Water Security in the Mekong River and Regional Stability in Southeast Asia

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ABSTRAK

Salah satu isu utama dalam hubungan internasional saat ini adalah tentang keamanan sumber daya alam. Air kini semakin dipandang sebagai salah satu sumber strategis yang harus diamankan. Dalam konteks ini, keamanan air dan hubungan internasional seringkali saling terkait. Ini bisa mengarah pada kerja sama antarnegara dan bahkan konflik. Makalah ini membahas pentingnya pengelolaan air di sungai Mekong. Sungai ini mengalir dari China, ke Myanmar, Thailand, Laos, Kamboja dan berakhir di Vietnam. Sungai Mekong juga merupakan salah satu sungai terbesar dan sumber daya alam. Makalah ini berpendapat bahwa pengelolaan keamanan air di Sungai Mekong tidak hanya penting untuk negara-negara di atas, tetapi juga memainkan peran yang sangat penting dalam stabilitas regional di Asia Tenggara.

Kata Kunci: *keamananan sumber daya alam, keamanan air, keamanan lingkungan, menejemen air, stabilitas kawasan.*

Abstract

One of the main issues in international relations today is about the security of (natural) resources. Water is now increasingly viewed as one of strategic resource that has to be secured. In this context, water security and international relations are often intertwined. It can lead to either interstate cooperation and even conflict. This paper discusses the importance of water management in the Mekong river. This river flows from China, to Myanmar, Thailand, Laos, Cambodia and ends in Vietnam. Mekong river is also one of the world's greatest and resource rivers. This paper argues that the water security management in the Mekong River is not only crucial for the above countries but it is also playing a very significant role in the regional stability in Southeast Asia.

Keywords: the security of resources, water security, environmental security, water management, regional stability.

Introduction

Nowadays, international relations have changed so significantly in terms of issues, actors, and processes. One of the main issues in our world today is the changing of security environment which is not only dominated by traditional issues, but also non-traditional issues, such social and environmental problems. This new situation led to crucial change in the concept of security from security through military power to sustainable development and human security.

One of the main non-traditional issues in environmental security today is about the security of (natural) resources. Water is now increasingly viewed as one of strategic resource that has to be secured. In this context, water security and international relations are often intertwined. It can lead to either interstate cooperation or even conflict.[1] This article tries to look at the importance of water security by discussing the water management in Mekong river as a case study in international relations. This article argues that the failure of water management in one of the world's greatest river will lead to severe pattern of enmity and even conflict in Southeast Asia.

As Bary Buzan[2] argued in his book, the environmental problem is part of non-traditional security issue which will lead to the environmental security problem not only for individuals but also for nation-states, regions and global level. Barry Buzan et al (1998) further argued that the environmental security problem is also pertinent to other sectors, such as: "*disruption of ecosystems, energy problems, population problems, food problems, economic problems and even lead to civil strife"*. Based on those conceptual arguments, this article follows the logic of security dimension of environmental aspect in international relations today. To put it another way, water security which is part of environmental dimension of security can have serious destabilizing impacts to regional and international security.

Mekong River, the mother of river at East-Southeast Asia has generated around 4000km long human history flowing from China, to Myanmar, Thailand, Laos, Cambodia and ends in Vietnam. This river has become source of life in the basin as it provides water and protein, as well as resource for staple food and economic growth for nearly 70m people living on its basin[3]. This river has long history of agriculture irrigation which contributes to 50% of the populations' profession, 60% of the region's staple diet as well as exported globally accounts for 20% of world's rice production. Agriculture irrigation has in fact responsible to 70% of the water use on the lower basin of Mekong River.[4] Blessed with water abundance, biodiversity and rich minerals, the river has known for its richest aquaculture too which provided protein for the region and its fishery alone has generated US$17bn annual value.[5]

[1] Cook, Christina, Bakker, Karen (2012). *Water Security: Debating an Emerging Paradigm*. In Global Environmental Change. Vol.22, pp.94-102.
[2] Buzan, Bary, Waever, Ole, de Wilde, Jaap (1998).Security : A New Framework for Analysis. Colodardo: Lynne Rieener, p.71-75.
[3] Việt, T. (2013, March 28). *The Lower Mekong Dams Factsheet Text*
[4] The Economist Intelligence Unit. (2017). *Water security threats demand new collaborations*
[5] The Economist Intelligence Unit. (2017). *Water security threats demand new collaborations*

Half-length of the upper river is within China's territory and the water originated from Tibetan Plateau flowing to the delta to meet South China Sea. Anything happened on the upstream will definitely bring impact to the downstream as the upper basin holds the major power and less power to the lower stream – Power to influence ecologically and politically. Yet, ass the only ruler on the upper basin of Mekong River, China has unilaterally decided to extensively dam the mainstream to tackle the issue of water scarcity due to its population boom and robust industrialization which also causes the anxiety of pollutant issue[6]. Since 1993, Seven dams have been built completely and 20 more is under construction, but this ambitious hydropower and water keeping projects would harm the regional stability to the lower basin where the river shared with 5 countries in Southeast Asia.[7]

Mekong Water Quandary

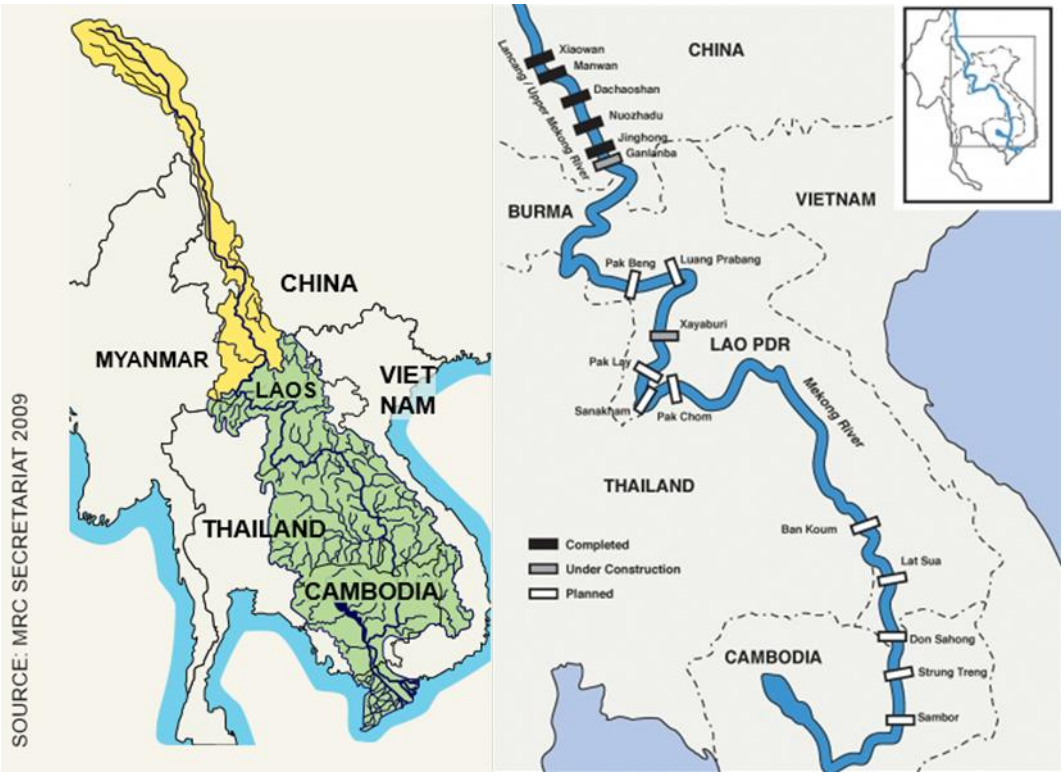

Figure 1: Mapping of Mekong River (Việt, 2013)

At the downstream, flow has changed and collaterally impacting may ecological aspect of the river making the lower basin countries suffer the cost incrementally. Yet the downstream quandary began in 2011 since lower China for ambitious hydroelectricity dams project has been followed by Laos who was strongly convinced by China to become "the battery of Mekong Basin Region"[8]. Laos dam construction with plant capacity of 1,285 megawatt has been proposed

[6] Rechtschaffen, D. (2017, May 3). *China's Huge Dam Projets Will Threaten Southeast Asia As Water Scarcity Builds Downstream*
[7] Brown, D. (2016, October 6). *Vietnam sweats bullets as China and Laos dam the Mekong*
[8] Vidal, J. (2017). *Mekong: A River Rising*.

an immediate start in Xayaburi. The seduction of economic growth and development has shifted the state's outlook towards the modern industry and energy as the export commodity, as if ignoring that the region is chained to the rice and fish from the river they share.

Mekong River Commission (MRC) which established in 1995 to facilitate the cooperation of equitable use of water and water security research among the Vietnam, Laos, Thailand and Cambodia, has neglected in anticipating this first ever dam which has objected the MRC consensus to make 10 years of environmental observation time[9]. The unbinding characteristic of MRC has put its role of coordinating the water security management in question as the first failure has led to more dam proposals at the following year. Approximately 9 dams on the mainstream and hundreds of dams on the tributaries by Laos alone have been proposed to be built on the following year and by 2016[10]. As 7 mainstream dams have been operating the lower stream countries have come to environment and economical unrest. So, how the water security management in Mekong river affects regional stability in Southeast Asia? This article would provide the analysis of the water security management in Mekong river with highlight to the identification of the risk towards the regional stability as there is a pattern of "donator and donation receiver" in this case. Last but not least the rational recommendation for the policy makers would be inserted with hope that it was not too late to cure this mismanagement and prevent potential conflict upon this vulnerable water body.

The Water Mismanagement and Its Implication towards the Regional Stability

The shared river has brought the riparian states' dependency to the water, food and energy in intertwining risk. Each state aware that they are exposed by climate change vulnerability triggered by others in the role of "the donator" and the "donation receiver". Yet, there is lack of interconnectivity among them to address this interconnected issue in collective commitment that would lead to instability in the entire region as they share reliance on the river and face the threats interchangeably. Meanwhile, climate change has hampered the region just as the UN scientists forecasted which signed by more frequent extreme weathers, drier droughts, heavier rain falls, wider flooding, much increased temperature, and higher raise of sea water level at the delta that changed the ecology on the river[11]. The cost caused by the flood is estimated to around USD 60 – 80 million while the cost of drought could reach more than that and dreadful risk is likely to occur due to extreme seasonal change which causes prolong drought.[12] This climate change is believed to be worsened by the existence of the dams which continuously change the river flow from the upstream and thus distracted the natural water drainage and flooding, changed the water temperatures, blocked the stream, fish migration and sediments flow,

[9] Brown, D. (2016, October 6). *Vietnam sweats bullets as China and Laos dam the Mekong*
[10] The Economist Intelligence Unit. (2017). *Water security threats demand new collaborations*
[11] Vidal, J. (2017). *Mekong: A River Rising*.
[12] The Economist Intelligence Unit. (2017). *Water security threats demand new collaborations*

decreased water volume and delivered least water to the lowest stream which causes erosion and saline intrusion at the delta.[13]

In Laos's perspective, climate change is also the factor of why dam building is important. Laos is a poor country with least electricity and 25% of its population suffers clean water scarcity. Building dams is overseen as the only solutions to improve the country's condition as it will stem the water and provide clean energy that will foster the industry with minimum gas emission. Laos has been strongly convinced by China and Thailand as the major sponsor of the dam projects that it will become the attraction for the energy-craving countries to import the energy from Laos and generate billions of dollars every year. In fact, Laos sells all of its energy to Thailand in cheap price due to the investment meanwhile for the domestic energy supply Laos uses transmission network of Thailand to supply electricity to partial rural areas otherwise its people must use biomass energy sourcing from wood which further deforestation. Other impact of Laos dams is displacement that impoverish the population as they could not farm or fish on the resettlement land for daily consumption nor for additional income.

Industrial power demand has encouraged Thailand to increase investment to Laos dam project. Yet the project has also brought dilemma to Northeast Thailand as it accounts for 85% of Mekong basin in the country and 80% of its population cultivates rice[14]. This area gradually needs extended amount of water for irrigation meanwhile the dams on the upper stream has reduced the water supply during dry season. Thus, it has started to divert the water from Mekong into tunnels with approximately 4million m^3 per year and higher extraction during dry season[15]. Furthermore, Thailand developments has worsened the river banks ecology as sands and are mined and causes less sediment to be delivered to the delta.

In Cambodia, the economic activities have relied totally to the Mekong river for fishery, agriculture, construction, mining and industry expansion as 86% of the territory is surrounded by the Mekong Basin[16]. At other hand Cambodia has protested Laos damming decision, but ironically it has planned to reengineer the country to divert and also to dam Mekong at defense to the decreased water volume caused by the upstream countries. 40 dams will be built on Mekong mainstream and its tributaries to electrify Pnom Penh, threatening around 100 villages to be flooded[17]. Water gate has been built to release water from Mekong tributary to reservoir on dry season and prevent it to release back to Mekong mainstream. Meanwhile the industry expansion in Cambodia such as textile and garments has stressed the water quality flowing downstream.

[13] Vidal, J. (2017). *Mekong: A River Rising*.
[14] WWF. (2016, November). *The Role of Mekong River in the Economy*
[15] Anh, N. (2016, June 8). *The water conflict on the Mekong*
[16] WWF. (2016, November). *The Role of Mekong River in the Economy*
[17] Vidal, J. (2017). *Mekong: A River Rising*.

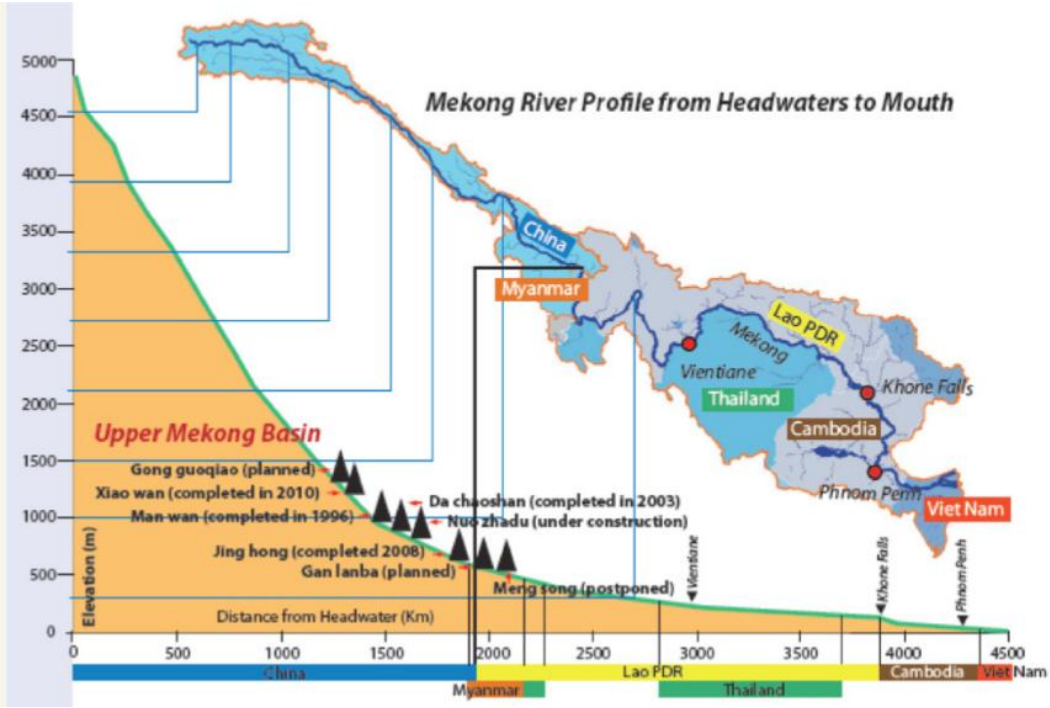

Figure 2: Mekong Water Profile and How It Shows Least Water to Vietnam (WWF, Mekong River in the Economy, 2016)

Riparian states have unilaterally undergone any effort to solve climate change effect, but sadly at the expense of others even though they were fully aware about this. The region fragmented management of the water for economic and development has jeopardized the condition of the river ecology. As developing and poor countries, their national interests dismiss concern outside their border as each of them struggles for survival and development for their own. That means, the Mekong Delta which located at the lowest part of Vietnam would receive least water as the upper stream countries divert and keep the water. Vietnam aware that the upper stream countries have contributed to the climate change complication happened on its delta. Vietnam's delta is the evidence of the damming and climate change complication as for the past 30 years, water flow in Mekong has reduced by 15% and sediments that holds the delta together has depleted by 50%, thus the delta would incrementally abrade and sank to the sea.[18]

[18] Vidal, J. (2017). *Mekong: A River Rising*.

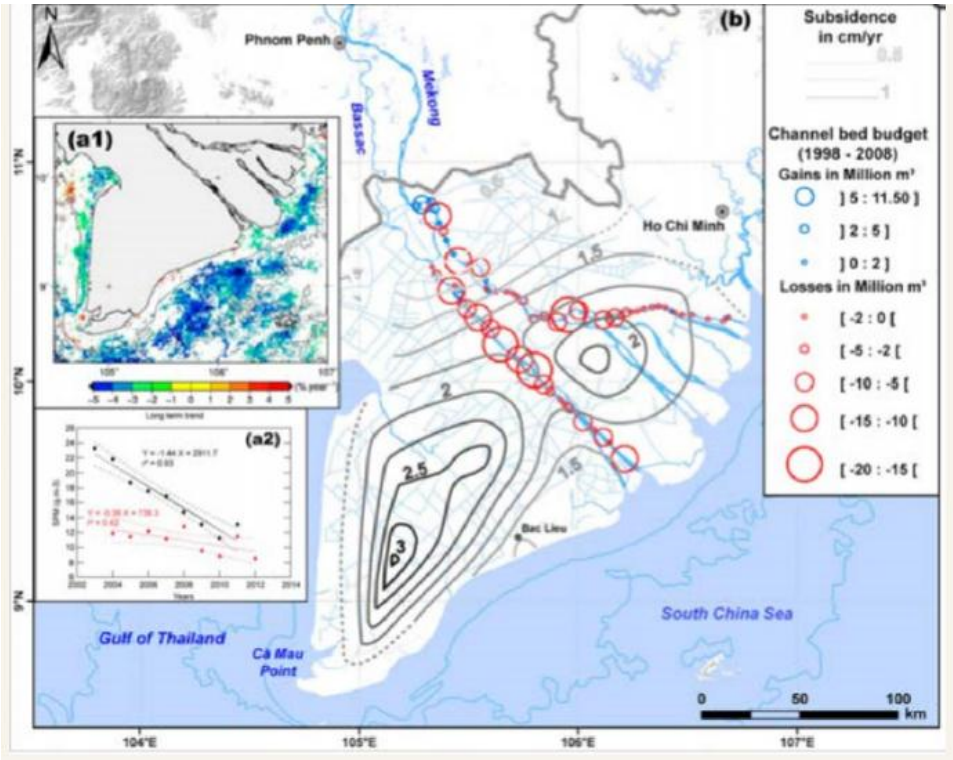

Figure 3: *Teresterial Loss in Vietnam Mekong Delta* (WWF, Mekong River in the Economy, 2016)

In 2016 Vietnam delta affected by the worst drought in a century meanwhile the area contributes to a quarter of the country's GDP by the agriculture and fishery[19]. Roughly 140.000 hectares has gone bone dry with saline contamination due to rising sea level, which in 50 years the salt water intrusion is predicted to continue and the sea level would rise for 50cm swallowing the delta[20]. With this condition, the rice production in Vietnam's Mekong Delta hampered by 50% as the corpse spoiled. The implication of this situation has suffered the national economic growth of Vietnam by 5.7% as the drought has affected the rice export capacity which relies 90% on rice agriculture[21]. The more immediate impact of this condition is directly felt by the delta residence as they desperately collecting potable water for basic needs and causes them to flee the delta areas. However, the northern Vietnam which holds the governance center has also been influenced by China who convinced to buy the exported hydroelectric power from Laos to promote industrialization instead of protesting it for the water security of the delta[22].

Now the water insecurity caused by unilateral multipurpose water use that intertwined with climate change and cascading to the lower stream countries. According to a Hydro-geologist Marc Goichot[23]:

[19] Daiss, T. (2016, May 25). *Why Vietnam Is Running Dry, Worst Drought In Nearly 100 Years*
[20] Vidal, J. (2017). *Mekong: A River Rising*.
[21] Fawthrop, T. (2016, November 28). *Killing the Mekong, Dam by Dam*
[22] Fawthrop, T. (2016, November 28). *Killing the Mekong, Dam by Dam*
[23] Vidal, J. (2017). *Mekong: A River Rising*.

"Climate change will come, no doubt about it. It will hit hard, very hard. But the flow of the Mekong is already changing. The result is the delta is shrinking and sinking. If all the dams are built it will be like someone sawing off the branch on which he is sitting. The dams in Laos and Cambodia will have a catastrophic effect. Never have I seen a delta move from stability to this level of stress in so short a time."

Enough with Fragmented Management of Mekong River

The climate and flow changes on Mekong will keep worsening due human activity but the damming and diverting will accelerate its risk in short period. Indeed, the upper stream countries have got the pressure, but without any effort to react together, conflict upon this water is not too far in the future. Vietnam currently only scream to open the water gate from China and for now it still be listened, but China also faces water scarcity for its explosive population. While Cambodia could only grump about current damming, but Cambodia itself and Laos keep damming despite its own people against it and social unrest could be violent if villages keep being flooded. Therefore, the severity of the risk should be measured to be understood that the risk could not be tackled unilaterally anymore.

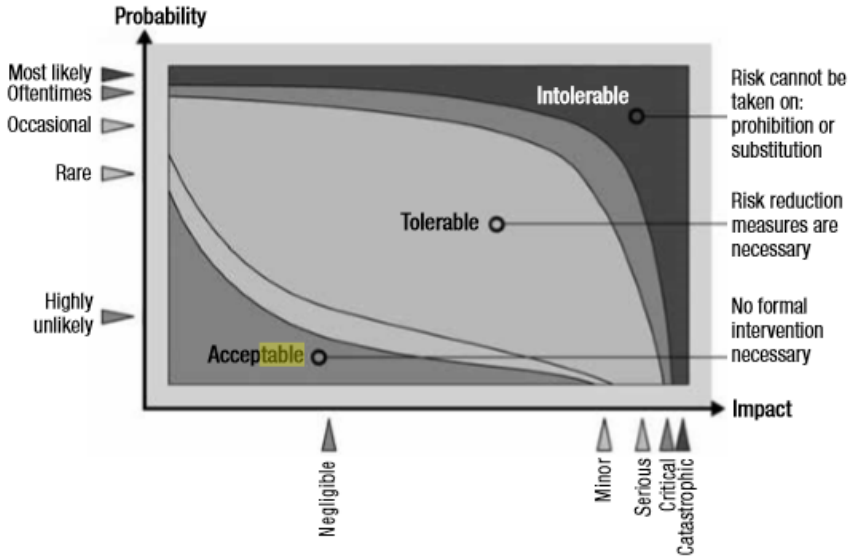

Figure 4: Severity of Risk (Arriens & Eelco, 2014)

By mapping the probability and the impact of the risk we could measure the severity of the risk and how riparian states should reassess the countermeasure to this interchangeable issue and create balance between water, food, and energy consumption. Mekong Basin Region will be one of the regions with highest vulnerability towards climate change and yet the most severe risk that might happen is the higher level of sea intrusion to the delta. In 2050 the sea level is most likely to swallow the basin for half a meter, the catastrophic impact is that if two meters is reached, half of the delta will be devoured and

75% of the population must be displaced[24]. The delta must pay the cost of development and water consumption of the upriver countries as they will slide and sink the most populated and productive area in the Mekong Basin Region which accounts for 20% of the world's rice production which is intolerable[25].

Therefore, prohibition or substitution must be taken in order to counter the intolerable risk. Given that hydropower has become the major economic booster for Laos with estimated value of USD4.6bn in a year, but the ecological cost it possesses towards the region is estimated to reach USD274bn in 20 years.[26] Instead, Laos could get the same amount of profit with less damage to the river basin by having national electivity grid that would allow it to transfer energy without needing to build more dams, according to Richard Cronin from Stimson Center.[27] Instead of focusing in hydropower, the MRB countries must change their perspective towards sustainable energy for economic development which could include solar and wind energy source which could be utilized and distributed by having electricity grid as they are running out of water. Also, the existing hydropower dams should be equipped with fish-lifts technology to bypass and switchback fish traffic on the river.

Meanwhile for Vietnam and Thailand, water scarcity on agriculture should be balanced by alternating wetting and drying irrigation system which would allow the field to drain for days before re-watering. Level field and good pumping system is needed to control the irrigation flow, with investment in this system, the farmers can reduce the water and energy use to farm rice but the crops could survive even under worse drought [28]. For rain-dependent irrigation system such as in Cambodia and Laos, the farmers must alternate and vary the crops cultivation to adapt the seasonal change.

More importantly the regional ecologies must be respected as the riparian states must have the awareness that the Mekong River Region is an entity that needs to be secured in collective manner that highlights equity[29]. A balance between right and responsibility in utilizing the river's resources for agriculture, urbanization or industrialization and hydropower must be achieved in one vision in equitable benefit sharing[30]. Therefore, countries must consider any project's impact towards systemic ecology, impacts on different economic sectors and its impact outside own border. Regional strategy is needed to keep the water on the upriver while at the same time ensuring the water flow downstream to sustain the delta.

The role of MRC should be supported as it provides important and research to help the member countries in adapting with the climate change and mitigating its collateral hazards as well as coordinating multilateral and bilateral collaboration. A Procedure to create collective decision as well as mediation should regard the research provided by the MRC and then be implied at the national level in hand with UN Mekong Committee to create transparency in

[24] Vidal, J. (2017). *Mekong: A River Rising*.
[25] WWF. (2016, November). *Mekong River In The Economy*
[26] The Economist Intelligence Unit. (2017). *Water security threats demand new collaborations*
[27] The Economist Intelligence Unit. (2017). *Water security threats demand new collaborations*
[28] The Economist Intelligence Unit. (2017). *Water security threats demand new collaborations*
[29] WWF. (2016, November). *The Role of Mekong River in the Economy*
[30] Arriens, W. L., & Eelco, B. v. (2014). *Water Security: Putting the Concept into Practice*

progress. Yet participation of China is also important as half of the upper Mekong management would affect the lower basin, thus MRC could pose as framework for dialogue on Mekong water and resource management as well as to bridge multilateral and bilateral cooperation[31]. Not limited to that, it is the time for other non-government actors to be involved in order to solidify the cooperation and research in order to imply the best practice in at all aspect of the water use and its economic impact in the region as well as to aid the projects in infrastructure, technological transfer, and CSR from private sectors.

Conclusion

As has been argued in this paper, the dynamic changing of international relations has given new perspective that security may not be seen any longer from the traditional dimension only. The issue of water security which is part of the issue of environmental dimension of security is now getting more crucial to be taken into account in international relations today. Even for the future, the security of water resources will be very urgent to be managed in more effective ways so that it will not give any negative effect on interstate relations both in the regional and global level.

Water security management in the Mekong river is very important not only for economic values but it also play a very strategic role in managing regional stability in Southeast Asia. The failure to effectively manage the water system in the Mekong River may lead to a very crucial situation in inter-state relations in the region.

The genuine political willingness from the shared countries in the Mekong river to have collaboration is the strategic key for maintaining the relations among states that share a trans-boundary river basin which may also lead to further strengthen the healthy multi-level relations in Southeast Asia.

[31] The Economist Intelligence Unit. (2017). *Water security threats demand new collaborations*

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