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## Article

# Tackling environmental crimes and biological threats across borders of the Greater Mekong Subregion

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# Tackling Environmental Crimes and Biological Threats Across Borders of the Greater Mekong Subregion

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**COLLECTION:**  
EXPLORING THE NEXUS  
BETWEEN HUMAN  
VULNERABILITIES  
AND ENVIRONMENTAL  
CRIME

**POLICY COMMENTARY**



## ABSTRACT

Wildlife trafficking and other commodities associated with environmental crimes traded across the borders of the Greater Mekong Subregion (GMS) carry direct or indirect risks for biological threats. Outbreaks associated with these threats can have devastating implications for human populations as well as for farmed or native animal and plant populations. Although the links between environmental crimes and biological threats are obvious, we see two disconnected responses which limits the ability to tackle both the crime and the risks of biological threats. On one hand, there are efforts to improve law enforcement prioritisation and capability to disrupt transnational organised crime. On the other hand, we see increasing resources channelled through a One Health framework that aim to improve early warning surveillance of emerging infectious disease with a focus on diseases that can affect livestock or zoonotic diseases that can affect human health. The COVID-19 pandemic has provided a unique opportunity to explore alternative strategies, particularly the need to expand the operational definition of One Health to usher in more joined up partnerships between security sector personnel and human and animal health personnel working along borders of the GMS. This policy commentary draws on a literature review and informal stakeholder discussions conducted in preparation for an ongoing formal research project. This commentary provides policy and program considerations for improving both the enforcement of environmental crimes and early warning biological threat surveillance, preparedness and response in the Greater Mekong Subregion.

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## INTRODUCTION

Given the suspected origins of COVID-19, the Association of Southeast Asian Nations (ASEAN) appealed to the international community to jointly tackle the trafficking and trade in illegal wildlife because of the dual threat of transnational organised crime and the potential of novel and emerging biological threats associated with the illegal wildlife trade. The Greater Mekong Subregion (GMS) which takes in countries lining the Mekong River Basin including Myanmar, Thailand, Laos, Vietnam, Cambodia as well as the southern Chinese province (Luong 2020) of Yunnan, has been further described as the epicentre of the wildlife trade (ACET 2020; Luong 2020; Luong & Thomson 2022; van Uhm & Wong 2021). The most acute and obvious biological threat arising from the illegal wildlife trade is the risk of zoonotic pathogens transmitting into human populations such as COVID-19 or the risk of virus transmission across captured wildlife into pathogen naive populations of wild animals or livestock including risks of Avian Flu or African Swine Fever (Moorhouse et al. 2021; Zucca et al. 2020). In fact, the GMS has long experienced biological incidents with origins in the wild life trade including the Severe Acute Respiratory Syndrome (SARS) outbreak of 2003, the Human H5N1 Avian Influenza of 2004–2005 (with numerous outbreaks since) and the ongoing threat of African Swine Fever outbreak (Wang, Sun & Qiu, 2018).

Yet biological threats relating to environmental crimes do not need to be just zoonotic to impact the health, wellbeing and security of all species, including humans, particularly when they directly impact fragile ecosystems such as forests and rivers and the plants, animals and fish that depend on them (Daszak 2020; Mallaparty 2020; Masry et al. 2020). While wildlife and timber trafficking are prevalent and well documented environmental crimes with biological risks and exposures, there is an expanding suite of crimes that are indeed transnational. They also have significant implications for both the environment and biological threat risk in the GMS to include river sand mining, the informal movement of livestock or the opaque dealings, that result in the destruction of habitat under the guise of development.

Home to a diverse array of fauna and flora as well as a range of non-renewable resources which are buried in its lands or contained under its river basins (WWF 2018), few places on Earth show such a strong and intense pressure between humans and the ecosystems they depend on than the GMS. This dynamic system results in an untenable contradiction between development and environmental protection with heightened interaction between people and their surrounding environments. In the GMS, the implications for biological threats resulting from environmental crimes, increased development and the ongoing destruction of ecosystems and their biodiversity are very real.

Drawing on a review of the literature and stakeholder engagement conducted in preparation for an ongoing research project, this commentary has three aims: 1) provide a baseline snapshot of law enforcement and health sector responses to the dual threat of environmental crimes and biological threats across the GMS borders; 2) explore gaps in cross-sector and cross-border awareness and response to environmental crimes and their biological threat implications; and 3) propose an expanded operational definition of One Health that would provide opportunities to catalyse security sector and health sector partnerships and innovate national security making in the GMS. Ultimately, this commentary advocates for greater awareness, increased resources and attention to bring together security and health sector partnerships that would enhance the disruption of environmental crimes and improve early warning surveillance of biological threats.

## THE CONTEXT AND CHALLENGE OF BORDERLANDS IN THE GMS

Countless informal border crossings and formal cross border special economic zones scattered across the GMS facilitate the movement of people and commodities including commodities derived from environmental crimes and other illegal activities (Gomez et al. 2011). Both informal and formal border crossings are often located in geographies where the authority of the nation state may not reach nor have the capacity or interest to oversee a structured and legal trade of commodities. Well-networked border populations facilitate the cross-border trade of illicit commodities including narcotics, arms and commodities associated with environmental crimes and biological risks including trade in wildlife and forest products (Luong 2021; Luong 2022).

## THE NEXUS OF LAW, LAW ENFORCEMENT, ENVIRONMENTAL CRIMES AND BIOLOGICAL THREAT IN THE GMS

The increasing focus on the role of transnational organized crime in the illegal wildlife trade has resulted in the issue being increasingly tackled through a range of security measures, namely law enforcement. Often citing the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), interventions target enforcement capability through training national and regional security sector stakeholders around disruption of illegal trade and commitments to CITES. Despite significant and ongoing technical assistance, trainings and partnerships, wildlife trafficking is estimated to generate up to US\$26 billion per year supported by diverse, robust and complex supply chains (Choon 2021). Furthermore, despite wildlife trafficking being implicated in the emergence of COVID-19, recently reported global trends in seizures of wildlife trafficking suggest that COVID-19, while maybe slowing down the trade, certainly has not seen it eliminated or decreased significantly (EIA 2020). In the wake of COVID-19, China also moved to ban the consumption of wild meats and Vietnam banned the import and export of wildlife products in 2020 (Castriciones & Vijayan 2020), but we are yet to understand the long term impact of these interventions.

While protective legislation and regulations are in place in most GMS countries with ongoing monitoring commitments to CITES have been undertaken, law enforcement and broader governance conditions are also critical in determining the ultimate success and impact of legislation and regulation. In the GMS, a myriad of reports highlights that weak governance severely limits the effectiveness of measures to prevent and combat environmental crimes (Luong 2021). World Bank analyses between 1996 and 2019 show that countries in the GMS rate consistently poorly with respect to measures regarding the rule of law, effective governance, freedom of expression, transparent accountability, regulatory quality, political stability, and the control of corruption (Luong & Thomson 2022). Cambodia, Laos, and Myanmar had some of the lowest rankings across corruption, effective governance and rule of law which reflects the inherent challenge to control environmental crimes (Luong & Thomson 2022).

Although all GMS countries recognize that wildlife and timber trafficking threaten their regional biodiversity and national ecosystems, there was no clearly established comprehensive framework to prevent and combat it until the mid-2010s. It was only in 2015 that the ASEAN Senior Officials Meeting on Transnational Crime (SOMTC) formally recognized wild life and forest crime as one of their highest concerns in the political-security agenda and added the agenda item into the annual law enforcement agency (LEA)'s meeting via ASEAN Ministerial Meeting on Transnational Crimes (AMMTC) in 2016 (UNODC 2015a).

Since the later years of the 2000s, several GMS countries have taken measures to improve forest law enforcement and governance (FLEG), largely focused on reducing high levels of illegal logging and trans-boundary timber trade in the region (PROFOR 2009a; PROFOR 2009b). Information regarding either the short term or long-term effectiveness of these efforts cannot be verified. Although efforts to improve forestry sector law enforcement are much-needed, enforcement initiatives can backfire if implemented without the necessary and high-level intra-ministerial engagement (PROFOR 2011). In Laos for example, logging companies reportedly circumvent logging bans regularly without repercussion by paying or otherwise influencing forest populations with the police and even prosecutors actively or passively assisting the process (EIA 2011). In the context of countering the trade in illegal timber, Laos, Cambodia, and Thailand placed timber export bans while Myanmar and Vietnam have limited their bans to raw log exports (Costenbader et al. 2015). Yet, in Thailand and Vietnam, bans have resulted in a significantly increased illegal timber sector that has increased deforestation and degradation across GMS country borders.

Such bans can also promote a boom in secondary value-added domestic wood industries which can further drive-up regional demand for timber and increase illegal timber trafficking from neighbours with weak forest enforcement such as Cambodia, Laos, and Myanmar (Reboredo 2013; WWF 2018). Consequently, increased enforcement of existing forest law can

result in illegal timber practices becoming more covert and sophisticated, although equally or more destructive. This is especially true in GMS countries where government officials, law enforcement agencies and possibly even the judiciary are involved either directly or passively in illegal logging (Tacconi 2007a; Tacconi 2007b).

All countries in the region have already established various departments within their LEAs with specific mandates and procedures to explore, prevent and combat wildlife and timber trafficking including police, border guard, customs, ranger, and coast guard (ACET 2020; Luong 2021; Xiangzhang 2019). Yet many law enforcement officers, who were part of stakeholder discussions, suggested the investment in environmental crime units at national and local levels in many countries across the region remains underwhelming and potentially indicates that it is still not considered a high priority.

## CROSS-BORDER LAW ENFORCEMENT INTERVENTIONS

To improve measures towards effective border control, GMS countries signed a Memorandum of Understanding (MOU) in 1993 with the main priority to contain the threat of illicit drug production, trafficking and use (UNODC 2010). Under this MOU and with technical support from UNODC, a cross border model – the border liaison office (BLO) – was developed to encourage LEAs of two cross-border countries to deploy their capacities to collaborate in fighting transnational crimes, mostly narcotics trafficking. By 2020 over 100 BLOs have been established with support from UNODC including 21 BLOs in Vietnam that cross three shared borderlands with Cambodia, China, and Laos (Nguyen 2021). There have been only limited attempts within the BLO mechanism to incorporate cross-border responses to illegal wildlife and timber trafficking.

Beginning in 2002, the UNODC introduced Computer Based Training (CBT) to BLOs in the Mekong region to provide them with the skills needed to deal with modern trafficking techniques and thus improve upon the effectiveness of law enforcement in response to the trafficking of illegal drugs. This training was upgraded to include components on responding to wildlife and timber trafficking in 2010. Also in 2010, a new UNODC project for the GMS emerged, Partnership Against Transnational Crime through Regional Organized Law Enforcement (PATROL), which essentially expanded the remit of the BLOs to include all illicit trafficking and smuggling, including commodities related to environmental crimes. However, a survey conducted at the end of the first phase of PATROL in 2014, indicated ongoing intelligence gaps in responding to flows of illegal wildlife and timber (UNODC 2015b). The BLO mechanism continues to prioritise combating of narcotics as the central focus of collaboration among LEAs in the region rather albeit with ongoing efforts to expand the focus to counter other illegal commodities including wildlife.

In March 2021 a Centre for the Investigation of Transnational Environmental Crimes (CITEC) was established within the Natural Resources and Environmental Crime Suppression Division of the Royal Thai Police with support from UNODC and the European Union Delegation to Thailand. CITEC was established to provide a tangible operating infrastructure that could support the Royal Thai Police in their regional leadership role on tackling wildlife and illegal timber trafficking under ASEAN's SOMTC platform. It might also provide an impetus and a location in which to address the ongoing lack of interaction between disease surveillance and law enforcement by potentially seeking to house disease surveillance experts within a specialised environmental crime operational unit (ACET 2020; UNODC 2021).

## BIOLOGICAL THREAT SURVEILLANCE

In response to the emergence of COVID-19, there has been a predictable rush to invest in new technologies and capacity building efforts to improve early warning biological surveillance systems across the Asia region. Yet the idea of early warning surveillance systems is not new in the GMS as evidenced for example by the existence of a rudimentary, yet highly successful, early warning system to detect Dengue Haemorrhagic Fever in Yangon in 1992 (Maung et al. 1992). In addition, the well documented Mekong Disease Surveillance Network was established in 2001 to support cross-border disease surveillance among countries in the GMS (Phommasack et al. 2013), yet remains constantly under resourced (Moore et al. 2012).

Furthermore, there has been significant discourse and development of early warning systems in Asia spanning a range of issues including biological threats, climate change, tsunamis, floods and other natural or manmade disasters (Plate & Insisiengmay 2005). Efforts to build cross border capacity to improve the early identification of an emerging threat remains somewhat siloed, disease focused, and despite some regional improvements, they are also beholden to national interests and capacities which are often far removed from local cross border locations where emerging biological threats are likely to be occurring.

## THE UNDERDEVELOPED LAW ENFORCEMENT AND PUBLIC HEALTH INTERFACE IN RESPONSE TO BIOLOGICAL THREATS IN THE GMS

Biological threat potential has not traditionally been the driver of law enforcement operations or capacity building efforts across the GMS in the context of countering environmental crimes. Nor has there been any real attempts to harmonise public health and law enforcement efforts in responding to biological threats from environmental crimes. The majority of law enforcement training and operations has been focused on disrupting the crimes because they are illegal. As the COVID-19 pandemic grew and people began flooding across borders in the GMS before they closed, it became clear that law enforcement officials had limited capacity to contribute to the public health response to COVID-19.

At this point, UNODC through its BLO programme provided personal protective equipment for law enforcement officers stationed at border crossings as well as basic training in how to protect themselves from COVID-19 (UNODC 2021). Although valuable, this response is far away from utilizing biological threat potential to drive enforcement of environmental crimes and their flows across borders. There is however historical precedence in the GMS where infectious diseases have been considered transnational or national security threats but responses to these examples have been mixed. A 2006 outbreak of Avian Flu in Myanmar saw the military government alerting and collaborating with the international community despite not actually warning their own people (Beyer et al. 2006). There has however since been significant collaborative efforts to eliminate Malaria on the China-Myanmar border through partnerships between authorities on both sides of the border, support from the Global Fund for AIDS, TB and Malaria and implemented by a non-government organization that has worked very closely with local communities and their leadership structures on both sides of the border (Xu et al. 2016).

## LIMITATIONS IN THE OPERATIONAL DEFINITION, RESOURCING AND IMPLEMENTATION OF ONE HEALTH

The concept of 'One World-One Health' created in 2004 posited that human health and animal health are interdependent and bound to the health of the ecosystems in which they exist (van Helden, van Helden & Hoal 2013). Given the interconnectedness of human induced destruction of biodiversity, responses designed to be emblematic of 'One World-One health' demand transdisciplinary approaches and multisector expertise (Destoumieux-Garzon et al. 2018). Yet in the context of environmental crimes and biological threats, two major discourses emerge which do not necessarily intersect nor inform each other in terms of joined up approaches to interventions. Biological threat surveillance in the context of infectious disease is largely considered to be the responsibility of health and agriculture sector agencies and programs, yet the origin of a biological threat or its presence in relation to an environmental crime is of seemingly little concern to law enforcement agencies who traditionally focus on crimes without much consideration of associated biosecurity risks.

While the concept of 'One Health' has certainly seen advances in the types of biological threat surveillance activities, these efforts have largely remained within the purview of public health and animal health agencies. At a cross-border level, there are well organised and health-led communities of practice that collaborate on early warning systems for Avian Flu, African Swine Fever and Foot and Mouth Disease (Windsor 2015). The penetration of these efforts into the complicated cross border narratives inhabited by transnational crime and the movement of commodities associated with environmental crimes is negligible. It does appear however that when biological threat is related to the legal movement of livestock for example, there are in



fact significant resources being plunged into disease surveillance and quarantine specifically into the concept of Disease-Free Zones.

The debate about what One Health is and how it informs programming is tightly held at a global level between four main agencies: WHO, OIE, FAO and more recently UNEP. This 'quadrupartite' works closely at global, regional and national levels with human and animal health agencies, departments and relevant local non-government organisations. Efforts commensurate with One Health include provisions of technical assistance in a range of biological preparedness and response areas including disease surveillance, field epidemiology, laboratory diagnostics and anti-microbial resistance. The work is often further grouped under the term 'health-security' and is largely funded by bilateral and multilateral agencies working in the human and animal infectious disease preparedness and response space.

On the other hand, environmental crime disruption work is generally often funded by different arms of these same bilateral or multi-lateral agencies and the implementers are predominantly large international NGOs that engage with law enforcement agencies in improving enforcement of wildlife and forest crimes. Additionally, security sector reform and assistance donors tend to fund security sector partners in support of more traditional security threats such as human trafficking, arms smuggling, and counter-narcotics work rather than the occupational health and safety risk of biological threats. As a result, major gaps exist in cross-sector/cross-border responses at the interface of environmental crimes and biological threats. The ongoing misalignment of strategies and resources is particularly unfortunate in so far as it fails to capitalise on the opportunity to improve responses to both environmental crimes and biological threats.

## CONCLUSIONS

To take a more integrated view of environmental crimes and biological threat surveillance, requires an expanded commitment for partnership development between law enforcement and One Health programs. If we could bridge this gap, we could certainly develop more robust strategic early warning systems for both environmental crimes and biological threat across distant but connected locations – places where the movement of people, animals and goods is supported by deeply ingrained networks – such as formal and informal border zones.

To do this, there is a need to resource and invest in the biological threat awareness of a range of additional agencies from police to customs and immigration and border forces. This also requires us to engage with local communities in border areas where the relationship and difference between crime and livelihoods is at best grey and where environmental crimes and crimes against the environment are often merged into the rubric of social and economic development. Currently we continue to observe a well-rehearsed theatre where actors from central government of nation states and the bi-lateral and multilateral partners that seek to engage and influence the nation state engage in discourse and hammer out agreements and short-term projects that unsustainably respond to environmental crimes and biological threats.

In advancing the health and security sector interface there are also opportunities to foreground health as a driver of national security imperatives. That requires national authorities to give much greater consideration to biological threat potential of environmental crimes when developing national security strategies. Yet this is complicated work that both needs to account for the limits of statehood in many border areas and the nature and dynamics of networked communities living in and around border areas where the commodities of environmental crimes flow. Therefore, we need to have a better account for the dynamics on the ground and how all stakeholders, including health sectors and the communities, can better work together to prevent biological threats and indeed to reduce and eradicate transnational organized crime.

In addition to this, further work is required to understand current connectivity between security actors, health actors and communities to better support the health orientation (training and commitments) that security actors would need. The border zones offer significant opportunity on a systematic and practical basis for improving strategic early warning of biological threats and early containment capability. Sentinel sites at key locations are not necessarily a new proposition but biological threat surveillance at choke points remains really underdeveloped

particularly because agencies responsible for environmental crime management are not connected to agencies responsible for biological threat surveillance.

In the context of biological threats emanating or related to environmental crimes, a supply chain analysis would elucidate that risks occur throughout trafficking and, that while risks for security actors may be small and zoonotic potential highest at other points in the chain, key opportunities for control (monitoring and corrective actions) rest with security actors. Mobilising partnerships across the security and health sectors by starting with actions that aim to initially reduce biological risks at points of control is a real opportunity to enhance the operational implementation of One Health and build better early warning surveillance of both the crimes and the biological risks. These actions could also usher in momentum for changes upstream at national security making level that could drastically alter overall biological risks for societies while protecting animals and ecosystems.


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## COMPETING INTERESTS

The authors have no competing interests to declare.

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