Consider the inclusion of China and Myanmar an essential condition to provide the MRC with an implementing force and regret that they are not present in the MRC as executive members but as observers, which diminishes the function of the organization because an effective dialogue cannot be established between all those involved in the management of the Mekong river;
- Stress the need for the MRC to carry out thorough prior consultations and to make comprehensive environmental, fisheries, livelihoods and cross-border impact assessments of hydropower development plans in the mainstream of the Mekong River;
- Call on upstream countries to adopt working policies on river construction to protect the rights of downstream states, such as Vietnam and Cambodia, that are the countries most affected by the exploitation of hydropower and dams;
- Encourage cooperation between countries of the region to counter the negative effects of the dams, reducing their dependence on hydropower and providing an immediate income stream, as well as speeding up rural electrification and generating foreign exchange by building large-scale solar plants to reduce the need for mainstreams dams;
- Promote joint development planning to strengthen sub-regional cooperation in order to improve water resources management, as well as the share and transparency of data and information for better coordination between Mekong countries;

On the environment issues

- Express concern about the threat to the social, environmental and economic future of the Mekong due to the rapid economic development, recalling that the Mekong is one of the most vulnerable regions in the world to the effects of climate change and environmental deterioration, which is already taking place in the form of land erosion, deforestation and quality and access to water;
- Recall that the Mekong region is currently suffering a severe drought and its water resources are diminishing and invite the Mekong countries to take the necessary measures to stop the devastating effects of the drought on the region's agriculture, fisheries and environment;
- Stress the need to preserve the so-called 'deep pools' along the Mekong River, which act as habitat areas for different species during rainy seasons as well as nurseries for migratory species during the monsoon;
- Underline that the proportion of renewable energy sources, especially solar and wind power capabilities, have to rise in the future to meet energy needs, as the growing use of coal increasingly creates CO₂ emissions in the Mekong region, and that heavily biomass-based energy supplies contribute to climate change and deforestation;
- Support the MRC's Environmental Program, for which the Mekong countries cooperate to keep up to date with environmental and social issues regarding the development of the basin;
- Point out that the Mekong is one the most fertile lands in the world, but that the dams could reduce the fertility of the soil due to the decrease in sediment flow along the river;
- Recall the possible humanitarian crisis that the heavy groundwater extraction is causing in the Mekong delta. If the extraction continues to increase, the delta is expected to be fully underwater by 2100;

On the human rights and labour situation in the Mekong region

- Support research on sustainable development, gender, migration, biodiversity and fisheries in the Mekong region and recall the necessity to protect the rights of minority people that are impacted by hydropower projects, which result in their massive displacement;
- Support the MRC's endorsement of a gender action plan and recall the important role that women take in water management, as well as a greater representation of women in decision-making and gender analysis studies to understand and support women's needs equally;
- Support an inclusive decision-making process that promotes policy dialogue on water management, which also involves civil society groups and in which the most vulnerable groups such as indigenous people and women are represented in order to enhance participation, transparency and accountability;

- Stress that long porous borders, weak governance in the Lower Mekong countries and a lack of enforcement of labour protection, contribute greatly to ongoing irregular migration, the exploitation of migrants and an unsafe work environment;
- Recall that due to gender-based discrimination and low education levels of women and girls in the Lower Mekong, they are particularly vulnerable to issues arising from irregular labour migration, such as child labour, human trafficking and modern slavery;
- Express concern about the worsening of labour rights and working standards in the special economic zones (SEZs), including mobility limitations, lack of enforcement, arbitrary dismissal, depressed wages, and low standards of health and safety; underline the importance of a clear legislation regarding the SEZs in terms of irregular migration and the rights of workers and their family members;
- Recommend obtaining more data to understand the increase of labour-based border mobility and migration in the lower Mekong caused by economic disparities and improved connectivity between the countries;

On agriculture and fisheries

- Stress that the Greater Mekong sub-region is the third most biodiverse river basins in the world and one of the most fertile farmland areas, as well as the most important source of livelihoods and economic activity in Asia, having the world's largest inland freshwater fishery industry;
- Encourage agricultural alternatives and innovation in the area and a better scrutiny of dams on the tributaries as they could be a bigger threat to fish biodiversity and food security than those on the main river;
- Support impact assessment and knowledge sharing to better evaluate decision-making related to environmental, agricultural issues and its impact on the population;
- Recall that Vietnam and other Lower Mekong countries are seriously concerned by the environmental and agriculture damage caused by dam constructions;

3 The EU presence in the Mekong region

3.1 EU political presence in the Mekong region

The European Union is present in the region through bilateral and multilateral partnership agreements.

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EU- Association of South East Asian Nations (ASEAN) relations date back to 1972. The partnership was reframed in 2012 with a Plan of Action to strengthen cooperation. Furthermore, new steps were also taken to resume

negotiations concerning the region-to-region FTA in March 2017 in an EU-ASEAN joint statement¹.

Asia-Europe Meeting (ASEM) was created in 1996 as an informal platform for Asia-Europe dialogue and cooperation. It includes 52 partner countries and two institutional partners, the EU and the ASEAN Secretariat. It brings together government level meetings, parliaments, businesses, academia and the civil sector.

The 2015 Joint Communication to the EP and the Council '[The EU and ASEAN: A partnership with strategic purpose](#)' clearly states the importance of the lower Mekong region².

The EU is working with ASEAN and in the ASEM with the aim of reinforcing the Mekong River Commission (MRC). (See [10. Multilateral governance in the Mekong River](#)).

The EU collaborates with the MRC, providing technical and financial support on issues such as development and climate change. The European Commission and the MRC have had several funding agreements since 2003.

[The Commission Implementing Decision on the Annual Action Program 2018, Part I](#), supports the integrated and sustainable management of natural resources in the Lower Mekong and increases development and poverty reduction in the Mekong region. By supporting the MRC in its [Strategic Plan 2016 - 2020](#), the EU aims at the promotion and coordination of sustainable management of the Mekong's water resources³.

Furthermore, in addition to technical meetings, as a development partner the EU meets the MRC twice a year, for the MRC Council meeting and MRC Informal Development partners Meeting⁴. The EU is also a member of the Friends of the Lower Mekong (FLM) collaboration, a convening platform under the US led Lower Mekong Initiative (LMI) cooperation. FLM intends to improve donor coordination of development assistance in the region⁵.

The EU is also present in the Mekong region and concerned about its environmental and socio-economic aspects through its bilateral relations with the countries concerned: China, Cambodia, Laos, Myanmar, Thailand and Vietnam.

Current EU-China relations are based on the 2003 Comprehensive Strategic partnership and the EU-China 2020 Strategic Agenda for Cooperation

The 2015 Joint Communication to the EP and the Council '[the EU and ASEAN: A partnership with strategic purpose](#)' clearly states the importance of the lower Mekong region.

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Current EU-China relations are based on the 2003

¹ https://eeas.europa.eu/headquarters/headquarters-homepage/30722/eu-asean-relations-factsheet_en

² <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=JOIN:2015:22:FIN&from=EN>

³ https://ec.europa.eu/europeaid/sites/devco/files/aap-financing-asiaregion_2017part2-annex7-c_2017_6311_en.pdf

⁴ <http://www.mrcmekong.org/about-mrc/development-partners-and-partner-organisations/> & Email from MRC, Nhu Duong Hai

⁵ <https://www.usaid.gov/sites/default/files/documents/1861/FLM%20Factsheet%20June%202013.pdf>

Comprehensive Strategic partnership and the EU-China 2020 Strategic Agenda for Cooperation adopted in 2013.

Relations between the EU and Cambodia are based on the Cooperation Agreement, signed in 1997 and into force in 1999.

Bilateral relations with Laos are based on the 1997 Cooperation Agreement.

There is currently no formal framework agreement for EU relations with Myanmar and bilateral relations were only initiated from 2011 after decades of isolation and sanctions due to the military dictatorship.

The EU froze the signing of the Partnership and Cooperation Agreement (PCA) with Thailand in June 2014 after the military coup, and suspended the

adopted in 2013⁶. The Joint Communication on elements for a new EU strategy on China was adopted in June 2016⁷. There is no unified EU policy position toward the 'Belt and Road Initiative' (BRI), and about Beijing's 'divide and rule' approach.

Relations between the EU and the Kingdom of Cambodia are based on the Cooperation Agreement, which was signed in 1997 and entered into force in 1999⁸, providing the framework for bilateral relations and the legal basis for the Joint Committee meeting every two years. The EU is also a major development aid and humanitarian assistance provider for the country. Current funding schemes are laid out in the 2014-2020 Multiannual Indicative Programme (MIP). The EU is concerned by the political situation in Cambodia, which has been deteriorating since 2015, and especially concerned by the dissolution of the opposition party ahead of the 2018 elections⁹.

Bilateral relations with Laos are based on the 1997 Cooperation Agreement¹⁰. Since then, relations are grounded in development and trade rather than political affairs. A Joint Committee is also held biannually between the government of Laos and the EU to set out priorities and exchange recommendations¹¹.

At the bilateral level, there is currently no formal framework agreement for EU relations with Myanmar and bilateral relations were only initiated from 2011 after decades of isolation and sanctions due to the military dictatorship. The EU has been at the forefront of the international community's re-engagement with Myanmar since it began to open up to the world. The EU lifted sanctions in 2013, except for arms. In 2013, an EU-Myanmar task force was set up and Myanmar is a pilot country for the Agenda for Action on Democracy Support program. Moreover, the EU lays out its priorities in the Comprehensive Framework document adopted in 2013. The Council endorsed a strategy for relations with Myanmar in 2016¹². Recent turmoil and the Rohingya issue, however, shed a different light on political cooperation¹³.

⁶ http://eeas.europa.eu/archives/docs/china/docs/eu-china_2020_strategic_agenda_en.pdf

⁷ http://eeas.europa.eu/china/docs/joint_communication_to_the_european_parliament_and_the_council_-_elements_for_a_new_eu_strategy_on_china.pdf

⁸ http://www.eeas.europa.eu/archives/delegations/cambodia/documents/eu_cambodia/ec_cam_cooperation_agreement_en.pdf

⁹ http://www.europarl.europa.eu/RegData/etudes/fiches_techniques/2017/N54479/04A_FT%282017%29N54479_EN.pdf

¹⁰ https://eeas.europa.eu/delegations/laopdr_en/28854/Lao%20PDR%20and%20EU%20celebrate%2020%20years%20of%20cooperation

¹¹ https://eeas.europa.eu/delegations/laopdr/1407/laopdr-and-eu_en

¹² <https://www.consilium.europa.eu/en/press/press-releases/2016/06/20/fac-conclusions-myanmar-burma/>

¹³ http://collections.internetmemory.org/haeu/20160313172652/http://www.eeas.europa.eu/statements/docs/2013/131106_05_en.pdf

negotiations on a free trade agreement (FTA), pending the restoration of democracy.

The EU-Vietnam Framework Agreement on Comprehensive Partnership, signed in 2012 and in force since 2016, currently governs bilateral partnership and Cooperation.

In June 2019, the EU Council adopted the EU-Vietnam Free Trade Agreement and Investment Protection Agreement.

Cambodia, Laos and Myanmar are beneficiaries of the Everything but Arms Scheme (EBA).

The EU froze the signing of the Partnership and Cooperation Agreement (PCA) with Thailand in June 2014 after the military coup, and suspended the negotiations on a free trade agreement (FTA), pending the restoration of democracy and due to reported human rights abuses¹⁴. The EC-ASEAN Agreement of 1980 constitutes the current legal framework for relations with Thailand. In December 2017, the Council adopted its conclusions on Thailand considering pursuing gradual political re-engagement with Thailand¹⁵.

The EU-Vietnam Framework Agreement on Comprehensive Partnership, signed in 2012 and in force since 2016, currently governs bilateral partnership and Cooperation¹⁶. The Agreement contains a clause on human rights, providing the legal basis for cooperation in the promotion and protection of human rights, including the implementation of international instruments.

In June 2019, the EU Council adopted the EU-Vietnam Free Trade Agreement and Investment Protection Agreement¹⁷. The FTA reduces tariffs on 99 % of goods in 10 years.

Cambodia, Laos and Myanmar benefit from the Everything but Arms Scheme (EBA)¹⁸. The EU has delegations in all the Mekong region countries (China, Vietnam, Laos, Cambodia, Myanmar, and Thailand). Furthermore, the European Parliament Delegation for relations with Southeast Asia and ASEAN visits the region regularly.

3.2 Humanitarian action

Cambodia, Laos and Vietnam are extremely vulnerable to natural disasters and suffer regularly from floods, droughts and storms.

The European Civil Protection and Humanitarian Aid Operations (ECHO) is a continuous and important partner in the region.

Cambodia, Laos and Vietnam are extremely vulnerable to natural disasters and suffer regularly from floods, droughts and storms. The European Civil Protection and Humanitarian Aid Operations (ECHO) is a continuous and important partner in the region. ECHO has provided altogether over EUR 58.2 million of humanitarian assistance since 1995.

In addition to relief funding, the European Commission has contributed EUR 31.7 million to disaster preparation programs since 1995. One of the latest aid actions included EUR 2 million assistance to Vietnam's Central Highlands and Mekong Delta area after the 2016 severe drought and salt-water incursions¹⁹.

¹⁴ Council of the European Union, Council conclusions on Thailand, 2014, http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/EN/foraff/143330.pdf

¹⁵ <http://www.consilium.europa.eu/en/press/press-releases/2017/12/11/thailand-council-adopts-conclusions/>

¹⁶ [https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:22016A1203\(02\)&qid=1500249519675&from=EN](https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:22016A1203(02)&qid=1500249519675&from=EN)

¹⁷ <https://www.consilium.europa.eu/en/press/press-releases/2019/06/25/eu-vietnam-council-adopts-decisions-to-sign-trade-and-investment-agreements/>

¹⁸ http://trade.ec.europa.eu/doclib/docs/2017/july/tradoc_155840.pdf

¹⁹ https://eeas.europa.eu/sites/eeas/files/mekong_en.pdf

In May 2018, the European Commission pledged to spend EUR 6 million on disaster preparedness programs.

Over 135 000 people in deprived areas of the Mekong are recipients of EU-funded support. In 2018, the EU dedicated EUR 1.2 million for humanitarian aid and disaster preparedness projects in the Mekong region. In May 2018, the European Commission pledged to spend EUR 6 million on disaster preparedness programmes in Southeast Asia.

In response to the collapse of the Xepian-XE Nam Noy hydropower dam in Laos in July 2018, the European Commission allocated EUR 200 000 for emergency relief²⁰. In November 2017, following typhoon Damrey in Vietnam, the European Commission provided EUR 200 000 for emergency relief²¹.

3.3 Development cooperation

The EU's Multiannual Indicative Programme for 2014-2020 supports cooperation with Mekong Countries as one of its specific objectives.

The EU's Multiannual Indicative Programme (MIP) for 2014-2020 supports cooperation with Mekong Countries as one of its specific objectives. This support is distributed either through institutional support to the Mekong River Commission (MRC) or through thematic development projects²².

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The EU is a major development aid partner to most of the Mekong countries. In Laos, Cambodia and Myanmar, which are the least-developed of the Mekong countries, EU programs focus on supporting the countries to achieve Sustainable Development Goal (SDGs).

MIP 2014-2020 has the following allocated sums: EUR 207 million to Laos, EUR 410 million to Cambodia, EUR 400 million to Vietnam and EUR 680 million to Myanmar.

In Laos, Cambodia and Myanmar, which are the least developed of the Mekong countries, EU programs focus on supporting the countries to achieve Sustainable Development Goal (SDGs).

Nutrition, education, and good governance are the key sectors for the EU projects²³. Projects dealing with nutrition, agriculture, natural resource management and climate change in the Mekong countries are closely knit to Mekong-related issues. The country with the most Mekong-related development projects is currently Cambodia, where food security and climate change adaptation are one of the major items of development aid.

The European Union has supported Mekong River Commission-led programmes. The MRC's Climate Change Adaptation Initiative (CCAI), received support worth EUR 4.95 million from the EU until June 2017²⁴. The

The EU and its member states have continued to support the

²⁰ https://eeas.europa.eu/delegations/lao-pdr/48981/european-union-brings-relief-victims-xepian-xe-nam-noy-dam-tragedy_en

²¹ <https://reliefweb.int/report/viet-nam/european-union-brings-relief-victims-typhoon-damrey-vietnam>

²² https://eeas.europa.eu/sites/eeas/files/regional-asia-mip-2014-2020_en.pdf

²³ https://ec.europa.eu/europeaid/countries/lao-peoples-democratic-republic_en & https://ec.europa.eu/europeaid/countries/cambodia_en

²⁴ <http://www.gcca.eu/technical-and-financial-support/regional-programmes/gcca-lower-mekong-basin-ccai> & https://ec.europa.eu/europeaid/projects/global-climate-change-alliance-lower-mekong-basin_en

implementation of the MRC Strategic Plan.

The EU's key mechanism to fight illegal logging is the Forest Law Enforcement, Governance and Trade (EU FLEGT) Action Plan. The EU is currently negotiating Voluntary Partnership Agreements (VPAs) in the Mekong region.

The EU and China also have a Bilateral Coordination Mechanism (BCM) to cooperate on stopping illegal logging and trade of illegal timber.

The EU has a project to improve energy efficiency and safety measures for over 500 SMEs.

The EU allocated EUR 8 million on 29 July 2019 to strengthen the combat against wildlife trade in the Mekong area and Malaysia.

EU and its member states have continued to support the implementation of the MRC Strategic Plan²⁵.

SWITCH-Asia supports a development program that aims for sustainable freight and logistics in the Mekong. The program targets Small and Medium-sized enterprises (SMEs) with the aim of developing cleaner and more energy efficient industry to reduce air and water pollution. All Lower Mekong Countries are partner countries for the program and each country has several ongoing projects under the programme²⁶.

The EU's key mechanism to fight illegal logging is the Forest Law Enforcement, Governance and Trade (EU FLEGT) Action Plan. Voluntary Partnership Agreements (VPAs) with third countries are the main way to implement the action plan. VPAs are binding trade agreements that ensure timber and timber products that enter the EU come from legal sources.

VPAs also improve forest regulation and governing with the support from the EU. Within the Mekong region, the EU is currently negotiating VPAs with Laos, Thailand and Vietnam²⁷. The negotiations with Vietnam concluded in May 2017 and both sides are now reviewing the agreement²⁸.

In addition to the VPAs, FLEGT has various projects in the partnering countries. The project countries include the negotiation partners but also Myanmar and China in the Mekong sub-region²⁹. The EU and China also have a Bilateral Coordination Mechanism (BCM) to cooperate on stopping illegal logging and trade of illegal timber. The BCM works through annual dialogue and joint yearly work plans³⁰.

The EU has a project to improve sustainable freight and logistics in the Mekong region through the means of energy efficiency and safety measures for over 500 SMEs. It targets issues to do with fuel efficiency, safe transport of dangerous goods, as well as access to finance and the policy and market environment. The project is running between February 2016 and January 2019, at a cost of EUR 2.4 million³¹.

The EU allocated EUR 8 million on 29 July 2019 to strengthen government actions in their combat against wildlife trade in the Mekong area and Malaysia³² through the 'Partners against Wildlife Crime initiative'. The project aims to strengthen the capacity building for government agencies to enforce law concerning wildlife.

²⁵ <http://www.dredgingtoday.com/2017/01/30/financial-injection-for-mekong-river-commission/>

²⁶ http://www.switch-asia.eu/fileadmin/user_upload/Project_Downloads/Batch_6/Brochure_Green_Freight_and_Logistics_2016.pdf

²⁷ <http://www.euflegt.efi.int/what-is-vpa>

²⁸ http://ec.europa.eu/environment/pdf/11_05_2017_news.pdf

²⁹ <http://www.euflegt.efi.int/map-flegt-projects>

³⁰ <http://www.euflegt.efi.int/eu-china>

³¹ https://ec.europa.eu/europeaid/projects/sustainable-freight-and-logistics-mekong-region_en

³² http://www.vientianetimes.org.la/freeContent/FreeContent_EU.php

3.4 EU-Mekong Trade

All Lower Mekong countries are members of ASEAN, which is an important partner to the EU.

All Lower Mekong countries are members of ASEAN, which is an important partner to the EU and many modes of cooperation are pursued through EU-ASEAN relations. EU is a major investor and a trading partner to all of the Lower Mekong countries³³.

Table 1. EU trade with Lower Mekong countries 2018

(<http://ec.europa.eu/trade/policy/countries-and-regions/countries>)

	IMPORTS of goods to EU (billion EUR)	EXPORTS of goods from EU (billion EUR)	BALANCE	EU rank as trade partner
Vietnam	38.2	11.1	-27.1	4th
Cambodia	5.4	0.8	-4.6	2nd
Thailand	22.9	15.1	-7.7	3rd
Laos	0.3	0.2	-0.1	4th
Myanmar	2.3	0.6	-1.7	4th

Table 2. EU trade with Lower Mekong countries 2017

(<http://ec.europa.eu/trade/policy/countries-and-regions/countries>)

	IMPORTS of goods to EU (billion EUR)	EXPORTS of goods from EU (billion EUR)	BALANCE	EU rank as trade partner
Vietnam	37	10.6	-26.4	4th
Cambodia	5	0.9	-4.2	2nd
Thailand	22.3	15	-7.3	3rd
Laos	0.3	0.2	-0.1	4th
Myanmar	1.6	0.5	-1	6th

The EU has concluded FTA negotiations with Vietnam. Cambodia, Laos and Myanmar benefit from the EU Generalised Scheme of Preferences (GSP) and the EBA.

EU-Thailand FTA negotiations were launched in 2013, but were halted after the 2014 military coup.

The EU has concluded FTA negotiations with Vietnam. Cambodia, Laos and Myanmar benefit from the EU Generalised Scheme of Preferences (GSP), the Everything But Arms EBA scheme that is for the Least Developed countries. EBA grants duty free and quota free access for all export products except arms and ammunition to the EU market.

Thailand and the EU have finalized the Partnership Cooperation Agreement (PCA) negotiations but the agreement will not be signed until Thailand reinstates a democratically elected government. EU-Thailand FTA negotiations were launched in 2013, but were halted after the 2014 military coup. The Council gave its conclusion in 2017 December, however invited the Commission to explore possibilities for resuming talks on the EU-Thailand FTA³⁴.

³³ <http://ec.europa.eu/trade/policy/countries-and-regions/countries/vietnam/>; http://trade.ec.europa.eu/doclib/docs/2006/september/tradoc_122530.pdf

³⁴ <http://www.consilium.europa.eu/en/press/press-releases/2017/12/11/thailand-council-adopts-conclusions/>

4 Geographical relevance and natural resources of the Mekong River

Being a vital source of livelihoods and economic activity, the Mekong springs from the plains of Tibet and flows all the way to the South China Sea.

The total river basin area covers 795 000 square kilometres.

The river's is divided into two different parts, Upper and Lower Mekong Basins. The Upper Mekong Basin comprises the Chinese leg of the river, covering around 25 percent of the Mekong Basin.

The rest of the river (2 390 km) is the Lower Mekong Basin and forms a natural border for the Mekong countries.

Being the most important source of livelihoods and economic activity in continental South-East Asia, the Mekong springs from the plains of Tibet and flows all the way to the South China Sea. On its way, it crosses through China, Myanmar, Thailand, Laos, Cambodia and Vietnam. The total river basin area covers 795 000 square kilometres³⁵.

It is the longest river in Southeast Asia, with an approximate length of around 4 800 km. However, its length is disputed, while most sources quote the river to be the 12th longest river in the world (4 350km)³⁶, other sources claim the river to be as much as 4 909 km long, which would make it the eighth longest river in the world³⁷. The different map scales used when river lengths are measured causes this discrepancy³⁸.

The river's drainage area is divided into two different parts, Upper and Lower Mekong Basins.

The Upper Mekong Basin comprises only the Chinese leg of the river (estimated to be 1 995 km). The Chinese call the river Lancang Jiang. The Upper Mekong Basin has three different physiographic regions: Tibetan Plateau, Three Rivers and Lancang Basin. Overall, the Upper Mekong Basin covers around 25 percent of the entire Mekong Basin³⁹.

The rest of the river (2 390 km), named the Lower Mekong Basin, goes through four physiographic regions; Northern Highlands, Khorat Plateau, Tonle Sap Basin and Mekong Delta. When the river first enters the Northern Highlands, it forms a natural border between Myanmar and Laos and then another between Thailand and Laos before running into inland Laos. After that, the river forms a natural border between Thailand and Laos in Khorat Plateau, which is the second most populated area along the Mekong.

Tonle Sap Basin starts from inland Laos, from where it flows through Cambodia and has tributaries all the way from Central Highlands in Vietnam. The most notable feature of the basin is the Tonle Sap Lake and its floodplains in central Cambodia. The lake is connected to Mekong through Tonle Sap River, which changes its flow direction according to the seasons.

³⁵ Aquastat FAO http://www.fao.org/nr/water/aquastat/basins/mekong/mekong-CP_eng.pdf

³⁶ <https://www.britannica.com/place/Mekong-River>

³⁷ <http://www.mrcmekong.org/mekong-basin/physiography/> & <https://wle-mekong.cgiar.org/mekong-river-facts/>

³⁸ Ian Campbell. The Mekong: Biophysical Environment of an International River Basin. 2009. Chapter 1.

³⁹ <https://www.britannica.com/place/Mekong-River> & State of the Basin 2010 report. Mekong River Commission, page 10 <http://www.mrcmekong.org/assets/Publications/basin-reports/MRC-SOB-report-2010full-report.pdf>

The final part of the river is a low coastal area called the Mekong Delta when it reaches coastal Vietnam.

The natural economic area is called the Greater Mekong sub-region, covering 2.6 million square kilometres with a population size of 339 million people.

The Mekong is also one of the most biodiverse areas in the world.

The economic development poses several threats to the social, environmental and economic future of the region. The Mekong is highly vulnerable to the effects of climate change.

The Mekong sub-region is rich in resources, as well as agriculture and fisheries, timber, petroleum and minerals. It also contains plenty of opportunities for hydropower.

Mineral resources in the Mekong basin include gold, copper, lead, zinc, phosphate,

During the dry season, Tonle Sap is a distributary to Mekong, but during monsoon, the lake acts as a catchment area for excess water from Mekong.

The final part of the river is a low coastal area called the Mekong Delta, mostly spreading out as a plain of streams when it reaches coastal Vietnam. The Delta extends over 650 km of coastline in Southern Vietnam before flowing into the South China Sea. The Delta is the most populated area along the Mekong, with a population of 18 million people⁴⁰.

The River waters more than 810 000 square km of land and the total river basin area covers 795 000 square km. The natural economic area surrounding Mekong River is called the Greater Mekong Sub-region (GMS). The sub-region covers 2.6 million square kilometres and has a calculated population size of 339 million people⁴¹.

The Lower Mekong Basin is a home to 65 million people and around 80 % of the basin's population are rural⁴². The Mekong is one of the most biodiverse areas and has even been quoted as the second most biodiverse system in the world. During the high-water season, the river is navigable from the Chinese border to Southern Cambodia, near the Vietnamese border.

At the same time, the rapid economic development poses several threats to the social, environmental and economic future of the region. The Mekong area is one of the most vulnerable regions in the world to the effects of climate change and environmental deterioration is already happening in the form of land erosion, deforestation and quality and access to water⁴³.

The Mekong Sub-region is rich in resources, providing a productive environment for agriculture, aquaculture, capture fisheries, non-fish aquatic goods and tourism revenue, in addition to important indirect benefits, such as flood mitigation, water storage and wastewater treatment. The Mekong contains plenty of opportunities for hydropower and is an important source of income for rural people and supply markets with a vast array of timber, plant and animal products, including foods, medicines, exudates and dyes.

Mineral resources in the Mekong basin include gold, copper, lead, zinc, phosphate, potash, oil and gas, coal and gemstone (principally corundum,

⁴⁰ <https://www.britannica.com/place/Mekong-River> & State of the Basin 2010 report. Mekong River Commission, page 10-11

<http://www.mrcmekong.org/assets/Publications/basin-reports/MRC-SOB-report-2010full-report.pdf> & <https://www.britannica.com/place/Mekong-River> & <https://dailybrief.oxan.com/Analysis/DB220880>

⁴¹ The GMS population is calculate to include the entire population of the countries part of Mekong Basin excluding China, where only the two provinces are calculated as part of GMS. <http://greatermekong.org/statistics/> table 1.4: Total Population

⁴² Basin Development Strategy 2016-2020, Mekong River Commission, page 25 <http://www.mrcmekong.org/assets/Publications/strategies-workprog/MRC-BDP-strategy-complete-final-02.16.pdf>

⁴³ Energy, Economy, and Climate Change in the Mekong Region, *Lailai Li and Tatirose Vijitpan* page 20-29

http://www.sumernet.org/sites/default/files/SUMERNET_Book_Climate%20risks_regional%20integration%20and%20sustainability%20in%20the%20Mekong%20Region.pdf

potash, oil and gas, coal and gemstone.

including rubies and sapphires). The mineral potential of the Basin remains largely unexploited⁴⁴.

5 Bordering countries' interests in the Mekong Basin

5.1 Overview

Many of the Lower Mekong countries are still underdeveloped, mostly because of the recovery process from wars.

The Mekong sub-region is currently suffering a severe drought and its water resources are diminishing.

The River is one of China's strategies for expanding trade, providing electricity from numerous hydropower facilities. Lower Mekong countries are seriously concerned by the environmental and agriculture damage caused by dam constructions.

The future of the Mekong sub-region is uncertain. Many of the Mekong countries are still underdeveloped, a significant portion of the population still lives below the poverty line, and further development is needed⁴⁵.

In particular, Lower Mekong basin's infrastructure and industry have long been underdeveloped. This is mostly because of the long recovery process from regional conflicts and wars that persisted in some parts until the early 1990s. Laos, Myanmar and Cambodia are still among the UN Development Programme's classification of Least Developed Countries, even though all the Mekong countries have seen an impressive economic growth over the last few years. For Cambodia and Laos, the utilisation of the river is a key position for further development.

The Mekong sub-region is currently suffering a severe drought and its water resources are diminishing. Although China has a diverse economy and does not depend on the Mekong waters for its development, China is the dominant power in the sub-region, controlling the Mekong's headwaters. The River is one of China's strategies for expanding trade routes and supply lines.

The Mekong provides electricity from numerous hydropower facilities, recently built to foster industrialization and development. Laos and China have a strong interest in producing electricity while Vietnam and other countries are seriously concerned by the environmental and agriculture damage caused by dam constructions⁴⁶.

5.2 China

China is the source country of the Mekong river and has control over its water resources.

The Tibetan plateau holding the Hindu Kush Himalaya

China is the source country of the Mekong river and has control over its water resources, exercising a sort of 'hydro-hegemony'⁴⁷.

The Tibetan plateau holding the Hindu Kush Himalaya holds after the Arctic the largest amount of glaciers and snow worldwide. The Great Himalayan Watershed (GHW) created diverse ecosystems for the world's earliest

⁴⁴ <http://www.mrcmekong.org/mekong-basin/natural-resources/>

⁴⁵ Energy, Economy, and Climate Change in the Mekong Region, *Lailai Li and Tatirose Vjijtpan* page 20-29

http://www.sumernet.org/sites/default/files/SUMERNET_Book_Climate%20risks_regional%20integration%20and%20sustainability%20in%20the%20Mekong%20Region.pdf

⁴⁶ <https://worldview.stratfor.com/article/political-ebb-and-flow-mekong-river>

⁴⁷ https://www.chathamhouse.org/sites/default/files/public/Research/Asia/bp0609_mekong.pdf

holds after the Arctic the largest amount of glaciers and snow worldwide.

Currently, China operates 10 dams and plans to complete nine more by 2030.

China has expanded its influence in the Mekong basin and has built several dams along the Upper Mekong without consulting the Lower Mekong countries. China is involved in building many of the dams in Laos, Cambodia and Myanmar.

China has a pre-eminent opportunity to use the Mekong's resources for its own needs. The provinces through which the Mekong flows are one of the highest and most glaciated plains in the world and China is developing hydropower.

China is exploring the possibilities to widen the Mekong by making it navigable for larger cargo ships to facilitate trade.

The South-to-North Water Diversion Project, has the potential to generate a total of 45bn cubic metres of water each year, making up 7 % of water consumption. Over 380 000 people have been displaced to allow space for rising water levels.

agricultural centres. However, climate change, mining and hydropower dam projects causes the exhaustion and degradation of the upper GWH and the loss of food and livelihood for the lowland populations⁴⁸.

Currently, China operates 10 dams and plans to complete nine more by 2030⁴⁹.

China is the geopolitical power that has expanded its influence in the Mekong basin and has built several dams along the Upper Mekong without consulting the Lower Mekong countries. Two of the Chinese dams in the Yunnan Province are large enough to contain half of the annual discharge of the upper Mekong, putting China in a powerful position. Moreover, along the Mekong Basin, Chinese companies are already involved in financing and building many of the dams in Laos and have several active projects in Cambodia and Myanmar⁵⁰.

The two regions in China that are part of Greater Mekong Sub-region are Yunnan Province and Guangxi Zhuang Autonomous Region. When it comes to development on Mekong River, China has a pre-eminent opportunity to use the river's resources for its own needs. As the provinces through which the Mekong flows in China are one of the highest and most glaciated plains in the world, the main interest for China are in the development of hydropower.

In addition to hydropower projects, China has made enquiries to explore the possibilities to widen the Mekong by blasting to make it navigable by larger Chinese cargo ships to facilitate regional trade⁵¹.

The South-to-North Water Diversion Project, unveiled in 2014, connects the Yagzi river in southern China to parts of Northern China. The cities on either end are Beijing and Danjiangkou. The second route of the project, to the east of China, opened in 2013 along the ancient Grand Canal between Beijing and Hangzhou. The third route is intended to be on the Tibetan plateau but has been deferred without a specified end date due to the recurring earthquakes and landslides in the region.

The project has the potential to generate a total of 45bn cubic metres of water each year, making up 7 % of water consumption in China if it uses all three routes to operate. The first two routes are currently able to divert 25bn tonnes of water a year between the south and north of China. The Chinese water ministry claims that since the project came into place, 50 million people have had water supplied to them. Despite this, the project does not supply China with enough water to combat its inadequate water quantities.

⁴⁸ <https://thediplomat.com/2019/03/the-worlds-third-pole-is-melting/>

⁴⁹ <https://www.ft.com/content/27455c8a-181d-11e9-b93e-f4351a53f1c3>

⁵⁰ <https://worldview.stratfor.com/article/political-ebb-and-flow-mekong-river>

⁵¹ <https://dailybrief.oxan.com/Analysis/DB220880>

In the context of the Belt and Road Initiative, China considers the Mekong Basin as a gateway to Indochina.

In addition, over 380 000 people have been displaced to allow space for rising water levels. Lastly, water sourced from the project is more expensive than from local sources⁵².

In the context of the economic corridors of the Belt and Road Initiative, China considers the Mekong Basin as a gateway to Indochina and is willing to develop the necessary infrastructure to facilitate the transportation of goods from Yunnan, Sichuan and other interior Chinese provinces to the South China Sea. For the Lower Mekong countries, it would increase their economic and political integration⁵³.

5.3 Laos

Laos has defined hydropower as its sole opportunity for rapid economic growth and has been headstrong in its infrastructure projects amid opposition from its downstream neighbours.

Laos has demonstrated ambition to become 'the battery of South-East Asia' by utilising the Mekong to expand its energy production, predicted to rise to 60 % by 2040.

Laos has one of the lowest average population densities in the region and is the only landlocked state in the Lower Mekong Basin. It remains one of the last holdouts of communism, with a GDP per capita of around USD 2 450 in 2018. Around 80 % of Laotians work in agriculture, most living in rural areas⁵⁴.

As a resource-scarce, landlocked country, Laos has defined hydropower as its sole opportunity for rapid economic growth and has been headstrong in its infrastructure projects amid opposition from its downstream neighbours, Cambodia and Vietnam..

Laos aims to position itself as the power supplier of Southeast Asia by building hydroelectric dams along the Mekong, which is a point of tension with downstream states. Laos has demonstrated ambition to become 'the battery of South-East Asia' by utilising the Mekong to expand its energy production to meet regional demand for energy, predicted to rise to 60 % by 2040.

The LAO PDR government has been able to advance quickly with its plans on building new power plants. Laos currently has 46 functional hydroelectric plants and has a further 54 plants in the planning⁵⁵. Laos is aiming that by 2025, hydropower will become the country's largest contributor to its GDP⁵⁶.

5.4 Cambodia

Almost the entirety of Cambodia is part of the Mekong basin and is by far the Lower Mekong Basin country most dependent on

Almost the entirety of Cambodia is part of the Mekong basin and is by far the Lower Mekong Basin country most dependent on the River, especially for agriculture. Rice cultivation and fisheries are essential livelihoods for the population.

⁵² <https://www.economist.com/china/2018/04/05/china-has-built-the-worlds-largest-water-diversion-project>

⁵³ <https://worldview.stratfor.com/article/political-ebb-and-flow-mekong-river>

⁵⁴ <http://bl.ocks.org/anonymous/raw/793fd70f90e936fb1f88a49fbc6c300c/#>

⁵⁵ <https://www.bbc.com/news/world-asia-44936378>

⁵⁶ <http://www.economist.com/news/essays/21689225-can-one-world-s-great-waterways-survive-its-development>

the River, especially for agriculture and fisheries.

Cambodia is also one of the most vulnerable countries to the adverse effects of disruptions in the river's flows.

Small-scale fishing predominates along the Mekong.

Cambodia also aims to utilize the hydropower potential of the river. The government is planning to construct three dams.

Despite doubling its GDP per capita in a decade, Cambodia remains the poorest Lower Mekong Basin country according to GDP per capita at USD 1 380 in 2018. Much of the country is still underdeveloped and the population is very poor.

Cambodia is also one of the most vulnerable countries to the adverse effects of disruptions in the river's flows. The Mekong river and Lake Tonle Sap are connected by the 120 km Tonle Sap river, which reverses direction twice per year. From July to October, the Mekong is high and flows into Tonle Sap, increasing the size of the lake from 2 600 km² to 10 500 km². When the Mekong is low, the water drains back out to Mekong river and through to the Mekong Delta. Upstream dams threaten this delicate system⁵⁷.

Fishing and related industries concern millions of people. Small-scale fishing predominates along the Mekong. Most boats in Cambodia weigh less than five tonnes and use engines with less than ten horsepower⁵⁸.

Cambodia also aims to utilize the hydropower potential of the river. The government is planning to construct three dams.

5.5 Myanmar

Myanmar only controls a small portion of the Mekong that borders with China and Laos.

The Mekong territories have been ravaged by armed conflicts and the development of infrastructure and trade now seem very limited.

Myanmar has substantial water resources but only controls a small portion of the Mekong. Of Myanmar's 676 590 square km total land area, only 24 000 square km is part of the Mekong Basin⁵⁹, representing 3 % of Myanmar's territory and comprising Shan and Kaching States, that border Myanmar with China and Laos.

The Mekong territories have been ravaged by armed conflicts between the Myanmar army and Kachin and Shan insurgent ethnic groups for decades. The area is also notorious for drug cultivation and trafficking in addition to the illicit trade of timber and jewellery⁶⁰. Therefore, the development of the area's infrastructure and possibilities for regional trade now seem very limited.

5.6 Thailand

Thailand, is the wealthiest Lower Mekong country, with a GDP per capita over USD 6 500 in 2018.

The Mekong makes up a significant portion of the Thai-Laos border: the region of

Thailand, the only southeast Asian country which was not colonized by a European power, is the wealthiest Lower Mekong country, with a GDP per capita over USD 6 500 in 2018.

The Mekong makes up a significant portion of the Thai-Laos border.⁶¹ The north-eastern region of Isaan, which borders Mekong, is one of the poorest and most rural parts of the country, with an important agriculture

⁵⁷ <http://bl.ocks.org/anonymous/raw/793fd70f90e936fb1f88a49fbc6c300c/#>

⁵⁸ <https://www.economist.com/news/essays/21689225-can-one-world-s-great-waterways-survive-its-development>

⁵⁹ <http://bl.ocks.org/anonymous/raw/793fd70f90e936fb1f88a49fbc6c300c/#>

⁶⁰ <http://www.rfa.org/english/news/special/riverinperil/blog02.html>

⁶¹ <http://bl.ocks.org/anonymous/raw/793fd70f90e936fb1f88a49fbc6c300c/#>

Isaan, one of the poorest and most rural parts of the country, with an important agriculture production, mainly rice.

production, mainly rice. Isaan has a significant population. For political reasons, it is important for the Thai government to develop this area and come up with new economic opportunities. On the other hand, the negative effects of upper stream dams in Laos and China are also felt in north-eastern Thailand.

At the same time, with increasing local opposition, the military government in Thailand has loosened environmental regulations in order to secure infrastructure and building projects⁶².

5.7 Vietnam

Vietnam's transition to a market economy in the late 80s resulted in an increase in agricultural production and urbanisation raising the demand for ground water.

Vietnam's transition to a market economy in the late 80s resulted in an increase in agricultural production and urbanisation raising the demand for ground water. As the world's second largest rice exporter, groundwater extraction increased from almost nothing in 1986 to a current amount of 2.5 million cubic litres per day in 2019⁶³.

The Mekong River plays an important role in the lives of many Vietnamese and their water flow is at the mercy of upstream countries.

The Mekong drains into the South China Sea through Vietnam. The River plays an important role in the lives of many Vietnamese people and their water flow is at the mercy of upstream countries. More than half of the economically active Vietnamese population is involved in agriculture, and Vietnam has become a significant rice exporter.

Few places in the world are as threatened by climate change as the Mekong delta. This crisis is largely because the heavy extraction of groundwater is causing land to sink as sea levels simultaneously rise

Few places in the world are as threatened by climate change as the Mekong delta⁶⁴. The delta, which is home to almost 18 million people and produces half of Vietnam's food, faces this potential humanitarian crisis largely because the heavy extraction of groundwater is causing land to sink as sea levels simultaneously rise.

If the groundwater extraction continues to increase, the Mekong Delta is predicted to be fully underwater by 2100.

Researchers have found that the groundwater exploitation in combination with the yearly rising sea level of 3 to 4 millimetres causes the delta to sink 1 centimetre per year. If the groundwater extraction continues to increase, the Mekong Delta is predicted to be fully underwater by 2100⁶⁵.

Vietnam has been very critical of hydropower as it is very dependent on the food production in the Mekong delta area.

Vietnam is facing serious environmental issues due to salt-water intrusion and degradation of land due to decreased flow from upstream dams, worsening droughts and rising sea levels, which poses a serious threat to the agricultural sector. For the people in the delta, their development over the past decades was partly possible because they had this groundwater source as a free resource of fresh water.

⁶² https://d2ouvy59p0dg6k.cloudfront.net/downloads/mrite_executive_summary.pdf

⁶³ <https://www.voanews.com/a/huge-land-loss-predicted-for-vietnam-mekong-delta/4788413.html>

⁶⁴ <https://www.economist.com/news/essays/21689225-can-one-world-s-great-waterways-survive-its-development>

⁶⁵ <https://www.voanews.com/a/huge-land-loss-predicted-for-vietnam-mekong-delta/4788413.html>

Vietnam has been a very vocal critic of the hydropower development of the river as it is very dependent on the food production in the Mekong Delta area.

Whereas the other Lower Mekong Basin countries have had internal or regional struggles, Vietnam has played a significant role in global politics over the last fifty years. China supported Vietnam against the US, but when the war ended with an anti-Soviet Sino-American understanding, tensions surfaced between Vietnam and China⁶⁶.

5.8 Mekong in the US-Asia strategy

The Mekong area remains one of the key aspects of US policy in Asia due to the area's great economic expansion.

The Mekong region characterizes the interconnection of the US implemented free and open Indo-Pacific (FOIP) strategy.

The LMI partnership increases regional cooperation, economic development and capacity building in southeast Asia.

Besides the US-China competition and the open Indo-Pacific strategy, the Mekong river is one of the other key areas that is in focus in the sub-region's role of US-policy. Due to the increase in economic development in the Mekong area, the US interest in the region increased.

The Mekong region characterizes the interconnection of the US implemented free and open Indo-Pacific (FOIP) strategy. This strategy consists primarily out the security, economic and governmental relations with the US. The future situation of the Mekong area therefore indicates any future partnerships and alliances among the members of ASEAN⁶⁷.

The Lower Mekong Initiative (LMI), a partnership implemented during Obama's administration in 2009 aims to increase regional cooperation, economic development and capacity building among the southeast Asian nations⁶⁸. The initiative encourages new efforts in areas such as infrastructure.

However, there remain challenges due to new initiatives such as the broader Belt and Road Initiative and challenges within the US policy including difficulties in addressing issues in governance, connectivity and environment⁶⁹.

6 Trans-border issues in the Mekong sub-region

6.1 Border security concerns

Conflicting border issues remain due to often-inadequate demarcation lines.

Although the bordering countries along the Lower Mekong have been involved in regional integration programs for over two decades, conflicting border issues remain due to often-inadequate demarcation lines. There have been small-scale military tensions and standoffs. Conflicts have usually cooled off, but several demarcation issues remain unsolved. These tensions

⁶⁶ <http://bl.ocks.org/anonymous/raw/793fd70f90e936fb1f88a49fbc6c300c/#>

⁶⁷ <https://thediplomat.com/2019/07/the-mekong-in-us-asia-strategy-opportunities-and-challenges/>

⁶⁸ <https://www.usaid.gov/asia-regional/lower-mekong-initiative-lmi>

⁶⁹ <https://thediplomat.com/2019/07/the-mekong-in-us-asia-strategy-opportunities-and-challenges/>

The Myanmar-Laos border is entirely formed by the Mekong River. Armed ethnic groups mainly control Myanmar's side of the border, and on both sides the border is mainly unguarded.

Laos and Thailand share a border of 1 754 Km. The land border is almost completely demarcated, but within the river that forms 1 500 km of the border there are still disputed islands.

Laos and Cambodia share a border of 533 km of which around 80 % is demarcated, with frequent military tensions contained as local conflicts. The most recent escalation started in February 2017 when 400 Laotian soldiers intervened against a Cambodian military road.

Cambodia and Vietnam also have unsolved border demarcation issues along their border, as well as problems of illegal timber trade, poaching and encroachment of farmland.

create obstacles to economic cooperation and underlying political mistrust further prevents joint management of the River.

The Myanmar-Laos border is entirely formed by the Mekong River and the shores are mostly dense, remote forest areas. Armed ethnic groups mainly control Myanmar's side of the border, and on both sides the border is mainly unguarded. The first-ever official border trading point was officially opened in 2015, but opening the bridge to commercial use has been severely delayed because of disputes over the demarcation of the border⁷⁰.

On 19 March 2019, the second new bridge opened, linking the Thai Tak province with Myanmar's border city Myawaddy. The bridge encourages bilateral trade between the two countries⁷¹.

Laos and Thailand share a border of 1 754 km. The land border is almost completely demarcated, but within the river that forms 1 500 km of the border between the countries, there are still disputed islands. The negotiations to demarcate the line have been officially ongoing since 2012 and demarcation of the land border has progressed, but the issue of islands remains unsolved⁷².

Laos and Cambodia share a border of 533 km, of which around 80 % is demarcated⁷³. The Mekong River runs parallel to the border and is rarely at the centre of border tensions. The Laos-Cambodia border has seen military tensions frequently, but they have been contained as local conflicts.

The most recent escalation started in February 2017 when 400 Laotian soldiers intervened against a Cambodian military road construction along the border. Since then, both sides have accused each other of activities that breach the border⁷⁴. In addition, since April 2016 there has been an ongoing standoff between local troops over Laos constructing military outposts at the border⁷⁵.

Usually tensions have been deescalated through political dialogue, and high-level political relations between the countries are amicable, but as the demarcation issues have not been solved conflicts will ensue⁷⁶.

Cambodia and Vietnam also have unsolved border demarcation issues along their border, as well as problems of illegal timber trade, poaching and encroachment of farmland. In the Mekong Delta, the issues are in Three

⁷⁰ <http://www.mmtimes.com/index.php/business/21250-border-issues-delay-myanmar-laos-friendship-bridge-trade.html> & <http://www.myanmarinsider.com/myanmar-laos-come-to-agreement-on-friendship-bridge/>

⁷¹ <https://www.mmtimes.com/news/second-thai-myanmar-bridge-opened-tourism-and-trade.html>

⁷² IHS Jane's Thailand External Affairs <https://janes.ihs.com/Janes/Display/1305153> & IHS Jane's Laos - external affairs <https://janes.ihs.com/Janes/Display/1305027>

⁷³ <http://www.khmertimeskh.com/news/37187/dispute-with-laos-reignites-over-checkpoint/>

⁷⁴ <http://sea-globe.com/laos-president-visits-cambodia-amid-border-dispute/> & <http://www.rfa.org/english/news/laos/cambodia-border-05162017174520.html>

⁷⁵ <http://www.phnompenhpost.com/national/laos-cambodia-border-closed-over-tensions>

⁷⁶ <http://sea-globe.com/laos-president-visits-cambodia-amid-border-dispute/>

Despite the tensions in the borders, military deployment alongside the borders of the Mekong countries is low, and border patrolling in certain areas can even be non-existent, which enables illegal trans-border activities such as illegal timber, wildlife and arms trade, human trafficking and drug trafficking.

China initiated joint law enforcement patrols in the Mekong in 2011 with Myanmar, Laos and Thailand. The patrols aimed to prevent piracy and other illegal activities in the river.

Rocks Zone in Takeo Province on the Cambodia-Vietnam border. Vietnamese and Cambodian officers have mostly agreed on the border demarcation. Escalation between the militaries in the area is unlikely, but local farmers have protested against the demarcation lines⁷⁷.

Despite the tensions in the borders, military deployment alongside the borders of the Mekong countries is low, and border patrolling in certain areas can even be non-existent, which enables illegal trans-border activities between Mekong countries such as illegal timber, wildlife and arms trade, human trafficking and drug trafficking⁷⁸.

Many of the countries have limited military capacity in the border areas; for example, Laos has a very limited and outdated military capacity patrolling the Mekong⁷⁹. In 2011, after pirate attacks on cargo ships that led to 13 casualties of Chinese crewmembers, China initiated joint law enforcement patrols in the Mekong with Myanmar, Laos and Thailand. The patrols have aimed to prevent piracy and other illegal activities in the river⁸⁰. This joint exercise has granted China security competences far from its own territory, as it is operating most of the patrols and has facilities along the Mekong⁸¹. Joint patrols have been organized regularly since⁸² and piracy in the river has also diminished since, but drug trafficking has continued to grow⁸³.

6.2 Drug trafficking

Drug trafficking is a serious problem especially in the 'Golden Triangle' area, which comprises the border area between Myanmar, Laos and Thailand.

Transnational crime groups traffic between USD 30.3 and USD 61.4 billion worth of methamphetamine.

The Mekong River has long been associated with illicit drugs production and trafficking. Drug trafficking is a serious problem especially in the 'Golden Triangle' area, which comprises the border area between Myanmar, Laos and Thailand. Myanmar and Laos are major producers of Opium and methamphetamine in the area, and the Mekong River is a major transport way for the drugs to China, Thailand and further afield⁸⁴.

Southeast Asian drug and crime groups profit from the trade and the improved infrastructure, trafficking between USD 30.3 billion and USD 61.4 billion a year⁸⁵.

The government of Thailand seized In 2018 over 120 ton of crystal and pill methamphetamine in the region of the Asia-Pacific, the biggest meth

⁷⁷ <http://www.rfa.org/english/news/cambodia/cambodian-locals-oppose-installation-of-border-poles-in-tbong-khmum-province-12172015163822.html>

⁷⁸ <http://uk.reuters.com/article/uk-southeastasia-drugs-mekong-idUKKCN0WH2ZW>

⁷⁹ IHS Jane's Laos Navy updated 12 July 2017 <https://janes.ihs.com/Janes/Display/1767466>
⁸⁰ https://news.cgtn.com/news/3d4d544d7a6b444e/share_p.html

⁸¹ <http://uk.reuters.com/article/uk-southeastasia-drugs-mekong-idUKKCN0WH2ZW>

⁸² http://news.xinhuanet.com/english/2016-12/20/c_135919555.htm

⁸³ <http://uk.reuters.com/article/uk-southeastasia-drugs-mekong-idUKKCN0WH2ZW>

⁸⁴ IHS Jane's Thailand Security updated 20 July 2017

<https://janes.ihs.com/Janes/Display/1305095> & IHS Jane's Vietnam Security updated 12 July 2017 <https://janes.ihs.com/Janes/Display/1305088> & <http://uk.reuters.com/article/uk-southeastasia-drugs-mekong-idUKKCN0WH2ZW>

⁸⁵ <https://edition.cnn.com/2019/07/18/asia/asia-methamphetamine-intl-hnk/index.html>

Although opium and heroin production have declined, organized crime has intensified production and trafficking of methamphetamines. Corruption allow organized crime to keep expanding operations and exploiting the region.

The UN Office on Drugs and Crime (UNODC) in Southeast Asia and Pacific is present in the Mekong countries.

Besides methamphetamine, heroin and other drugs, there is also a rise in human trafficking and trade in timber and wildlife.

market in the world. To avoid the main drug trafficking routes, traffickers use the Mekong river to transport meth through Thailand.

Although opium and heroin production have declined, international organized crime has intensified production and trafficking of methamphetamines to alarming levels. Corruption allow organized crime to keep expanding operations and exploiting the region.

Mekong countries have already surpassed 2017 seizure totals only a few months into 2018, and Golden Triangle methamphetamine is being seized in high volumes in Australia, Japan, New Zealand, Malaysia and Indonesia⁸⁶.

Drug policy leaders from the six countries of the Mekong region met in Nay Pyi Taw, Myanmar, in May 2018, with the United Nations Office on Drugs and Crime (UNODC), to focus on peace and security in the Golden Triangle and places where conflict and the drug economy are connected⁸⁷.

UNODC in Southeast Asia and Pacific is present in the Mekong countries promoting governance and the rule of law as the crucial tool to any long-term reduction in drug production and trafficking.

Besides methamphetamine, heroin and other drugs, there is also a rise regarding human trafficking, and trade in timber and wildlife⁸⁸.

7 Socio-economic aspects of the Mekong sub-region

7.1 Agriculture

The Lower Mekong is called the 'rice bowl' of Southeast Asia, as agriculture and especially rice farming are the main sources of livelihoods.

The Lower Mekong produces over 100 million tonnes of rice a year, estimated to be 15 % of world production.

The Lower Mekong Basin is called the 'rice bowl' of Southeast Asia, as agriculture and especially rice farming are the main sources of livelihoods for the majority of the population. The sub-region's major exports are agricultural and forestry commodities.

The Mekong area countries are some of the largest producers and exporters of rice in the world. Over 75 % of the population of the Mekong region works in agriculture⁸⁹. Altogether, the Lower Mekong countries produce over 100 million tonnes of rice a year, estimated to be 15 % of world production. Rice farming relies heavily on the monsoon season and flooding of the Mekong. Farming is facing challenges due to harnessing of the river and adverse effects of climate change.

⁸⁶ <https://www.unodc.org/unodc/en/frontpage/2018/May/myanmar-holds-high-level-negotiations-with-mekong-countries-and-unodc-to-address-deteriorating-drug-situation.html>

⁸⁷ <http://www.unodc.org/southeastasiapacific/index.html>

⁸⁸ <https://www.reuters.com/article/us-southeastasia-crime/asia-pacific-meth-drug-trade-worth-up-to-61-billion-un-says-idUSKCN1UD0BQ>

⁸⁹ <https://www.economist.com/news/essays/21689225-can-one-world-s-great-waterways-survive-its-development>

Farming is facing challenges due to harnessing of the river and climate change. Diversification of crops is essential for food security and development.

Although the Mekong dams could benefit agriculture, in the long term dams could reduce the soil fertility due to the decrease in sediment flow along the river.

Myanmar and Cambodia rely mostly on the agriculture and fisheries sectors. The GDP share of agriculture of Laos and Vietnam is lower, but still significant. Thailand has the lowest share of agriculture.

As the intrusion of seawater to the Mekong Delta increases, Vietnam is trying to find agricultural alternatives for rice farming. Shrimp farming is a viable alternative to rice in saltwater covered areas.

In July 2019, Vietnam launched the NARDT Project

The traditional way of rice farming is also very labour intensive and in many places, there are only one or two crops per year. New cultivation techniques and better water management can offer opportunities for higher productivity. Diversification of the cultivated crops is essential for food security and economic development of the area⁹⁰.

Although the dams in the Mekong could benefit the agricultural sector, in the long term dams could reduce the fertility of the soil due to the decrease in sediment flow along the river.

Myanmar and Cambodia rely mostly on the agriculture and fisheries sectors. In Cambodia, agriculture constitutes 26.7 % of the country's GDP, including the fisheries sector that contributes around 7 %. Agriculture in 2016 amounted to USD 4 953 billion. Tonle Sap lake is the largest individual ecosystem and is vital for the fish migration⁹¹. In Myanmar, agriculture constitutes 25.5 %, amounting to USD 6.1 billion in 2016⁹².

The share of agriculture within the GDP of Laos and Vietnam is lower, but still significant amounting to 19.5 % and 18.14 % respectively. In Vietnam, the Delta area produces half of the country's staple food crops and 90 % of rice exports⁹³. Laos has faced serious challenges in food production on a commercial scale; almost all households in rural areas are self-dependent on their own rice production and even in urban areas half of the rice consumed is home-grown. In addition, the fish market is yet to be commercialized⁹⁴.

Thailand has the lowest share of agriculture as part of GDP, with 8.35 % as of 2016⁹⁵.

As the intrusion of seawater to the Mekong Delta increases, Vietnam is trying to find agricultural alternatives for rice farming in the area. Shrimp farming is a viable alternative to rice in saltwater covered areas. The Vietnamese government has made ambitious plans to expand the field area used for shrimp farming, expecting to raise the export value from shrimps. The change requires time, as farmers need support and education to acquire the resources and special skills, to move to shrimp farming⁹⁶.

On 16 July 2019, Vietnam launched the project 'Network for Agriculture and Rural Development Think Tanks for countries in the Mekong sub-region' (NARDT). The project aims at fostering cooperation between the Mekong sub-region countries and sharing experiences in rural development and

⁹⁰ <https://www.britannica.com/place/Mekong-River>

⁹¹ https://d2ouvy59p0dg6k.cloudfront.net/downloads/mrite_executive_summary.pdf

⁹² <https://data.worldbank.org/indicator/NV.AGR.TOTL.ZS?end=2016&locations=KH&start=1993&view=chart>

⁹³ <http://thediplomat.com/2016/11/killing-the-mekong-dam-by-dam/> & <https://dailybrief.oxan.com/Analysis/DB220880>

⁹⁴ https://d2ouvy59p0dg6k.cloudfront.net/downloads/mrite_executive_summary.pdf

⁹⁵ <https://data.worldbank.org/indicator/NV.AGR.TOTL.ZS?end=2016&locations=KH&start=1993&view=chart>

⁹⁶ Economist Intelligence Unit 7 January 2017

<http://country.eiu.com/article.aspx?articleid=735094257>

to create more climate awareness and agricultural cooperation among the Mekong sub-region countries.

The expansion of shrimp farming has happened at the cost of the coastal mangrove forests, which are natural filters and storm barriers.

7.2 Fisheries

Fisheries are crucial for food security in the Lower Mekong Basin and, with over 850 different species, the main protein source for around 70 million people.

The total value of the Mekong's fisheries is between USD 5.6 billion and USD 9.4 billion.

Due to human activities and climate change, decline in fish stocks by 2040 is predicted to be 55 % in Thailand, 50 % in Laos, 35 % in Cambodia and 30 % in Vietnam.

Due to the drought and cut off water by China's Jinghong and the Thai Xayaburi dam, the Mekong river level dropped from an average depth of 8 meters during the previous years, to

agriculture to increase awareness of climate change, social stability and economic development⁹⁷. The project highlights the promotion of the sector's technological application, adaption to climate change along with the development of agricultural brands.

The expansion of shrimp farming has happened at the cost of the coastal mangrove forests, which have acted as natural filters and storm barriers. The clearance of mangroves has led to a decline of fish catches, increased damage from storms and pollution⁹⁸. If the seawater intrusion continues at the current rate, shrimp farming will also become eventually unviable⁹⁹.

Fisheries are also crucial for food security in the Lower Mekong Basin. As the largest inland fishery in Asia, the Mekong holds over 850 fish species. Fish is therefore the main protein source for around 70 million people living in the Mekong area¹⁰⁰.

According to the Mekong River Commission, the Mekong river has a yield of approximately 2.6 billion tonnes of fish a year, at a total value of over USD 2 billion in sales. The total value of the Mekong's fisheries is between USD 5.6 billion and USD 9.4 billion, when taking into account related fishing activities such as fish processing, fish markets, sales of equipment and boat construction.

Small-scale fishing is a large industry in the Mekong, particularly in Cambodia. The Tonle Sap River in Cambodia has an annual yield of approximately 300 000 tonnes of fish, making up the majority of freshwater catch in Cambodia¹⁰¹.

Due to human activities and climate change, fish stocks are predicted to decline by 55 % in Thailand, 50 % in Laos, 35 % in Cambodia and 30 % in Vietnam by 2040.

The impact on fisheries happens at all damming stages, including construction, commissioning and any operations carried out. Environment activists are concerned about the river damming as it causes barrier effects to fish populations, causing injuries when they swim.

⁹⁷ <https://www.phnompenhpost.com/business/mekong-agricultural-development-project-launched-vietnam>

⁹⁸ Valuing Ecosystem Services in the Mekong Region. Penporn Janekarnkij and Orn-uma Polpanich, page 39

http://www.sumernet.org/sites/default/files/SUMERNET_Book_Climate%20risks_regional%20integration%20and%20sustainability%20in%20the%20Mekong%20Region.pdf

⁹⁹ <http://www.economist.com/news/essays/21689225-can-one-world-s-great-waterways-survive-its-development>

¹⁰⁰ <http://www.internal-displacement.org/sites/default/files/inline-files/20170411-idmc-china-dam-case-study.pdf>

¹⁰¹ <http://www.economist.com/news/essays/21689225-can-one-world-s-great-waterways-survive-its-development>

below 1.5 meters in July 2019.

There is also a 97 % reduction in sediment load causing the reduction of soil fertility in the lower Mekong and a decrease in the region's agriculture.

Due to the drought and cut off of water by China's Jinghong and the Thai Xayaburi dam, the Mekong river level dropped from an average depth of 8 meters during the previous years, to below the 1.5 meters in July 2019¹⁰². The water shortage causes fishermen to go out less frequently, evoking that they make less money due to smaller fish species.

Besides the loss in fisheries, there is also a 97 % reduction in sediment load causing the reduction of soil fertility in the lower Mekong and a decrease in the region's agriculture¹⁰³. To avoid further water shortage, Thailand's government invited farmers to stop planting more rice¹⁰⁴.

7.3 Energy resources

The energy demand in China and in the Lower Mekong countries is set to keep growing in future decades. According to the International Energy Agency, the primary energy demand of South-east Asia will grow by 80 % by the year 2040.

Lower Mekong countries are looking for ways to diversify their energy dependency away from oil and gas, but fossil fuels will continue to dominate the energy supply. Unlike other regions of the world, the importance of coal as an energy source is predicted to grow.

The energy demand in China and in the Lower Mekong countries is set to keep growing in future decades. According to the International Energy Agency, the primary energy demand of South-east Asia will grow by 80 % by the year 2040¹⁰⁵.

Like all the ASEAN countries, Lower Mekong countries are looking for ways to diversify their energy dependency away from oil and gas, but future predictions dictate that fossil fuels will continue to dominate the energy supply due to the increasing energy demand.

Unlike other regions of the world, the importance of coal as an energy source is predicted to grow in Southeast Asia. In the Mekong area countries, especially Thailand and Vietnam, there is an increase in the use of coal¹⁰⁶.

The Lower Mekong countries currently have energy and climate change policies, looking for ways to reduce CO2 emissions, while simultaneously reaching their targets for economic development and poverty reduction. Their plans mainly focus on energy access, developing renewable energy sources and enhancing energy efficiency¹⁰⁷.

However, due to rising energy demand and growing use of coal, CO2 emissions are set to increase in Southeast Asia¹⁰⁸. Even though all Lower

¹⁰² <https://www.reuters.com/article/us-mekong-river/missing-mekong-waters-rouse-suspicious-of-china-idUSKCN1UK19Q?il=0>

¹⁰³ <https://theaseanpost.com/article/whats-stake-mekongs-fishery>

¹⁰⁴ <https://www.reuters.com/article/us-mekong-river/missing-mekong-waters-rouse-suspicious-of-china-idUSKCN1UK19Q?il=0>

¹⁰⁵ South East Asia Energy Outlook, International Energy Agency, page 30 .

https://www.iea.org/publications/freepublications/publication/WEO2015_SouthEastAsia.pdf

¹⁰⁶ South East Asia Energy Outlook, International Energy Agency

https://www.iea.org/publications/freepublications/publication/WEO2015_SouthEastAsia.pdf

¹⁰⁷ Energy, Economy, and Climate Change in the Mekong Region, *Lailai Li and Tatirose Vijitpan* page 20-22

http://www.sumernet.org/sites/default/files/SUMERNET_Book_Climate%20risks_regional%20Integration%20and%20sustainability%20in%20the%20Mekong%20Region.pdf

¹⁰⁸ South East Asia Energy Outlook, International Energy Agency, page 46

https://www.iea.org/publications/freepublications/publication/WEO2015_SouthEastAsia.pdf

The Lower Mekong countries currently have energy and climate change policies, looking for ways to reduce CO₂ emissions, while simultaneously reaching their targets for economic development and poverty reduction.

Thailand is the largest energy consumer in Lower Mekong, with its own oil and gas production.

Thailand and Vietnam have the most ambitious plans for energy reform. Thailand aims to increase its use of renewable energy to 20 % by 2022.

Laos, Cambodia and Myanmar have less-developed infrastructures. Traditional biomass is their main source of energy and the access to electricity for all citizens is one of the primary goals. Energy supplies heavily biomass-based contribute to climate change and deforestation.

Laos is a major exporter of electricity, as it exports 80 % of its production and the market has just started to open to new potential

Mekong Basin countries have ambitious plans to diversify their energy sources, the countries are in significantly different situations when it comes to energy production and consumption profiles.

Thailand is the largest energy consumer in Lower Mekong, with its own oil and gas production. At the same time, energy demand is growing faster than energy production and the country is becoming increasingly dependent on imports.

Thailand and Vietnam have the most ambitious plans for energy reform in many respects. Thailand aims to increase its use of renewable energy to 20 % of total energy production by 2022¹⁰⁹.

Vietnam is a net importer of energy, but it suffers from energy insecurity and has no opportunities to build dams along the Mekong. To satisfy its growing need for energy, the state owned Petro-Vietnam has started work on gas field projects in the South China Sea near Mekong Delta.

Vietnam is also looking to introduce its nuclear power production and aims to increase its nuclear power capacity to 10.7 GW by 2030¹¹⁰. Vietnam is also aiming to increase the share of renewable energy in commercial primary energy production to 5 % by 2020.

Laos, Cambodia and Myanmar have less-developed infrastructures than Thailand and Vietnam. Traditional biomass products are their main source of energy and the access to electricity for all citizens is one of the primary goals. In addition, in all three countries a relatively high share of energy is produced through renewable resources because of an intensive usage of biomass. For example, in Laos around 65 % of total energy supply comes from biomass.

Heavily biomass-based energy supplies contribute to climate change and deforestation, and have negative health implications. This is why the proportion of renewable energy sources have to rise in the future¹¹¹.

Laos is a major exporter of electricity, as it exports 80 % of its production and the market has just started to open to new potential buyers. China has long been an important partner for Laos, purchasing most of its electricity production.

¹⁰⁹ Energy, Economy, and Climate Change in the Mekong Region, *Lailai Li and Tatirose Vijiapan* page 20-22

http://www.sumernet.org/sites/default/files/SUMERNET_Book_Climate%20risks_regional%20integration%20and%20sustainability%20in%20the%20Mekong%20Region.pdf & South East Asia Energy Outlook, International Energy Agency, page 29

https://www.iea.org/publications/freepublications/publication/WEO2015_SouthEastAsia.pdf

¹¹⁰ Economist Intelligence Unit 8 April 2016

<http://country.eiu.com/article.aspx?articleid=684115252>

¹¹¹ https://www.iea.org/publications/freepublications/publication/WEO2015_SouthEastAsia.pdf, page 17, 31-32 & Energy, Economy, and Climate Change in the Mekong Region, *Lailai Li and Tatirose Vijiapan* page 20-22 &

https://d2ouvy59p0dg6k.cloudfront.net/downloads/mrite_executive_summary.pdf

buyers. China has long been purchasing most of its electricity production.

Due to the civil war and ensuing political instability, Cambodia still has a weak infrastructure for power production and a weak network for electricity transfer.

Myanmar has coal, natural gas and hydropower resources. Myanmar's government has taken precautions in large-scale construction projects and foreign investment, trying to detach itself from Chinese influence.

Myanmar has emerged as a serious potential competitor in developing hydroelectric power. The underdeveloped infrastructure and continuing ethnic clashes are still preventing the full exploitation of the rivers, but many international investors are interested in shifting their focus from Laos towards Myanmar.

Laos has ambitious plans to increase its electricity production capacity nearly fourfold from the current 6 300MW plus to 20 000MW by 2030¹¹². Much of the future electricity produced in Laos will be sold abroad, mostly to Thailand. This might lead to Laos falling behind in development, if the energy produced will not meet its own mining and industrial development needs¹¹³.

Hydropower and mining are also significant contributors to Laos' economic growth and have in recent years jointly contributed one third of the country's economic growth and 20 % of revenues¹¹⁴.

Due to the civil war and ensuing political instability, Cambodia still has a weak infrastructure for power production and a weak network for electricity transfer. Hydropower and coal are the primary sources of Cambodia's domestic electricity production. Coal energy is produced faster than other energy forms. Cambodia also has to rely on imports of electricity, especially during the dry season. The main countries for Cambodia's imports are Vietnam, Thailand and Laos.

Domestic production of electricity in Cambodia has been rapidly increasing since 2016 and imports have dropped from 61 % to 25 % of total supply¹¹⁵. Around 45 % of Cambodia's electricity consumption is provided by hydropower (35 % is provided by coal-fired power plants; 5 % is provided from petroleum and alternative energy). According to a 2017 government report, Cambodia is able to generate up to 10 000 megawatts using hydropower.

Myanmar has a high-untapped potential of natural resources and energy production. It has coal, natural gas and hydropower resources. Myanmar's government has taken precautions in large-scale construction projects and foreign investment.

Myanmar has emerged as a serious potential competitor in the region in developing hydroelectric power after the lifting of western sanctions. Even before the sanctions were lifted, Myanmar had several dam projects in collaboration with China.

The underdeveloped infrastructure and continuing ethnic clashes in the Mekong area are still preventing the full exploitation of the rivers, but many international investors are interested in shifting their focus from Laos towards Myanmar¹¹⁶.

(See Chapter 8: hydropower and dam constructions in the Mekong River)

¹¹² Economist Intelligence Unit 4 October 2016

<http://country.eiu.com/article.aspx?articleid=1504678734>

¹¹³ https://d2ouvy59p0dg6k.cloudfront.net/downloads/mrite_executive_summary.pdf

¹¹⁴ https://d2ouvy59p0dg6k.cloudfront.net/downloads/mrite_executive_summary.pdf

¹¹⁵ Cambodia National Energy Statistics 2016, Economic Research Institute for ASEAN and East Asia, pages 11&45 http://www.eria.org/RPR_FY2015_08.pdf

¹¹⁶ <http://magazine.thediplomat.com/#/issues/-KXO3qZoWmquYlufy57E/read>

7.4 Transport networks

The Mekong River is a cheap and accessible transport waterway, navigable for inland boats from Chinese Yunnan to Southern Cambodia during high water season. The southern section of the river is also accessible for maritime transport.

As a key priority in the Chinese Belt and Road Initiative, China is interested in expanding the river's ability to carry larger vessels, dredging and installing navigation facilities along the upper Mekong stream.

In the Lower Mekong countries, the infrastructure for transport and logistics is underdeveloped, especially in Laos, while there are more investments in land transport projects such as bridges.

The Greater Mekong Sub-region Economic Corridors are an integral part of developing interregional trade.

The Mekong River is a cheap and accessible transport waterway, which is navigable for inland boats from Chinese Yunnan to Southern Cambodia during high water season. The southern section of the river is also accessible for maritime transport. River transport and trade in the area is usually concentrated between China, Laos and Thailand, while trade between China and Myanmar is mostly canalised on roads.

China is interested in expanding the river's ability to carry larger vessels. For this purpose, the Chinese are dredging and installing navigation aids and facilities along the upper stream of the river. The aim is to make sure that the passage for navigation would be open all year long and could facilitate vessels with 100-150 Deadweight Tonnage (DWT).

As a key priority in the Chinese Belt and Road Initiative, one of the most ambitious Chinese plans is to make the Mekong River wide enough that even 300 DWT cargo ships would be able to navigate between Yunnan (China) and Luang Prabang (Laos)¹¹⁷.

In the Lower Mekong countries, the infrastructure for transport and logistics is underdeveloped, especially in Laos, while there are more investments in land transport projects such as bridges. River transport is also underused due to security concerns and unclear procedures regarding customs, taxes and legislation¹¹⁸.

The Greater Mekong Sub-region Economic Corridors are an integral part of developing interregional trade. There are three main economic corridors in the area:

1. The North-South Economic Corridor (NSEC), which has three sub-corridors, which together form a grid of connections running from Kunming (China) to Bangkok (Thailand) as well as to Laos, Vietnam and Myanmar.
2. The East-West Economic Corridor (EWEC) that goes from Mawlamyine (Myanmar) to Da Nang (Vietnam).
3. The Southern Economic Corridor, which connects Bangkok (Thailand) to Phnom Penh (Cambodia) and Ho Chi Minh City (Vietnam) with three sub-corridors¹¹⁹.

¹¹⁷http://www.mekonginstitute.org/uploads/tx_ffpublication/Development_Potential_for_International_Shipping_on_the_Lancang-Mekong_River_China_Lao_PDR_Myanmar_and_Thailand_.pdf page 25 - 27

¹¹⁸http://www.mekonginstitute.org/uploads/tx_ffpublication/Development_Potential_for_International_Shipping_on_the_Lancang-Mekong_River_China_Lao_PDR_Myanmar_and_Thailand_.pdf page 38-39

¹¹⁹<http://www20.iadb.org/intal/catalogo/PE/2012/11306.pdf> page 3

7.5 Economy, trade and investments

Many of the multilateral cooperation mechanisms between the Mekong countries aim to facilitate trade and develop joint infrastructure.

The launch of the Asian Development Bank-led programme in 1992 aimed at poverty reduction and inclusive development in Mekong, serving as the master plan for over 200 projects with an estimated investment of USD 50 billion for 2013-2022.

The 2010 ASEAN-China Free Trade Area (ACFTA) has had a significant impact on trade in the Mekong Region.

For the Lower Mekong countries, the launch of the ASEAN Economic Community (AEC) provided a solid base of regulations and zero tariffs.

Special Economic Zone (SEZs) are developing in the Greater Mekong Sub-region. SEZs can be found in border areas and at other strategic areas such as ports or trade routes.

Many of the multilateral cooperation mechanisms between the Mekong countries aim to facilitate trade and develop joint infrastructure. The riparian countries belong to ASEAN, except China and the frameworks for facilitating trade and internal trade agreements have the potential to contribute immensely to the intra-trade growth in the Mekong Sub-region.

The share of intra-Mekong trade has been steadily growing since the launch of the Asian Development Bank-led programme in 1992, aimed at poverty reduction and inclusive development. The Greater Mekong Sub-region (GMS) Regional Investment Framework (RIF) 2013-2022 serves as the master plan for over 200 projects with an estimated investment of about USD 50 billion¹²⁰.

However, Inter-Mekong trade still only contribute to around 9.5 % of the region's overall trade¹²¹.

The 2010 ASEAN-China Free Trade Area (ACFTA) has had a significant impact on trade in the Mekong Region. There have been several agreements signed that have aimed to eradicate tariffs as well as remove discriminatory measures¹²². For the Lower Mekong countries, the launch of the ASEAN Economic Community (AEC) provided a solid and harmonized base of regulations and zero tariffs.

The Greater Mekong sub-region's total merchandise exports in 2017 totalled USD 539.9 billion, up from USD 499.3 billion in 2016 and the total merchandise imports in 2017 totalled USD 460.1 billion, down from USD 475.5 billion in 2016. Intra-Greater Mekong Sub-region trade in 2017 totalled USD 483 billion, with a trade share of 9.5 %, up from USD 416 billion and a trade share of 9.1 % in 2016¹²³.

The Greater Mekong sub-region's total service exports in 2017 totalled USD 321.582 million, up from USD 298.139 million in 2016. Total service imports in 2017 totalled USD 532.711 million, up from USD 517.633 in 2016. The Greater Mekong Sub-region foreign Direct Investment inflows from the World in 2017 totalled USD 31.858 million, up from USD 22.887 million in 2016¹²⁴.

Special Economic Zones (SEZs) are developing in the Greater Mekong Sub-region. A SEZ can be defined as an enclave within the state that operates under a separate administration. These special zones stand to promote trade-based bilateral cooperation between countries. SEZs can mostly be

¹²⁰ <https://www.mekongeye.com/2016/06/21/pdf-report-analysis-on-adb-investments-in-the-greater-mekong-ngo-forum-on-adb/>

¹²¹ <https://www.greatermekong.org/statistics/> 1.11. Intra-GMS trade

¹²² <http://www.asean.org/storage/images/2015/October/outreach-document/Edited%20ACFTA.pdf>

¹²³ <https://www.greatermekong.org/statistics/>

¹²⁴ <https://www.greatermekong.org/statistics/>

The Mekong countries' governments hope that promoting bilateral cooperation will also lead to regional economic and trade integration and will transform conflict zones along the border to market places and establish peace.

Due to multilateral and bilateral free trade agreements between ASEAN and China, investments relations have increased. Starting from 2019, ASEAN is China's second largest trading partner passing the US for the first time since 1997.

found not only in border areas, but also sometimes at other strategic areas such as ports or trade routes.

With SEZs, governments are aiming to remove barriers, enhance trade flows and economic dynamics and generate employment. Investors receive special treatment in services, duties and tariffs. The Mekong countries' governments hope that promoting bilateral cooperation will also lead to regional economic and trade integration. SEZs are also an attempt to transform conflict zones along the border into market places and establish peace.

National trade laws are either relaxed or do not apply at all at SEZs in the Mekong sub-region, in order to facilitate investment and trade liberalization. With more relaxed regulations, governments can better negotiate with international institutions and players. Some SEZs are fully open to international trade and as a result, provide a link between FDI and international trade flows.

Due to multilateral and bilateral free trade agreements between ASEAN and China, investments relations have increased. Starting from 2019, ASEAN is China's second largest trading partner passing the US for the first time since 1997¹²⁵. The Belt and Road Initiative is one of the key factors that contributed to the growth in the China-ASEAN trade relationship.

7.6 Labour issues and migrations

In the Greater Mekong Sub-region, there is both international and internal migration, as well as border mobility. The main type of migration is labour-based. Numbers are hard to estimate due to lack of data and irregular migration.

The main reasons for migration in the Lower Mekong sub-region are economic disparities and improved connectivity between ASEAN nations.

Over 50 % of total migrants choose Thailand as a destination, the only

There are multiple forms of migration in the Greater Mekong sub-region: there is both international and internal migration, as well as Mekong cross-border migrations. In all cases, the main type of migration is labour-based. The number of migrants is hard to estimate due to lack of data and irregular migration.

The main driving forces of migration in the region are economic disparities between countries and improved connectivity between ASEAN nations. Moreover, long porous borders, weak governance and the lack of enforcement of labour protection, contribute highly to ongoing irregular migration in the region. Furthermore, women often face restrictions on entry or obtaining working visas, meaning they end up in irregular migration patterns¹²⁶. Other issues that affect migration patterns are geopolitical tensions, unstable political situations and environmental concerns or natural disasters.

Thailand receives the highest number of migrants and is the most economically developed country in the region. Over 50 % of total migrants choose Thailand as a destination and Thailand is the only country with a

¹²⁵ http://www.xinhuanet.com/english/2019-07/19/c_138240998.htm

¹²⁶ <https://www.adb.org/sites/default/files/publication/30210/facilitating-safe-labor-migration-gms.pdf>

country with a positive migration rate.

Irregular migration and lack of labour rights enforcement results in the exploitation of migrants and an unsafe work environment.

Borders that cut communities into half often cause internal Lower Mekong sub-region migration, as villagers cross borders to meet family.

Another reason for intra-Lower Mekong migration is the economic corridors or special economic zones (SEZ) along border towns.

The ambiguity of legislation concerning the SEZs raises concerns regarding rights of workers, migrants and their family.

positive migration rate. The majority of migrants, around 80 %, are from Myanmar, followed by Cambodia and Laos. The total number of migrants in the region is difficult to estimate. According to the Thai Ministry of Labour, as of May 2018, there were 3.2 million recorded migrant workers¹²⁷.

Labour migration mainly concerns low-skilled migrants. Irregular migration and lack of labour rights enforcement results in the exploitation of migrants and an unsafe work environment. Access to welfare, such as education or healthcare, remains a problem. Due to gender-based discrimination and low education levels of women and girls, they are particularly vulnerable to issues arising from migration, especially irregular labour migration. Human trafficking and modern slavery or forced labour are still prevalent issues in the Lower Mekong sub-region.

Borders that cut communities in half often cause internal Lower Mekong sub-region migration, as villagers cross borders to meet family and community members.

Another reason for intra Lower Mekong migration is the importance of increasing economic corridors or special economic zones (SEZs) along border towns. The ambiguity of legislation concerning the SEZs raises concerns regarding rights of workers, migrants and their family members. There is a worsening of labour rights and working standards in the SEZs, including limitations on migration, lack of enforcement, arbitrary dismissal, depressed wages, and low standards of health and safety. Maternal leave and childcare are not provided. Trade unions often face restrictions in SEZs.

Furthermore, child labour and human trafficking continue to occur in daily border crossings¹²⁸. SEZs are also considered to contribute to the alienation and isolation of migrants in mainstream society¹²⁹.

8 Hydropower and dam constructions in the Mekong River

8.1 Overview

Most of the Mekong Basin countries are concentrating on hydropower for their energy needs, constructing large dams in the Mekong River. These constructions, however, are causing soil erosion, hurting fishing and causing massive population

Most of the Mekong Basin countries are concentrating on hydropower for their energy needs, constructing large dams in the Mekong River. Although hydropower projects can promote sustainable development, dam constructions, however, are causing soil erosion, hurting fish populations and causing massive population displacement for local communities. The

¹²⁷ https://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/documents/genericdocument/wcms_614383.pdf

¹²⁸ https://docs.wixstatic.com/ugd/c2180c_95ed0a73ac1b413a9ed3fa6af8350752.pdf

¹²⁹ <http://www.mizzima.com/news-regional/mekong-migration-network-mmn-statement-international-migrants%E2%80%99-day>

displacement for local communities.

The Lower Mekong Basin's estimated hydropower potential worth 30 000 MW.

Despite the hydropower plans, the current planned dams in the Lower Mekong Basin might be able to produce around 10 % of the electricity demand in 2030. Environmentalists argue that the negative effects on food security and the environment surpass the benefits.

sinking of deltas due to dam constructions also force households to resettle elsewhere¹³⁰.

The Lower Mekong Basin has an estimated potential for hydropower worth 30 000 MW¹³¹. The tributary rivers to Mekong, especially in Thailand and Vietnam, already have several working hydropower plants. Currently there are 11 large-scale hydroelectric dam projects in either construction or planning along the Lower Mekong: nine of them in Laos and two in Cambodia¹³².

Despite ambitious plans to develop hydropower in the Mekong, the current planned dams in the Lower Mekong Basin might be able to produce around 10 % of the total electricity demand in 2030¹³³. In general, the short-term scenario for diversifying energy production shows that just 5.5 % of the primary energy supply will come from hydropower in 2025. The environmentalists support the argument that the negative effects of hydropower on food security and the environment surpass the benefits of hydropower as a coal-free energy resource¹³⁴.

The dam projects that are in construction or in the pipeline have faced objections from other bordering countries as well as from environmental activists.

8.2 China: the largest hydropower potential in the world

China's hydropower potential is the largest in the world. By 2020, China aims to be able to generate 350 GW of hydropower.

China has more dams than any other country, with over 86 000 constructed over the past sixty years. The Three

China's hydropower potential is the largest in the world. With China's numerous mountains and rivers, the country is the world's largest producer of hydroelectric power. China had constructed 10 dams on the Mekong river and aims to finalize nine more by the year 2030¹³⁵.

In June 2018, China's capacity was approximately 341 GW¹³⁶. By 2020, China aims to be able to generate 350 GW of hydropower¹³⁷.

China has more dams than any other country, with over 86 000 dams constructed over the past sixty years. The Three Gorges Dam is the largest

¹³⁰ <https://www.cnbc.com/2018/08/10/hydropower-in-southeast-asia-dams-may-risk-economic-damage.html>

¹³¹ State of the Basin Report 2010. Mekong River Commission, page 27.

<http://www.mrcmekong.org/assets/Publications/basin-reports/MRC-SOB-report-2010full-report.pdf>

¹³² <https://opendevelopmentmekong.net/a-hydroelectric-tour-of-the-mekongs-mainstream/>

¹³³ <http://www.economist.com/news/essays/21689225-can-one-world-s-great-waterways-survive-its-development>

¹³⁴ <http://www.mrcmekong.org/assets/Events/Mekong2Rio/1.3c-Future-Energy-Perspectives-for-the-Mekong-Region.pdf>

¹³⁵ <https://thediomat.com/2019/03/are-we-seeing-the-mekong-rivers-last-days/>

¹³⁶ <https://www.reuters.com/article/us-china-hydropower/dam-nation-big-state-projects-spared-in-chinas-hydro-crackdown-idUSKCN1LF2RG>

¹³⁷ <http://www.economist.com/news/essays/21689225-can-one-world-s-great-waterways-survive-its-development>

Gorges Dam is the largest dam in the world.

Dam constructions in China represent economic achievements, but also have negative consequences for the environment, mostly in the downstream countries.

China has around 20 % of the river's flow (70 % during the dry season). China's dam activities have strong effects further down the river.

Through infrastructure and dams, China aims to extend its international leadership through their activism in the Mekong region.

dam in the world¹³⁸. Dams play an important economic role in China, with achievements in electricity generation, in flood control, and in agriculture irrigation, providing water for urban areas and for the industry. However, dam constructions also have negative consequences for the environment, mostly in the downstream countries.

China has been constructing hydropower dams and stations on its part of the Mekong River, being by far the first country to develop hydropower in the Mekong sub-region. 'The Lancang cascade' (China's dams on the Upper Mekong) includes 6 already constructed dams¹³⁹ and 14 more dams under planning or construction¹⁴⁰.

Dam building in the Mekong area of China is particularly consequential as 20 % of the river's flow begins in China (and up to 70 % during the dry season), meaning that China's dam activities could have strong effects further down the river, such as on food security and displacement of people. Models predict that Chinese dams could end up catching over 50 % of annual sediment load from the Mekong basin¹⁴¹.

Through infrastructure and dams, China aims to extend its international leadership through activism in the Mekong region, which has become a new area in the US-China power competition¹⁴².

8.3 Lao PDR: huge hydropower resources

The most notable dam building operations and plans in the Mekong region are taking place in Laos.

Lao PDR government's aim is to become the 'battery of Asia' and to export the electricity generated by Lao dams to its Asian neighbours.

The country has obtained important hydropower investments and exported

The most notable dam building operations and plans in the Mekong region are taking place in Laos. The government of Laos has plans to build nine dams on the mainstream Mekong. Lao PDR government's aim is to become the 'battery of Asia' and to export the electricity generated by Lao dams to its Asian neighbours. The country has obtained important hydropower investments¹⁴³ and exported electricity for USD 1 233 million in 2017¹⁴⁴.

The Lao Government aims for a 30 000 MW power generation increase in the upcoming 12 years¹⁴⁵.

Due to the absence of financial and technical capacity by the Lao government, foreign investors including China, South Korea, Japan, Thailand and France facilitate in the hydropower projects.

¹³⁸ https://www.internationalrivers.org/sites/default/files/attached-files/a_profile_of_dams_in_china.pdf

¹³⁹ <https://dailybrief.oxan.com/Analysis/DB220880>

¹⁴⁰ http://d2ouvy59p0dg6k.cloudfront.net/downloads/china_study_executive_summary.pdf

¹⁴¹ <http://www.internal-displacement.org/sites/default/files/inline-files/20170411-idmc-china-dam-case-study.pdf>

¹⁴² <https://www.voanews.com/east-asia/mekong-region-grows-more-important-china-us-relations>

¹⁴³ <https://www.cnbc.com/2018/08/10/hydropower-in-southeast-asia-dams-may-risk-economic-damage.html>

¹⁴⁴ <https://www.ceicdata.com/en/laos/trade-statistics-annual/exports-electricity>

¹⁴⁵ <https://edition.cnn.com/2018/12/14/asia/laos-hydropower-dams/index.html>

electricity for USD 1 233 million in 2017.

To fund the hydropower projects, Laos receives foreign investments from China, South Korea, Thailand and France.

The Lao Government aims for a 30 000 MW power generation increase in the upcoming 12 years.

China has been investing heavily on hydropower projects in Laos, criticized for lacking control over environmental or social effects.

As global economic growth has slowed, some of the dam projects have stalled, as banks are more hesitant to provide loans for high-risk ventures.

Subcontracting and joint projects appears to be how Chinese banks and companies are mainly responding.

Don Sahong dam, a joint venture of Malaysian company Mega-First (MFCB)

The Xayaburi dam (1,285 megawatt (MW)) in Laos is the first dam construction project in Lower Mekong area. The Xayaburi is mainly financed and built by Thai banks and companies and nearly all of its future electricity production will be sold to Thailand. The owner of the project is Xayaburi Power Co Ltd (XPCL). Its construction began in early 2012 but was halted for months due to grievances from other MRC countries. The construction resumed in late 2012 after some modifications were made to the dam's fishery passage and sediment flow-through designs. The original timetable aimed for the dam to be finished in May 2017, but recent statements from the Laos government estimate than will be operational in 2019¹⁴⁶. According to the project owner, calculated revenue from the dam to Laos will be over USD 100 million¹⁴⁷.

Pak Beng (912 MW). Laos submitted the plans to the MRC in November 2016¹⁴⁸. In 19 June 2017 it was reported that the project plan had passed the MRC consultation and agreement process¹⁴⁹. The initial timetable expects the dam to be in operation in 2024. Pak Beng is situated in Northern Laos and is the most upstream project in the Lower Mekong. China is a major investor in the dam. Thailand is committed to buying 90 % of the produced electricity¹⁵⁰.

China has been investing heavily in hydropower projects in Laos. China offered to reimburse the missing funding for Nam Theun 2 dam in Laos, after the World Bank threatened to stop the funding due to inadequate environmental assessments. The projects backed by China are criticized mostly for using private commercial funding and lacking assessment and control over environmental or social effects¹⁵¹.

As global economic growth has slowed, some of the dam projects have stalled, as banks are more hesitant to provide loans for high-risk ventures. China Export-Import Bank has put six loans for hydropower projects on hold in Myanmar and some of the Laos construction works have been postponed. In addition, subcontracting and endeavouring into joint projects appears to be how Chinese banks and companies are mainly responding to the insecurity of the markets¹⁵². At the same time, other means of renewable energy are becoming more affordable. This brings to attention the need to reassess the cost-benefit of the dam projects.

Don Sahong dam (260 MW), is a joint venture of Malaysian company Mega-First (MFCB) and the government of Laos. It has been in the midst of disagreements between the Mekong area countries. Don Sahong is located

¹⁴⁶ <https://www.mekongeye.com/2017/03/09/a-look-inside-xayaburi-dam/>

¹⁴⁷ <http://www.channelnewsasia.com/news/asiapacific/xayaburi-dam-testing-ground-for-untried-technologies-7700362>

¹⁴⁸ <http://magazine.thediplomat.com/#/issues/-KXO3qZoWmquYlufy57E/read>

¹⁴⁹ <http://country.eiu.com/article.aspx?articleid=225610206>

¹⁵⁰ <https://dailybrief.oxan.com/Analysis/DB220880> &

<http://www.nationmultimedia.com/news/breakingnews/30317518>

¹⁵¹ <https://dailybrief.oxan.com/Analysis/DB198556>

¹⁵² <http://magazine.thediplomat.com/#/issues/-KXO3qZoWmquYlufy57E/read>

and the government of Laos, has been in the midst of disagreements between the Mekong area countries.

None of the seven Chinese-built dams on the Nam Ou cascade in northern Laos has fish ladders or sediment flushing gates.

Despite Laos' expanding dam production, Chinese dams remain a fierce competitor.

Dam security has become an important issue in Laos following the collapse in July 2018 of Xepian-Xe Nam Noy hydropower dam in the southern region.

The hydropower advancements in the Lower Mekong will amount for USD 160 billion in the year 2040. Despite facilitating the majority of the hydropower projects, Laos will only obtain 23 % of the total share.

To boost the cooperation in the energy sector with the neighbouring countries, the government agreed in June 2019 to conduct a feasibility study on hydropower exchanges and electricity trading.

just two km from the Cambodian border, and could have serious impacts on water currents and fish migration in the lower part of the river. The construction initially began in July 2013, but was put on hold after opposition from Cambodia and Vietnam. Also during this time, the Thai government voiced its concerns over food supply and fish migration risks, even though it will be the main buyer of the dam's electricity. The construction resumed in January 2016 when the MRC consultation process ended¹⁵³.

None of the seven Chinese-built dams on the Nam Ou cascade in northern Laos has fish ladders or sediment flushing gates¹⁵⁴.

Despite Laos' expanding dam production, Chinese dams remain a fierce competitor as power from them will only cost USD 0.03 per kWh - a price which Laos cannot yet match¹⁵⁵.

Dam security has become an important issue in Laos following the collapse on 23 July 2018 of Xepian-Xe Nam Noy hydropower dam in the southern region. Due to poor construction methods, using soil instead of concrete caused a 5 billion cubic liters of water flood into the Attapeu region, erasing 12 villages. The collapse reportedly killed 40 people, over 100 people missing and caused the displacement of over 7 000 people¹⁵⁶.

Following the dam collapse, the Lao government announced suspension and the review of the new dam project. However, several months after the collapse of the dam, work on the 54 dams continued. The hydropower advancements in the Lower Mekong will amount to USD 160 billion in the year 2040. Despite facilitating the majority of the hydropower projects, Laos will only obtain 23 % of the total share¹⁵⁷.

To boost the cooperation in the energy sector with the neighbouring countries, the government agreed in June 2019 to conduct a feasibility study on hydropower exchanges and electricity trading. Following this decision, Laos agreed on selling 9 000 MW electricity to Thailand by 2020, which currently holds 4 260 MW. The government also agreed on selling 5 000 MW electricity to Vietnam by 2030 which currently remains at 300 MW electricity¹⁵⁸.

With the introduction of the fifth hydropower dam in Luang Prabang, the Thailand-Vietnam joint venture aims to collect the electricity capacity of 1 410 MW. The construction of the dam forced the relocation of 465 families

¹⁵³ <http://country.eiu.com/article.aspx?articleid=1132651897>

¹⁵⁴ <https://www.cnbc.com/2018/08/10/hydropower-in-southeast-asia-dams-may-risk-economic-damage.html>

¹⁵⁵ <https://theaseanpost.com/article/how-hydropower-could-kill-mekong>

¹⁵⁶ <https://www.theguardian.com/world/2018/aug/21/laos-dam-collapse-work-continues-on-huge-projects-despite-promised-halt>

¹⁵⁷ <https://edition.cnn.com/2018/12/14/asia/laos-hydropower-dams/index.html>

¹⁵⁸ http://www.xinhuanet.com/english/2019-06/05/c_138118999.htm

in July 2019. The dam project is most likely to affect over 1 077 families in the district, resulting overall in the reallocation of 4 600 people¹⁵⁹.

8.4 Cambodia: hydropower as the highest energy priority

Cambodia has one of the lowest nationwide electrification rates while also paying one of the highest power prices in Southeast Asia.

Chinese companies such as Sinhydro (the largest developer of hydropower in the world) have financed most of Cambodia's hydroelectric projects.

Cambodia currently has three large dam projects that are still in a stage of social and environmental impact studies.

Lower Sesan II dam was inaugurated in December 2018 and will increase Cambodia's electricity production by 20 %. It has been criticised for harming biodiversity and livelihoods.

Despite Cambodia's increase in electricity consumption in the past decade, the country has one of the lowest nationwide electrification rates at 60 %. Cambodia pays with USD 0.25 per kilowatt-hour one of the highest electricity prices in Southeast Asia¹⁶⁰. In order to lower the power prices and raise the country's economic development, the government has developed new pathways to expand its power generation.

Chinese companies such as the state-owned Sinhydro (the largest developer of hydropower in the world) have financed most of Cambodia's hydroelectric projects¹⁶¹. There are plans for the construction of an 18km-wide mega dam in the town of Sambor. If constructed, it would be the largest mainstream dam on the lower Mekong. A report commissioned by the Cambodian government states such a dam would destroy fish stocks and cause other environmental damage¹⁶². The Sambor Hydropower Dam was designated as the worst place to build a dam, killing off aquatic life such as the Irrawaddy dolphin¹⁶³.

Cambodia currently has several large huge dam projects that are still in a stage of entering feasibility and social and environmental impact studies¹⁶⁴. The Sambor Dam planning process has seen several different plans for the dam's production capability, each new plan reducing the potential production power¹⁶⁵.

Prime Minister Hun Sen inaugurated Cambodia's biggest hydropower dam in December 2018, the Lower Sesan II dam (400 MW) in Stung Treng province. This hydropower dam will increase Cambodia's electricity production by 20 %. The dam took four years to build and cost almost USD 800 million. The project has been criticised on grounds of safety standards of the dam, harming the biodiversity of two tributaries in the Mekong river as well as wrecking the homes and livelihoods of several thousand people¹⁶⁶.

To conserve fisheries in Cambodia, the Asian Development Bank announced their support for the first 10-megawatt commercial scale solar

¹⁵⁹ <https://www.rfa.org/english/news/laos/laos-luang-prabang-displacement-07122019165743.html>

¹⁶⁰ <https://www.chinadialogue.net/article/show/single/en/11126-Sustaining-the-heartbeat-of-the-Mekong-Basin>

¹⁶¹ <https://opendevelopmentmekong.net/topics/hydropower/>

¹⁶² <https://www.npr.org/2018/10/06/639280566/china-reshapes-the-vital-mekong-river-to-power-its-expansion?t=1551360395603>

¹⁶³ <https://theaseanpost.com/article/are-cambodias-hydropower-plans-risky>

¹⁶⁴ <https://www.internationalrivers.org/campaigns/sambor-dam>

¹⁶⁵ <https://www.internationalrivers.org/campaigns/sambor-dam>

¹⁶⁶ <https://www.apnews.com/f2585bb421b246f197f1d404f5fc85f9>

As an alternative to hydropower, Cambodia recently considered developing solar power.

farm based in Cambodia in 2017. In January 2019, the Cambodian PM Hun Sen visited Beijing to link deals for solar power¹⁶⁷. In July 2019, the government of Cambodia approved four new solar projects with a total capacity of 140 MW¹⁶⁸.

8.5 Myanmar: a push toward hydropower, managing environmental and social impacts

Hydropower dams are the primary sources of electricity in Myanmar.

Myanmar had set a goal of 50 % electrification by 2020 and 100 % by 2030.

The Asian Development Bank estimates Myanmar's hydropower capacity to be over 100 000 MW.

There is a lot of public opposition to the large dam projects in Myanmar.

The collaboration project of Myitsone mega-dam in Irrawaddy River has been frozen since 2011 after vigorous public opposition and Myanmar will focus on developing smaller hydroelectric projects.

In January 2019, Myanmar announced it was not planning to resume any

Among the ASEAN countries, Myanmar produces the highest percentage of renewable energy with hydropower generating 65 % of the electricity.

However, more than 40 % of the total population lacks access to the national grid¹⁶⁹.

Based on the National Electrification Plan (NEP) supported by the World Bank in 2014, Myanmar had set a goal of 50 % electrification by 2020 and 100 % by 2030. In order to achieve this goal, the Asian Development Bank estimates Myanmar's hydropower capacity to be over 100 000 MW¹⁷⁰.

The government launched over 50 hydroelectric dam projects in the country, invested in by countries including China, France and Thailand¹⁷¹.

However, there is a lot of public opposition in Myanmar to the dam projects producing more than 100 MW. The large dams could directly threaten the ecology and the communities that rely on the rivers¹⁷².

The collaboration project of the USD 3.6 billion Myitsone mega-dam in Irrawaddy River has been frozen since 2011 after vigorous public opposition. In spring 2017, it seems the project has been unofficially stopped for the time being and Myanmar will focus on developing smaller hydroelectric projects¹⁷³. This precedent could also block any large projects along Mekong in the near future.

In January 2019, Myanmar announced it was not planning to resume any dam work on the Myitsone hydropower dam¹⁷⁴. The Ministry of Electricity and Energy announced it would provide access for electricity to 1 300 villages in Myanmar through solar power in the period of 2019 to 2020.

¹⁶⁷ <https://www.chinadialogue.net/article/show/single/en/11126-Sustaining-the-heartbeat-of-the-Mekong-Basin>

¹⁶⁸ <https://www.pv-magazine.com/2019/07/15/cambodia-approves-four-pv-projects-totalling-140-mw/>

¹⁶⁹ <https://www.eco-business.com/news/what-is-the-future-of-energy-for-myanmars-rural-population/>

¹⁷⁰ <https://www.adb.org/sites/default/files/institutional-document/218286/mya-energy-sector-assessment.pdf>

¹⁷¹ <https://theaseanpost.com/article/myanmar-and-lao-get-infrastructure-boost>

¹⁷² <https://frontiermyanmar.net/en/civil-society-groups-from-across-myanmar-hold-anti-hydropower-protest>

¹⁷³ <https://dailybrief.oxan.com/Analysis/DB220229>

¹⁷⁴ <https://www.ft.com/content/4a898614-2392-11e9-8ce6-5db4543da632>

dam work on the Myitsone hydropower dam.

8.6 Thailand: growing energy demand and environmental concerns

Concerns over future energy security have led Thailand to consider hydropower an attractive alternative.

Thailand is reacting to an increasing demand in electricity by expanding coal-fired power sources as well as renewable energy.

In July 2019, the Mekong River the water level on the Laos-Thailand border decreased significantly.

The Jinghong Dam and the Xayaburi hydropower reduced their discharge during the trial operations, causing a rapid change in water levels

Concerns over future energy security have led Thailand to consider hydropower an attractive alternative to keep up with exponentially increasing energy demands and as a way of diversifying energy consumption.

Currently, Thailand's domestic gas supply is being rapidly depleted. In Thailand, by 2035 total oil and gas imports are estimated to be worth USD 100 billion. Thailand depends on fossil fuels for 80 % of its energy consumption¹⁷⁵.

Contrary to the rest of the world, coal demand in Thailand is increasing. Together with a reduction in coal prices, governments in the region are reacting to an increasing demand in electricity by expanding coal-fired power sources as well as renewable energy¹⁷⁶.

With its current interest in moving towards renewable energy sources, Thailand announced it would build the largest floating solar farm with a capacity of 2.7 GW by the year 2037¹⁷⁷.

In July 2019, the Mekong River water level on the Laos-Thailand border decreased significantly. The Jinghong Dam and the Xayaburi hydropower reduced their discharge during the trial operations, causing a rapid change in water levels¹⁷⁸.

8.7 Vietnam: increasingly vulnerable to dam constructions in neighbouring Mekong countries

For Vietnam, the survival of the Delta waters is a matter of national security.

Vietnam is the Mekong River country most affected by dam constructions in the upstream nations and has

For Vietnam, the Mekong Delta represents 50 % of its rice and 75 % of its high-value fruit and aquaculture production. Therefore, the survival of the Delta waters is a matter of national security.

Vietnam is the Mekong River's country most affected by the hydropower dam construction policies in the upstream nations and has already urged Laos to rethink its plans for more dams¹⁷⁹.

Laos and Cambodia argue that Vietnam has a 'victim mentality', protesting against dams but without presenting any alternatives. According to the

¹⁷⁵ <https://opendevelopmentmekong.net/topics/energy/> ;

<https://opendevelopmentmekong.net/topics/hydropower/>

¹⁷⁶ https://opendevelopmentmekong.net/topics/energy/?queried_post_type=topic

¹⁷⁷ <https://www.bangkokpost.com/business/1639562/thailand-to-build-worlds-biggest-floating-solar-farms>

¹⁷⁸ <https://news.thaivisa.com/article/37811/dramatic-drop-in-mekong-water-level-sparks-alarm>

¹⁷⁹ <https://www.cnn.com/2018/08/10/hydropower-in-southeast-asia-dams-may-risk-economic-damage.html>

urged Laos to rethink its plans for more dams.

Laos and Cambodia argue that Vietnam has a 'victim mentality', protesting against dams but without presenting any alternatives.

To develop renewable energy, Vietnam built the largest solar farm of the ASEAN region with 88 solar panels generating 677 MW in June 2019.

International Union for Conservation of Nature (IUCN), Vietnam could invest in a national grid in Laos that allows Laos to charge transmission fees, thereby both reducing its dependence on hydropower, and providing an immediate income stream. Similarly, Vietnam can help Cambodia speed up rural electrification and generate foreign exchange by building large-scale solar plants in Cambodia where land is much cheaper. This would reduce the need for mainstream dams¹⁸⁰.

The Vietnamese government has insisted in the last years on the nation's wishes for the countries of the upstream Mekong River to adopt working policies on river construction, especially on hydropower dams. This will secure rights for Vietnam and other downstream nations¹⁸¹.

To develop renewable energy, Vietnam built the largest solar farm of the ASEAN region with 88 solar panels generating 677 MW in June 2019¹⁸². Additionally, the government aims at raising the total wind capacity to 800 MW by 2020 and 6000 MW by the year 2030¹⁸³.

9 Environment and human rights concerns in the Mekong sub-region

9.1 Nature of the Mekong environment

The Mekong is the third most biodiverse river basin in the world, after Amazon and Congo.

One of the key elements is the variation of the river due to water level change.

There are so-called 'deep pools' along Mekong, one of the most fertile farm land areas in the world.

The Mekong is by some accounts the third most biodiverse river basin in the world, after Amazon and Congo¹⁸⁴.

One of the key elements sustaining such a rich variety of flora and fauna is the variation of the river due to change of the seasons. This 'flood pulse' is not only about the water level changes but also the timing, duration and extent of the flooding that change yearly.

There are so-called 'deep pools' along the Mekong River, 500 hundred of which are in the Lower Mekong basin. These pools act as habitat areas for different species during rainy seasons as well as nurseries for migratory species during the monsoon¹⁸⁵.

The Lower Mekong basin is also one of the most fertile farmland areas. The main reason behind the high crop yield of the Lower Mekong region is due

¹⁸⁰ <https://www.iucn.org/news/viet-nam/201906/mekong-transboundary-cooperation-making-a-problem-bigger>

¹⁸¹ <http://www.nationmultimedia.com/detail/aec/30315399>

¹⁸² <https://www.chiangraitimes.com/aseans-biggest-solar-farm-project-commences-operations-in-vietnam.html>

¹⁸³ http://www.xinhuanet.com/english/2019-06/11/c_138134608.htm

¹⁸⁴ <http://www.economist.com/news/essays/21689225-can-one-world-s-great-waterways-survive-its-development>

¹⁸⁵ State of the Mekong report 2010. Mekong River Commission Page 23
<http://www.mrcmekong.org/assets/Publications/basin-reports/MRC-SOB-report-2010full-report.pdf>

The Mekong delta is one of the three most vulnerable river deltas on the planet.

to the nutritious sediments carried by the river from the high plateaus of China. The sediments flow downstream especially during the rainy season from June to October.

International scientists identify in the Mekong delta as one of the three most vulnerable river deltas on the planet¹⁸⁶.

9.2 Environmental issues in the Mekong sub-region

The huge dams could reduce the river's fish stocks by more than 40 % in the next decade.

The Lower Mekong area is especially vulnerable to adverse effects of Climate Change. Cambodia and Vietnam are the most adversely effected countries.

In Lower Mekong, temperatures have been rising and will continue to rise steadily, and severe storms as well as more pronounced wet and dry seasons are to be expected.

Climate change threatens the entire Mekong river ecology. Due to the faster than expected melting speed of the glaciers in the Tibetan plain, around 40 % of the dry-season water risks disappearing from the river when it reaches Laos and Cambodia.

The environmental situation has led to recent frictions between the Mekong countries as the upper stream countries

One of the main environmental issues in Mekong area is the building and exploitation of the potential hydropower of the river and the huge dams, which could reduce the river's fish stocks by more than 40 % in the next decade¹⁸⁷.

The Lower Mekong area is especially vulnerable to adverse effects of Climate Change. Cambodia and Vietnam are the most adversely effected countries, especially if new dam projects presented by China and Laos go through. The potential harmful effects are the destruction of biodiversity, increased flooding and periods of drought. This in turn is likely to lead to economic losses, increased food and water insecurity and mass migration.

In Lower Mekong, temperatures have been rising and will continue to rise steadily, and severe storms as well as more pronounced wet and dry seasons are to be expected. Even though flooding is a necessary element of rice farming, flooding which is too severe will kill the rice crops. It can also delay the planting of the crops if the water level remains too high in the fields. The rice crops can shrink by 10 percent for every 1 Celsius night-time temperature rise. Warming temperatures also increase pests and weeds¹⁸⁸.

Climate change threatens the entire river ecology of the Mekong. Due to the faster than expected melting speed of the glaciers in the Tibetan plain, around 40 % of the dry-season water risks disappearing from the river when it reaches Laos and Cambodia¹⁸⁹. The downstream countries have already experienced heavy droughts in the last few years. Thailand, Cambodia and Vietnam Delta suffered from historically severe drought in 2016. At the same time, water flows have become more unpredictable.

The environmental situation has led to recent frictions between the Mekong countries as the upper stream countries have the power to control the water flows. In 2016, Thailand redirected water from Mekong without consulting Cambodia and Vietnam. China holds the highest number of dams and thus has an advantage over the lower stream countries. During the 2016 droughts, China unilaterally released water from dams to ease the pressure in the lower streams¹⁹⁰.

¹⁸⁶ <https://www.climatehotmap.org/global-warming-locations/mekong-river-delta-vietnam.html>

¹⁸⁷ <https://www.wwf.org.uk/where-we-work/places/mekong>

¹⁸⁸ <http://www.economist.com/news/essays/21689225-can-one-world-s-great-waterways-survive-its-development>

¹⁸⁹ <http://www.rfa.org/english/news/special/riverinperil/blog01.html>

¹⁹⁰ <http://thediplomat.com/2016/05/china-and-the-mekong-the-floodgates-of-power/>

have the power to control the water flows.

Dam constructions and sand mining affect sediment flows: sediments are trapped in the dams and sand mining removes the nutritious soil.

Due to dredging, riverbanks across the Mekong delta are collapsing which is destroying the farm fields, homes and small enterprises located on these banks.

Loss of rice farms has been particularly prevalent and over a thousand families have been displaced, with several hundred having to be evacuated.

By some estimates, the declining fertility of the land could cause a 27 % decline in GDP in Vietnam over the next 20 years.

The water quality is generally in good condition and there are no restrictions on using water from the river for agricultural purposes.

Dam constructions and sand mining affect sediment flows: sediments are trapped in the dams and sand mining removes the nutritious soil. This means the farming land downstream from the dams is losing nutrients and the productivity will decline. The counted sediment loss in Vietnam is already 50 percent less than normal. In addition, unsustainable fishing practices and deforestation exacerbate the loss of biodiversity and increase the risks of irreversible damage to food security. In particular, the loss of mangrove forests along the delta area leave the land vulnerable to salt water intrusion. The most radical effects of loss of sediment are already observable in the Mekong Delta area in Vietnam. The Delta is sinking and seawater is conquering farming land¹⁹¹.

Hydropower development and dam constructions on the Mekong River tributaries do not have the same level of scrutiny as they have in the main river. Dams on the tributaries could have greater negative effects on fish biodiversity and food security than those on the main river¹⁹².

Sand mining is promoting the gradual destruction of the Mekong delta. A lot of the sand mining that happens in Vietnam is illegal and not regulated and there is a large black market. Illegal sand mining has increased largely in the last decade in all of the countries the delta runs through. The mining of sand and the increase in the construction of dams is reducing sediment flow to the delta and as a result, the delta is being eroded without being simultaneously restored.

Due to dredging, riverbanks across the Mekong delta are collapsing which is destroying the farm fields, homes and small enterprises located on these banks. Loss of rice farms has been particularly prevalent and over a thousand families have been displaced, with several hundred having to be evacuated. The governments of the countries along the Mekong Delta consider that 500 000 people living in the Mekong delta are in danger of landslides and require relocation¹⁹³.

By some estimates, the declining fertility of the land could cause a 27 % decline in GDP in Vietnam over the next 20 years¹⁹⁴.

In its 2015 water quality report, the MRC did not report serious pollution problems in the Mekong, but stated that the water quality was in good condition and there were no restrictions on using water from the river for agricultural purposes. The report even stated there was a slight improvement in water quality in some areas. Toxic pollutant problems were

¹⁹¹ <http://thedi diplomat.com/2016/11/killing-the-mekong-dam-by-dam/> & <https://dailybrief.oxan.com/Analysis/DB220880> &

https://d2ouvy59p0dg6k.cloudfront.net/downloads/mrite_executive_summary.pdf
¹⁹² <https://www.nature.com/news/a-damming-assessment-of-mekong-development-1.10166>

¹⁹³ <https://news.nationalgeographic.com/2018/03/vietnam-mekong-illegal-sand-mining/>

¹⁹⁴ <http://thedi diplomat.com/2016/11/killing-the-mekong-dam-by-dam/> & <https://dailybrief.oxan.com/Analysis/DB220880>

In May 2019, the Mekong River level dropped to its lowest in one hundred years, causing a negative impact on the fish species and people living and working in the Mekong area.

recognized as local issues¹⁹⁵. The overall level of heavy metal remained low and the ecological risk of heavy metals in the river was assessed to be low¹⁹⁶. Highly populated areas and areas with large-scale agriculture had higher levels of pollution.

In May 2019, the Mekong River level dropped to its lowest in one hundred years, causing a negative impact on the fish species and people living and working in the Mekong area. The combination of climate change and the dams that are withholding waters causes many farmers to be unable to plant their crops¹⁹⁷.

9.3 Contested dam projects

Many NGOs point out serious concerns over dam and hydropower projects, which can seriously harm the environment and the livelihood of societies who depend on it for food, income or transportation.

Most projects ignore the environmental concerns of the impact assessments. In August 2018, the Xe-Pian Xe-Namnoy dam in Laos collapsed, killing 35 people and leaving over 6 000 homeless.

Thailand is the largest buyer of Laotian hydropower for the deprived Isaan area. Thai community activists challenged the Thai authorities in court over dam projects, accusing them of not carrying out a

Many NGOs point out serious concerns over dam and hydropower projects on the Mekong river, saying that the dam construction can seriously harm the environment and the livelihood of societies living along the river who depend on it for food, income or transportation.

NGOs claim the projects ignore the environmental concerns of the impact assessments¹⁹⁸. As an example, in August 2018, the Xe-Pian Xe-Namnoy dam in Laos collapsed, leading to large floods killing 35 people and leaving over 6 000 without homes¹⁹⁹.

Thailand is the largest buyer of Laotian hydropower for the deprived Isaan area. Thai community activists challenged the Thai authorities in court over the Xayaburi dam project, accusing them of not carrying out a proper environmental assessment process. The Supreme Administrative Court dismissed the case in December 2015²⁰⁰.

In June 2017, eight local communities filed a new lawsuit against the Pak Beng dam project, based on similar claims as the previous one: the national agencies had violated Thai law and the 1995 Mekong Agreement by not protecting citizens' rights through an inadequate public consultation process²⁰¹.

Another highly contested dam construction on the Mekong river is the Don Sahong Dam. The dam is located in Laos, only two kilometres from its Cambodian border. In October 2014, six NGOs petitioned the Human rights

¹⁹⁵ <http://www.mrcmekong.org/assets/Publications/20170519Mekong-Water-Quality-Final.pdf>

¹⁹⁶ Kaidao Fu et al. Pollution Assessment of heavy metals along the Mekong River and dam effects. 2010 Journal of Geographical Sciences. <https://link.springer.com/article/10.1007/s11442-012-0969-3>

¹⁹⁷ <https://www.nationalgeographic.com/environment/2019/07/mekong-river-lowest-levels-100-years-food-shortages/>

¹⁹⁸ <https://www.internationalrivers.org/campaigns/mekong-mainstream-dams>

¹⁹⁹ <https://www.theguardian.com/world/2018/aug/21/laos-dam-collapse-work-continues-on-huge-projects-despite-promised-halt>

²⁰⁰ <https://business-humanrights.org/en/xayaburi-dam-lawsuit-re-laos-thailand>

²⁰¹ <https://www.internationalrivers.org/resources/why-thai-communities-are-defending-their-rights-to-the-mekong-river-in-court-16491>

proper environmental assessment process.

Another highly contested dam construction is the Don Sahong Dam, located in Laos, only two kilometres from its Cambodian border. The UN Human Rights Council sent a communication to Laos, Myanmar, Mega First Corporation and to the Mekong River Commission in February 2016 highlighting the alleged human rights violations associated with the Don Sahong project.

Commission of Malaysia over concerns about the Don Sahong Dam project, claiming that the Malaysian Don Mega First Corporation operates the project. They emphasised that the dam will block an important channel on the river, and therefore endanger the Mekong's migratory fish and the communities relying on fishing in Cambodia, Thailand, Laos and Vietnam²⁰².

The Human rights Commission of Malaysia concluded in its 2015 report that there is no mandate to conduct an investigation on a trans boundary case and cannot proceed with the inquiry. However, the commission formulated certain recommendations both to the Malaysian government and to Don Mega First Corporation, urging compliance with UN guidelines and human rights and recommending the development of monitoring policies for Malaysian companies operating outside of Malaysia²⁰³.

During their 32rd session in February 2016, the UN Human Rights Council sent a communication of special procedures to Laos, Myanmar, Mega First Corporation and to the Mekong River Commission highlighting the alleged human rights violations associated with the Don Sahong project²⁰⁴. In response, the government of Laos rejected the allegations, and argued that visits and consultations took place prior to the constructions and had no negative effect on the environment²⁰⁵. The Mekong River Commission also argued that both consultation and impact assessment took place prior to the construction²⁰⁶.

9.4 Resettlement and displacement of people

Thousands of people have been displaced in the Mekong region.

In China, more than 20 million people have had to resettle because of dam projects and it is estimated that over 300 000 people will be displaced in Chinese Yunnan region by 2020 in order to free up space for further dam construction.

In Cambodia, land concessions have resulted

Thousands of people have been displaced in the Mekong region. Although the large-scale hydropower projects are associated with economic development, dams have provoked massive displacement of indigenous peoples and other upland-dwelling minorities.

In China, NGOs estimate that more than 20 million people have had to resettle because of dam projects. This trend has been continuing for decades and it is estimated that over 300 000 people will be displaced in Chinese Yunnan region by 2020 in order to free up space for further dam construction.

The Xayaburi dam in Northern Laos has already caused resettlement of thousands of people from 15 villages. The resettlement process seems to have been done in a relatively fair way, with compensations and an improved standard of living for the resettled people²⁰⁷.

²⁰² https://www.internationalrivers.org/sites/default/files/attached-files/complaint_against_mega_first_corp_berhad.pdf

²⁰³ https://drive.google.com/file/d/0B_iu0JnQlcIBQW5OZTRhTF9XTnc/view?pref=2&pli=1 page 94-96

²⁰⁴ <http://www.ohchr.org/EN/HRBodies/SP/Pages/CommunicationsreportsSP.aspx>

²⁰⁵ https://spdb.ohchr.org/hrdb/33rd/LAO_10.05.16_%281.2016%29.pdf

²⁰⁶ [https://spdb.ohchr.org/hrdb/33rd/OTH_09.05.16_\(13.2016\).pdf](https://spdb.ohchr.org/hrdb/33rd/OTH_09.05.16_(13.2016).pdf)

²⁰⁷ <http://www.channelnewsasia.com/news/asiapacific/xayaburi-dam-testing-ground-for-untried-technologies-7700362>

in the displacement of over 770 000 people since 2001.

In Thailand, the Eastern Economic Corridor (EEC) project threatens displacements.

There have been various resettlement programmes as a response to climatic disasters. The Vietnamese Delta region, increasingly affected by flooding, benefits from the 'living with the floods programme'.

In Cambodia, land concessions have resulted in the displacement of over 770 000 people since 2001²⁰⁸.

In Thailand, the Eastern Economic Corridor (EEC) project aims for better connectivity and economic development. However, the project threatens displacements within Thailand.

Pak Beng dam that will be constructed in Northern Laos is estimated to cause the resettlement of 6700 people²⁰⁹.

There have been various resettlement programmes as a response to climatic disasters. In Vietnam, where the Mekong Delta region is increasingly affected by flooding, one such programme is the ambitious 'living with the floods programme', a government-led initiative launched in 1996 to secure the livelihoods of those vulnerable to natural disasters²¹⁰.

9.5 Refugees and activist

The Mekong region faces multiple issues concerning the displacement of people and refugees due to frequent minority tension and violence.

The Hmong are an ethnic minority population across Southeast Asia, with members of this ethnicity found in Laos, Thailand and Vietnam. Hmong people are facing persecution in Laos.

In the north of Myanmar's Shan state, close to 10 000 refugees live in camps. There are six Shan refugee camps along the Thai-

The Mekong region faces multiple issues concerning the displacement of people and refugees due to frequent minority tension and violence.

The Hmong are an ethnic minority population across Southeast Asia, with members of this ethnicity found in Laos, Thailand and Vietnam. However, Hmong people are facing persecution in Laos. The tension dates back to the 1960's, when the CIA recruited some Hmong people to fight communist forces. Around 60 000 Hmong were enlisted²¹¹.

After the victory of the communist Lao People's Revolutionary Party, Hmong people were targeted for their insurgency and for fighting alongside the US. Moreover, in recent decades, the Lao security forces were responsible for arrests, torture, sexual abuse, and extrajudicial killings of Hmong people, both civilians and militants. Some were resettled in the US but many crossed the Mekong to flee to Thailand to seek asylum or remained in Laos²¹². In the 1970's, according to estimates some 30 000 people sought refuge outside of Laos while some 4 000 Hmong fled to the Laotian jungle²¹³. Around 260 000 people with Hmong origin reside in the US²¹⁴, and around 16 000 in other 'Western' Countries such as Canada, Australia and France, where 10 000 Hmong people are residing²¹⁵.

²⁰⁸ <https://www.reuters.com/article/us-southeast-asia-landrights-farming/rural-poor-squeezed-by-land-concessions-in-mekong-region-report-idUSKCN1IU19G>

²⁰⁹ <https://www.internationalrivers.org/node/10852>

²¹⁰ <http://www.internal-displacement.org/sites/default/files/inline-files/20170411-idmc-china-dam-case-study.pdf>

²¹¹ <http://content.time.com/time/world/article/0,8599,2005706,00.html>

²¹² <https://www.hrw.org/news/2008/10/28/laos-cease-arbitrary-detention-deported-hmong>

²¹³ <http://unpo.org/downloads/2346.pdf> &

<http://content.time.com/time/world/article/0,8599,2005706,00.html>

²¹⁴ <https://www.reuters.com/article/usa-refugees-hmong/factbox-hmong-refugees-who-fled-laos-woven-into-social-tapestry-of-western-u-s-idINKCN11108B>

²¹⁵ http://www.smc.org.ph/administrator/uploads/apmj_pdf/APMJ2003N3ART2.pdf

Myanmar border with around 6200 refugees.

The Khmer Krom people are a heavily discriminated ethnic minority group living in 'Lower Cambodia'.

There are frequent disappearances and arrests of activists in the Mekong region.

In the Vietnamese Mekong delta, six Hoa Hao Buddhist activists were charged with 'disrupting public order' after carrying out a protest against government repression in 2017.

In the north of Myanmar's Shan state, close to 10 000 refugees live in camps. There are limits to humanitarian assistance as for the past two years the Myanmar government has not allowed the UN entry to places under the control of armed forces²¹⁶. There are six Shan refugee camps along the Thai-Myanmar border and around 6200 refugees live in these camps, 1 000 of which are students²¹⁷.

The Khmer Krom people are a heavily discriminated ethnic minority group living in the Kampuchea-Krom region, also known as 'Lower Cambodia'. The Khmer Krom are subject to assimilation campaigns, consisting mainly of oppression of their religious, individual and collective freedoms²¹⁸.

There are frequent disappearances and arrests of activists in the Mekong region.

In January 2019, three corpses of Thai activists were found in the Mekong River in Laos. The Lao government has not yet conducted any investigations²¹⁹.

In September 2018, an activist, Tin Maung Kyi, was detained for carrying out a peaceful solo protest against the Myanmar military and could be given up to two years in jail²²⁰. In the Vietnamese Mekong delta region, six Hoa Hao Buddhist activists were charged with 'disrupting public order' after carrying out a protest against government repression in 2017²²¹.

10 The Mekong River Commission (MRC) and multilateral governance in the Mekong River

The Joint Committee of the Mekong River Commission (MRC) was officially formed in 1995, together with the signing of the Mekong Agreement.

The European Union and several EU member states

The Joint Committee of the Mekong River Commission (MRC) was officially formed in 1995, together with the signing of the Mekong Agreement. The MRC was long considered the main governing body of the river despite only including Cambodia, Laos, Thailand and Vietnam. China and Myanmar have observer status, and China has refused to join the commission officially.

The European Union and several EU member states have been development donors to the MRC²²².

²¹⁶ <https://reliefweb.int/report/myanmar/myanmar-humanitarian-access-kachin-and-northern-shan-july-2018>

²¹⁷ <https://www.burmalink.org/myanmars-refugee-idp-shan-dislocation-dispossession-three-decades/>

²¹⁸ <https://unpo.org/article/20831>

²¹⁹ <https://www.hrw.org/news/2019/01/22/laos-investigate-disappearance-3-thai-dissidents>

²²⁰ <https://www.amnesty.org/en/documents/asa16/9336/2018/en/>

²²¹ <https://www.hrw.org/news/2018/02/08/vietnam-end-repression-against-religious-activists>

²²² <http://www.mrcmekong.org/assets/Publications/governance/Report-IDM-2013-Complete-set-final.pdf>

have been development donors to the MRC.

To achieve self-financing by the four member states in 2030, the MRC is undergoing reforms in decentralisation and human resources.

China and Myanmar have observer status, and China has refused to join the commission officially.

The MRC works mostly through consultation processes for new dam projects and produces studies of different aspects relating to the river.

However, Laos continuously ignores the consultation process. In 2010, the MRC suggested a 10-year break from building dams along the Mekong. Laos and Thailand have ignored this recommendation.

The 7th MRC meeting in Bangkok in May 2019 highlighted key areas of improvement.

ASEAN also has Mekong related sub-regional cooperation programmes.

To achieve self-financing by the four member states in 2030, the MRC is undergoing reforms in three processes. These reforms include decentralisation, human resource reforms and financial reforms²²³.

Staff is recruited from the MRC member countries. A lean management is created through a cut in personnel implemented from 2016 onwards while for the budgetary planning a basket fund for the MRC Strategic Plan 2016-2020 is formed.

The MRC works mostly through consultation processes for new dam projects and produces studies of different aspects relating to the river. The MRC has proved to be ineffective in managing the river mostly because the resolutions are non-binding.

However, Laos continuously ignores the consultation process. In 2010, the MRC suggested a 10-year break from building dams along the Mekong. Laos and Thailand have ignored this recommendation²²⁴.

In response to the Mekong's changing environment, the MRC's Environment Program works to support cooperation among MRC member countries to secure a balance between economic development, environmental protection and social sustainability within the Mekong region. The Program works to ensure that basin management and development is guided by up to date environmental and social knowledge. It strives for more efficient environmental management cooperation²²⁵.

MRC staff have accused Laos' government of political pressure and attempts to influence studies conducted by the organization²²⁶. In 2016, some international donors cut the funding of the MRC significantly in response to accusations of fraud, mismanagement of funds and questions about the organization's independence²²⁷.

During the 7th [MRC meeting in Bangkok](#) in May 2019, key areas of improvement were highlighted: the need for transparent and transboundary cooperation, improved MRC data and information system, cost, and benefit sharing integration into planning and project formulation²²⁸.

ASEAN also has Mekong related sub-regional cooperation programmes: the Ayeyawady-Chao Phraya-Mekong Economic Cooperation Strategy (ACMECS), in parallel with the Greater Mekong Sub-region (GMS)

²²³ https://ec.europa.eu/europeaid/sites/devco/files/aap-financing-asiaregion_2017part2-annex7-c_2017_6311_en.pdf

²²⁴ <https://dailybrief.oxan.com/Analysis/DB220880> & <https://dailybrief.oxan.com/Analysis/DB194561>

²²⁵ <http://www.mrcmekong.org/about-mrc/completion-of-strategic-cycle-2011-2015/environment-programme/>

²²⁶ <http://thediplomat.com/2015/10/why-the-mekong-river-commission-may-be-in-peril/>

²²⁷ <http://thediplomat.com/2016/01/mekong-river-commission-faces-radical-change/>

²²⁸ <http://www.mrcmekong.org/news-and-events/news/joint-efforts-for-the-sustainable-development-of-the-mekong-river/>

programme, and the “Basic Framework of ASEAN- Mekong Basin Development Cooperation” (AMBDC).

The AMBDC was established in 1996, aiming to promote economic integration of non-member states into ASEAN through promoting linkages between countries and promotion of efficient utilization of resources²²⁹. Today the cooperation includes all ASEAN Member States and China. Further realignment of the AMBDC program to the ASEAN agenda is required however.

ACMECS was established in 2003 as the cooperation framework to promote balanced development in the region between Cambodia, Laos, Myanmar, Thailand and Vietnam. ACMECS programme focusses on transport, trade and investment facilitation, in order to bridge the economic gap between the countries in the region. The cooperation intends to build upon existing schemes and to complement bilateral frameworks²³⁰.

Greater Mekong Sub-region Economic Cooperation has been operated by the Asian Development Bank (ADB) since 1992 and includes both political and operational cooperation between the Mekong countries. The ADB works as a secretariat to the GMS program, while all the decisions are agreed between the member countries in either the Leaders’ Summit or the Ministerial Conference.

The objective of the ADB program is to enhance the economic relations between the countries through the creation of multidisciplinary economic corridors. This means investments and development programmes across 10 different sectors. The most visible ones have been the development of interregional road and energy networks. Other key goals are regional integration and harmonization as well as facilitating the movement of goods and persons. The Strategic Framework for regional development 2012-2022 constitutes the ADB regional investment framework²³¹.

In addition to regional competition and cooperation groups, the Mekong has drawn further global attention. During the Obama administration, in 2009 the United States launched the Lower Mekong Initiative (LMI) to increase its influence in the area. The Initiative combined aid, cooperation and economic interests together and worked actively during the Obama administration. Under the Trump administration, the LMI is bound to see a downgrading in US foreign politics²³².

A few years later, the Friends of the Lower Mekong (FLM) cooperation group was formed under the LMI. The aim was to increase dialogue cooperation between the Lower Mekong countries and major donors. The

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With the announcement of the Belt and Road initiative,

²²⁹ <http://www.asean.org/storage/images/2012/Economic/IAI/Comm%20work/AMBDC%20Realignment%20Study.pdf>

²³⁰ http://www.europarl.europa.eu/RegData/etudes/STUD/2017/601980/IPOL_STU%282017%29601980_EN.pdf and <http://en.reingex.com/ACMECS-Mekong-Economic-Cooperation.shtml>

²³¹ <http://greatermekong.org/about> & <http://greatermekong.org/overview>

²³² <https://dailybrief.oxan.com/Analysis/DB220880>

China announced its own Lancang-Mekong Cooperation Mechanism (LCM) in 2015. LCM members are all six Mekong countries as part of Chinese power politics and as response to LMI and MRC.

In March 2019, the LMC trade amounted to over USD 260 billion in three years highlighting China's role in the five countries' economies.

Environmental activism in Thailand, Vietnam and Cambodia is on the rise and demonstrations and protests have become more common while state measures taken against protesters have become stricter.

The Mekong area states try to simultaneously balance promoting cordial relations with China with advocating for their own influence in light of worsening public opinion towards China in countries and communities in the Mekong which suffer the most from the consequences of dam and infrastructure constructions.

Vietnam has been the most vocal in publicly objecting to new dam projects.

group includes Cambodia, Laos, Myanmar, Vietnam, United States, Australia, the EU, Japan, New Zealand and South Korea, the Asian Development Bank (ADB) and the World Bank in addition to the LMI countries. The FLM works through traditional donor cooperation dialogue but it also hosts an Annual Policy Dialogue on unconventional security issues²³³.

China announced its own Lancang-Mekong Cooperation Mechanism (LCM) in 2015. LCM members are all six Mekong countries. The formation of a new cooperation mechanism can be seen as part of Chinese power politics and a response to LMI and MRC. In addition, with the announcement of the Belt and Road initiative, China has been aiming to deepen cooperation in all neighbouring areas. Unlike MRC and ADB-led economic cooperation, LCM can potentially have cooperation on wider range of topics such as security and cultural cooperation²³⁴.

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The cooperation mechanism relies on political consultations and uses a project-based approach. Lancang-Mekong Cooperation Mechanism has been active since its launch and it might become the most important regional governing mechanism in the area. The first Leaders' meeting was organized in March 2016 and the second Foreign Ministers' meeting took place in December 2017. In March 2017, the LMC established its own secretariat in Beijing²³⁶.

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On an official level, Vietnam has been the most vocal in publicly objecting to new dam projects²³⁷. By some accounts, the situation in the Mekong area has even been compared as the next 'South China Sea'.

In 2017, China announced its plans to blast parts of the Mekong river to allow 500-ton trade boats to pass. The enlargement of the river also allows China to militarize the Mekong river, granting Chinese security guard boats to protect the cargo ships²³⁸.

²³³ <http://www.lowermekong.org/partner/background-and-approach>

²³⁴ https://www.rsis.edu.sg/wp-content/uploads/2016/02/PR160225_China-Seeks-to-Improve-Mekong.pdf

²³⁵ <https://theaseanpost.com/article/lancang-mekong-cooperation-blessing-or-curse>

²³⁶ http://www.fmprc.gov.cn/mfa_eng/zxxx_662805/t1349239.html & http://www.fmprc.gov.cn/mfa_eng/zxxx_662805/t1427021.html

²³⁷ <https://dailybrief.oxan.com/Analysis/DB220880>

²³⁸ <https://www.voanews.com/east-asia/chinese-initiatives-threaten-mekong-river>

11 Map



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