Title: Fisheries Conflicts: Tonle Sap

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Tonle Sap otherwise known as the Great Lake, a massive water body spanning across six provinces in northwestern Cambodia, is a place of both prosperities and conflicts. The surface of the Lake is measured at 250 kilometers long and 100 kilometers wide covering about 6 per cent of the country (De Lopez, 2002). The Lake, as De Lopez stated, is constituted by a network of highly diverse fish species, a mixture of fish habitats, enormous seasonal fluctuations in river flows, and yet various conflicts over fishing rights. The current arrangement, formalized in 1988, divided the Lake into three different zones ranging from large-scale industrial fishing (known in Cambodia as "the fishing lots") auctioned off by the state to private lot owners on a two-year contract, middle-scale commercial fishing available through the purchasing of licenses from local authorities, and small-scale subsistence fishing allocated to the poor fishing communities surrounding the Lake (Ahmed, Touch, & Nao, 1996). The government's intention for the commercialization of fishing grounds at the Great Lake is mainly to collect revenues from the fisheries sector and to tap into any potential source of domestic revenues in a country ravaged by decades of violent civil wars and social institutional disruptions (van Acker, 2003). In addition, since January 1999, the government decided to classify all Tonle Sap fishing lots as research lots with an attempt to promote state-sponsored research on fish conservation and sustainable fishing practices (Touk, 2005).

However, since then numerous conflicts among the fishing lot owners and subsistent fishermen were regularly reported in the media. For example, while the lot owners made countless complains to the local authorities reporting that their allocated lots were illegally poached by the local fishermen, there had also been several incidents that villagers were physically injured or shot to death by the fishing lot guards claiming that the fishermen were illegally trespassing and poaching in private property (Degen, Acker, Zalinge, Nao, & Ly, 2000). In response to those instances, several groups of fishermen peacefully protested in front of the National Assembly trying to raise the awareness that their livelihoods were infringed. Also, a number of meetings between

fishers, villagers, Non Governmental Organizations and high level authorities such as ministers and secretaries of state were held in various provinces to solve the conflicts (Degen et al., 2000). Unfortunately, the situation got worse and was speculated to be out of control, and thus in mid 1999 six months after the introduction of research lots, the Prime Minister decided to issue a proclamation on the anarchy in fisheries. This manifesto addresses the need for collaboration among authorities to eliminate illegal fishing practices, intimidating that soldiers are heavily involved in detrimental fishing practices (Royal Government of Cambodia, 1999).

Environmental conflicts, such as those at the Great Lake, according to Redcliff (2000) are often addressed and analyzed through different, and frequently competing, conceptual frameworks leading to a number of apparently irresolvable contradictions in their explanations. Therefore, this essay primarily attempts to examine how political and apolitical ecologists alike would analyze this scenario based on the different conceptual tools they employ. The essay proceeds in three steps. While the first section explores apolitical ecologists' theoretical tools such as irrational resistance from poor farmers along with ecoscarcity and the limits to growth narrative to explain the situation, the second part of the paper refers to political ecologists' accounts of the common property rights and the imbalances of power relations as the culprits of these conflicts. In both sections, the paper also notes the supporting evidences that both political and apolitical ecologists might need in order to illustrate their points. As part of the conclusion, the third section will then look at some of the implications and/or recommendations suggested by these two competing schools of thought in order to solve these conflicts.

To begin, Robbins (2004) argued that one of the apolitical ecologists' prominent approaches or tools to explain environmental issues is the ecoscarcity and limits to growth narrative both of which have an entrenched root in Malthus' population argument. The fundamental idea of Malthusian population narrative states that crises or conflicts inevitably emerge when human populations grow out of proportion to the capacity of the environmental system that supports them (Binningsbø, de Soysa, & Gleditsch, 2007; Homer-Dixon, 1995). There are in fact some convincing evidences for apolitical ecologists to apply this concept to the fisheries conflicts at the Lake. For

example, conflicts are predictable when the population of the six provinces surrounding the Lake are increasing at the rate of approximately 3 per cent annually (National Institute of Statistics, 2008b), while the fish populations in the Lake are drastically decreasing either because of internal and external causes (Ministry of Agriculture Forestry and Fisheries, 2008). Regarding the external cause of the fisheries decline, it is argued that it is the booming large dam constructions on the upstream Mekong River by the Chinese government that was the main culprit of the decline (Vuthy, Dara, & Degen, 2000). Geographically, the Great Lake's fisheries are extremely vulnerable to both upstream and downstream water management structures because the fish populations at the Lake are mutually connected to the migratory fish from as far upstream as Yunnan province in China and many tributary rivers along the way (Dennis & Woodsworth, 1992). However, Degen et al. (2000) claimed that the significant decline is because of the illegal fishing practices at the Lake such as the use of electrocution, poisoning or mosquito nets by both the fishing lot owners and subsistent fishermen. In short, both the decreasing number of fish in the Lake and the booming of human populations neighboring the Lake would serve as a solid foundation for apolitical ecologists to validate Malthusian argument.

Robbins (2004) also suggested that the second most common apolitical ecological approach to account for environmental conflicts is fundamentally based on the assumption that the conflicts are caused by the irrational resistance from the poor and often uneducated farmers who fail to understand the long-terms benefits of economic development. That is according to Sandford (1996), although economic modernization or development would result in some repercussions that might lead to unavoidable environmental conflicts, in the long run the process is believed to be constructive for the environmental conservation of the resource as it helps prevent the tragedy of the commons. As cited in Wantrup and Bishop (1975), Hardin's theory of the tragedy of the common held that unless the commons are privatized or directly controlled by the government, it would lead to socio-environmental ills including but not limited to depletion, pollution, poverty, and conflicts. Based on this assumption, apolitical ecologists would argue that the government's decision to commercialize the Great Lake's fishing grounds is truly one of the most strategic shifts toward the

economic development of the country after the destructive Khmer Rouge regime with the attempts to conserve the diverse fish species in the Lake from the tragedy of the common. Furthermore, in order to advocate for this hypothesis, apolitical ecologists could simply argue that the conflicts are predictable as the local fishermen failed to understand and participate in the state economic development projects backed up by the fact that more than 70 per cent of the population living in the fishing communities involved in the conflicts did not complete their primary education and more than 50 per cent of them did not even go to schools (National Institute of Statistics, 2008a).

On the other hand, to study this scenario through the lens of political ecology of fishery management, some of the issues such as the marginalization of the fishing communities' livelihoods through the enclosure of the previously held common fishing grounds (Robbins, 2004), and the inequality of social power relations among the different stakeholders need to be examined (Bryant & Bailey, 1997). First of all, Robbins argued that commonly the poor communities are highly dependent on being able to maintain their access rights to the commons such as trees, fishes, or drinking water because these groups construct their identities and livelihoods based on those resources. Therefore, the anticipated outcomes from the loss of these access rights to the commons would either be the degradation of the resources as these groups are pushed into social situations that are ecologically and economically marginal leading to the increasing demands on the limited productivity of the ecosystem (Blaikie & Brookfield, 1987) or social movements that might begin with some sort of resistance to the new arrangements which potentially will lead to conflicts providing that the demands are not recognized (Scott, 1985).

Referring back to the case study, there are abundant factual information that political ecologists could utilize so as to authenticate this marginalization argument. Initially, the fishing communities were economically marginalized when the state decided to privatize the fishing grounds because the prices for the fishing licenses and the fishing lots are extremely unaffordable for the communities. For example, according to De Lopez (2002), smaller lots covering an area on the order of 20 km2 are leased for roughly US$2000 (approximately 8 million Riels), whereas the larger lots

encompassing 200 km2 are auctioned off for as high as US$200,000 (approximately 800 million Riels). This is absolutely expensive for any household in the communities to be able to afford the lots of any size since the annual income of the household is less than US$150 (Varis, Keskinen, & Sarkkula, 2002). The fishing communities' access rights to the fishing grounds at the Lake were further restricted when the lot owners illegally extended their allocated lot areas beyond the boundaries that were stated in the contracts (Sneddon, 2007). One of the first reactions from the fishing communities was that their livelihood, which is the rights to fish openly, was being infringed by the state and the lot owners because they are now required to buy the fishing license to be able to fish in some of the locations that they used to fish (Coates, Poulsen, & Viravong, 2003). Despite the communities' many non-violent protests at the provincial level and afterward the National Assembly to raise the awareness that their rights and their livelihoods were being violated, there were not much favorable responses from the government (Vuthy et al., 2000). Therefore, it is predictable that the communities would resort to committing some of the illegal activities that resulted in most of the existing conflicts, such as fishing in the zones that licenses are required and poaching inside the fishing lots, in order to sustain their livelihoods (Degen et al., 2000).

The second most dominant conceptual framework that political ecologists make use of in order to research into environmental issues is the power structures and power relations between different stakeholders (Bryant & Bailey, 1997). Hirsch and Warren (1998), for example, claimed that the underlying factors leading to environmental struggles basically include the questions of who have the control over the resources, often intimately connected with socio-economic and political identity at various levels. Those unequal relations between actors are among the key factors in understanding the patterns of human-environment interaction and the associated environmental problems such as crisis or conflicts (Bunker, 1985). In other words, it is about the control that one party has over the environment of another party that generates the conflicts. Theoretically, for example, Bryant and Bailey (1997) claimed that actors could exert control over the environment of another groups by determining or influencing the location of the sites at which the activity takes place. So in regards to the case study, the data that political ecologists might need in order to claim that the fundamental nature of

these fisheries conflicts at the Lake is primarily rooted in the imbalance of political power structures between the lot owners and the local fishing communities are practically present in all levels of interactions.

First of all, there is no surprise that the owners of the fishing lots normally belong to the elite segment of the country that has tremendous political influence over the state's decisions, and thus most of the government initiatives to supposedly conserve the fish diversity or habitats would normally resulted in the further restriction of the fishing communities to the fishing grounds (Sneddon, 2007). One of the most notorious examples of this influence was in 1999 when the state decided to classify all the fishing lots at the Lake as research lots which extended the contract agreement with lot owners from two to four years (Evans, 2002). These so-called research lots were ostensibly created to promote state-sponsored research on fish conservation and sustainable fishing practices, but in effect it allowed lot owners to expand their fishing areas and further restricted the access of subsistence fishers to previously available fishing grounds (Evans, 2002). In addition, the corruption among the authorities both at the local and national level have resulted in the situation that the politically well-connected individuals being granted license to fishing zones that are legitimately allocated to subsistent fishermen, and the absence of efficient law enforcement on the illegal use of fishing equipments by lot owners who possess immense vested economic interest in intensive fishing (Degen et al., 2000).

To sum up, the essay analyzed the fisheries conflicts at the Cambodian Great Lake through the conceptual tools of two different ecological research disciplines that are classified as political and apolitical ecology. Whereas apolitical ecological research based its analysis on conceptual tools such as Malthusian population narrative, ecoscarcity and limits to growth, the political ecological research depended on the analogy of common property rights and power relations to understand the scenario. The main point in this essay is to illustrate that should political ecologists or apolitical ecologists were to study the conflicts at the Lake, based on their different approaches to environmental problems, different issues would have been explored in order to find congruent evidences on which to base their theoretical conceptions. Nevertheless, based

on the above discussion, it seems to suggest that recommendations from these two schools of though would also be contradictory. That is because on the one hand apolitical ecologists' recommendations to solve these fisheries conflicts would include improving the educational level of the people in the fishing communities, controlling the use of illegal fishing technology. On the other, political ecologists would call for mitigating the corruption that enabled lots owners to extend their boundaries, strengthening the ideas of community fisheries that were introduced by the government but failed to realize its potentials because of corruption, and challenging the mechanism that responsible for the distribution of fishing lots and fishing licenses. Finally, it seems that even though the explanations on both sides are rather convincing based on the evidences that they utilized, I think applying political ecological explanations to these fisheries conflicts would be more promising than apolitical ecology in terms of challenging the power structure relations and the institutional arrangement which I believe is one of the major catalytic forces of the conflicts.

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