

14. Transport Infrastructure and Wildlife Trade Conduits in the GMS: Regulating Illegal and Unsustainable Wildlife Trade

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Summary

Harvest or extraction of wild animals and plants from the ecosystems of the Greater Mekong Sub-region (GMS), largely driven by the demands of domestic and international trade, has been assessed to be one of the greatest threats to the remaining biological diversity in the six countries. Rates of extraction and trade generally have increased over the past two decades with rapid economic development and rises in purchasing power, with many harvesting regimes moving from subsistence to commercial levels of extraction to satisfy domestic and international demand.

At the same time, access to previously remote areas has been facilitated by transport infrastructure development: even when habitats remain largely intact, the trend towards the 'empty forest syndrome' is of major concern. The existing protected area systems of the GMS countries provide the last reserves of habitat and biodiversity, but as expanding transport infrastructure combined with land conversion encroaches on their boundaries, these last outposts are likely to become even more threatened unless realistic mitigation measures are designed and implemented to prevent the "economic corridors" becoming wildlife trade superhighways.

1. Background

"Mandalay, Lashio and Muse cities in Burma are now connected by a smooth highway and this is a major trade route between Burma and Yunnan. If people learn that there is a good price for pangolins in China, they go hunting for them. Turtles and otters are rapidly disappearing; pangolins and tigers are already extinct in most parts of Burma". – From Myint Zaw, Inter Press Service News Agency, May 2005.

Wildlife trade, along with habitat loss, is regarded as the most serious threat to the biological diversity of the GMS, and in some key areas has been assessed to be the greatest threat to remaining animal populations (e.g. Baltzer, *et al.*, 2001). In general terms, Cambodia, Lao PDR and Myanmar act as sources for wildlife trade while Viet Nam, Lao PDR and Thailand play dual roles as source and re-export countries. China is the greatest consumer country in the GMS, particularly for flora and fauna species used as food and in traditional medicines (World Bank, 2005). China also supplies traditional medicine ingredients (e.g. medicinal plants) to its neighbours and globally to the ethnic Chinese diaspora.

Local populations of numerous species native, and in some cases endemic, to this region have declined markedly due to over-exploitation to supply persistent demand. As economies have opened up and continued to develop in the GMS over the past decade, increased purchasing power has created a concurrent increase in the scale of demand for wild animals and plants. This is driven by a combination of increasingly powerful local and regional (i.e. within the GMS) markets, and international market

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demand from East Asian countries, including China; but it is important not to discount the significance of the market in the EU and North America for particular species and products.

Species found in the GMS countries that have suffered drastic declines due to over-exploitation include the more charismatic megafauna such as Tiger *Panthera tigris*, Sumatran Rhino *Dicerorhinus sumatrensis*, Javan Rhino *Rhinoceros sondaicus*, and Asian Elephant *Elephas maximus*, but also numerous lesser known animal and plant species, such as pangolins *Manis* spp., tortoises and freshwater turtles, agarwood *Aquilaria* spp, timber (e.g. *Fokienia hodginsii*) and numerous wild orchid species.

China, in terms of both volume and frequency of demand, is the most significant consumer country in the GMS. China's demand encompasses animal and plant specimens and cargoes sourced from other parts of the world, including Southeast Asia, that may be transiting GMS countries *en route* to end-destination markets. This demand is driven by long-established patterns of consumption for use as traditional medicines, wild meat and tonic foods, and is concentrated in the south-eastern provinces of China including Yunnan, Guangxi and Guangdong. Wildlife enters China directly (by road) from Viet Nam, Myanmar and Lao PDR at a number of major crossings, the most significant probably being via Viet Nam through the northern border provinces of Lang Son, Lao Cai, and Quang Ninh. As the north-south transport corridors connecting Myanmar, northern Thailand and Lao PDR to China become more developed, however, this current primacy of Viet Nam as a conduit to China may shift.

There are, in addition to China, other centres of demand within the GMS countries for wildlife and wildlife products for use as building materials (timber), traditional medicines, ornamental decorations (horns and antlers, orchids, wild cat skins), luxury souvenirs (ivory, Hawksbill Turtle, *Eretmochelys imbricata* shell) and pets (particularly birds and reptiles). Many of these nodal points (e.g. across Myanmar, Thailand, Lao PDR, Cambodia and Viet Nam) are becoming increasingly connected as east-west transport corridor linkages become complete.

However, despite escalating concern that the volumes and frequency of extraction and trade are not being adequately addressed on the ground, the regional policy environment to deal with illegal and unsustainable wildlife trade has never been more supportive towards addressing this complex set of threats. With Cambodia (1997), Myanmar (1997), and finally Lao PDR (2004) becoming Party to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), all six GMS countries now have the same international regulatory obligations for many of the species of animals and plants threatened by trade.

In 2004, Viet Nam hosted the inaugural meeting of the six GMS countries to improve CITES and wildlife trade co-operation, which produced a concrete set of action points². Later that year, as Thailand hosted the 13th Conference of the Parties to CITES, the 10 Member Countries of the Association of South-East Asian Nations (ASEAN) signed a commitment to increase co-operation on CITES implementation and law enforcement to combat illegal and unsustainable trade, known as the "ASEAN Statement on CITES" (see www.aseansec.org/17750.htm). Adding weight to this regional commitment was the Prime Minister of Thailand's opening address to CITES CoP13, in which he called for the establishment of a 'wildlife Interpol' to combat wildlife crime.

² A second meeting on issues pertaining to Mekong Sub-regional CITES Implementation and Enforcement was held in Kunming, China, in July 2006.

That same year, the Prime Minister of Viet Nam officially endorsed a five-year National Action Plan specifically on improving wildlife trade controls; and two provinces of Viet Nam (Ha Tinh and Quang Binh) signed a transboundary co-operation agreement specific to wildlife trade with their provincial counterparts in Lao PDR (Bolikhamsay and Khammouane).

In 2005, momentum at the ASEAN level stepped up further with the development and Ministerial endorsement of the *ASEAN Regional Action Plan on Trade in Wild Fauna and Flora 2005-2010* (www.aseansec.org/17753.pdf), under which five objectives address needs for improved legislation, better regional law enforcement co-operation, increased scientific research to inform wildlife trade management decision making, and to encourage industry groups, trade associations/traders and local communities to comply with legality and sustainability requirements of CITES and national regulations

This process in turn catalyzed the formulation of the *ASEAN Wildlife Law Enforcement Network* (ASEAN-WEN) which was launched in December 2005 (www.aseansec.org/17933.htm), and had its first official meeting in May 2006 where a Terms of Reference was agreed. ASEAN-WEN aims to address critical elements of wildlife trade law enforcement co-operation, notably bringing Customs and Police jurisdictions into more structured collaboration with government departments tasked with natural resource management. These national-level structures will then provide the building blocks for bilateral and regional co-operation on wildlife trade law enforcement under ASEAN-WEN. When considering the producer-consumer trade dynamics, it is significant that China has also attended ASEAN-WEN events as an observer.

The regional policy context, as outlined above, would seem to be very much conducive to translating this political commitment in the GMS countries into action on the ground.

2 Main body

Over the past few years, numerous seizures involving large volumes of endangered species have been made in the GMS, involving tonnes of reptiles (e.g. snakes, monitor lizards and freshwater turtles), mammals (e.g. pangolins), plants (orchids), and timber (Table 14.1). Despite these successes, animal and plant species continue to be collected in source countries, and when compared with volumes still observed in the markets of China, it is clear that seizures of illegal shipments represent no more than a small percentage of what is actually being traded.

Among the most commonly seized animals are pangolins, freshwater turtles and tortoises, and snakes; all of which are in high demand for their medicinal value, as well as for consumption in China, and to a lesser extent, Viet Nam. Other species of concern transported along these routes to destination markets, whether live or as products and derivatives, include bears, leopards and tigers.

Pangolins are one of the most frequently traded species groups from and through the GMS, predominantly for end-consumption in China where the meat, blood and scales are either consumed as 'tonic food' or used in traditional medicinal applications. The skin is also tanned to make leather products. As populations of pangolins nearer to China have been depleted (e.g. in Lao PDR and Viet Nam), sourcing has diversified into Thailand, Malaysia and Indonesia. In 2002, personnel transporting pangolins from Thailand to Lao PDR stated to a TRAFFIC investigator that pangolins were now

extremely difficult to find in Lao PDR, and the large volumes they were regularly moving through Lao PDR from Thailand to Viet Nam and on to China were from Malaysia. This fact is borne out by numerous seizures of north-bound pangolin cargoes by authorities in peninsular Malaysia. Increasingly, shipments of pangolins bound for China are coming also from Sumatra, Indonesia, indicating that the populations in Malaysia may also be declining. These shipments are largely made by road – and the transit time has become increasingly faster as the road infrastructure has improved in the GMS countries.

Chelonians are also among the most voluminous species transported from Southeast Asia to China, often by air. Nearly all species of Asian freshwater turtles and tortoises are consumed in South China (Ades, *et al.*, 2000), although the bulk of species observed in Chinese markets are South-east Asian species (Compton, 2000). Trade represents the greatest threat to the long-term survival of Asia's freshwater turtles and tortoises (van Dijk, 2000). China and, to a lesser extent, ethnic Chinese communities, make up the bulk of the consumer market for freshwater turtles and tortoises, for food and traditional medicines (Compton, 2000).

To date, a number of attempts have been made to quantify the value of illegal trade in wildlife and although it is extremely difficult to make exact estimates, evidence would suggest that it is a multi-billion dollar business. In 2002, Viet Nam's wildlife trade alone was estimated at over USD 65 million annually (World Bank, 2005).

Table 14.1: Examples of recent seizures made in the GMS

Date	Species seized	Location of seizure	Origin	Destination	Mode of transport
26 May 2004	500kg of turtle plastron said to be from <i>Indotestudo elongata</i> , <i>Orlitia borneensis</i> and <i>Morenia ocellata</i>	Border of Myanmar and Yunnan Province, China	Myanmar (possibly other countries, as <i>Orlitia borneensis</i> is not found in Myanmar)	Chengdu, China	
5 April 05	3.5 tonnes of turtles and 2 tonnes of monitor lizards, snakes and pangolins	Thanh Hoa Province, Viet Nam	Mekong Delta province of Long An. Animals are suspected to have been smuggled from Cambodia or Myanmar	China	Truck
14 June 05	330kg of turtles, 90kg of pangolins, and 8kg of snakes	Bac Ninh Province, Viet Nam	Unknown	China	Public bus
2 March 06	147 Long-tailed Macaques <i>Macaca fascicularis</i> (291kg)	Quang Ninh, Viet Nam	Hai Phong City, Viet Nam	China	Public bus
27 March 06	5 Malayan porcupines <i>Hystrix brachyura</i> and one civet.	Da Nang City, Viet Nam	Unknown	North Viet Nam and China	Public bus
29 March 06	70 Long-tailed Macaques	Phu Yen, Viet Nam	Unknown	Vinh City, Nghe An, Vietnam	Mini-bus
7 April 06	Approx. 100 pangolins	Thai-Lao Friendship Bridge (Udon Thani to Vientiane)	Southern Thailand	China	Private Vehicle
7 June 06	Tiger bones <i>Panthera tigris</i> (amounting to 6 tigers)	Don Muang Airport, Bangkok, Thailand	Hat Yai, southern Thailand		
26 June	245 pangolins and 63	Don Muang	Penang, Malaysia	Lao PDR	Air

06	freshwater turtles	Airport, Bangkok, Thailand			
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Although it is widely recognized that illegal wildlife trade is a significant factor in the rapid decline, and even local extirpation, of some species, what is less considered is the impact it has on rural communities many of which are still largely dependent upon the natural resources of their environments. For many rural communities, wild-sourced plant and animal species form the basis of food, medicine, fuel, building materials, and clothing upon which they depend for survival. The decline and loss of these species is exacerbated through larger-scale commercial exploitation, often driven by outside business interests. It could be argued, therefore, that the shift to largely unmanaged commercial levels of extraction, aided by more efficient transport infrastructure, poses a direct threat to the livelihoods of these communities.

3. Regulation and control of transport by land

It is now widely agreed that consumer demand for wildlife and wildlife products in China, Europe and North America is one of the most significant drivers of wildlife trade. Underpinning this, however, are other driving factors such as the massive profits associated with the trade, the very low risk of being caught, minimal disincentive in terms of the punishment associated with wildlife crime, and increasing ease of access to resources through transport infrastructure development.

As harvest areas move further away from collection centres and end-use markets, efficient transport becomes increasingly important. Large quantities of live specimens are moved by air, to keep mortality levels low, but for other hardier species, transport by road is preferred. Species that are already dead are also often sent by road.

As road transport infrastructure improves, and new airports and seaports open up to international traffic, so too does the efficiency of transporting wildlife. Illegal shipments of wildlife move from source to market with small chance of interception, as current levels of enforcement, regulation and control of the transportation of wildlife and other illicit cargoes along these major road networks are generally very poor.

Inefficient regulation and low capacity to monitor and enforce legislations pertaining to the wildlife trade along these major transport routes allows the illegal trade to continue on a large scale. As the number and quality of land routes increases, so too does the importance of these routes to wildlife smugglers. However, the capacity of the enforcement agencies responsible for controlling this trade is not increasing at the same pace.

Clear evidence of this was apparent at a 2006 “training of trainers” workshop on CITES implementation, for Customs officers in Viet Nam organized by TRAFFIC, where most of the participants had little, if any, knowledge about the Convention, and of more concern, almost no understanding of the role they were required to play in implementing it.

Lack of knowledge on international Conventions (and the national laws that support them) is only one aspect of the problem. The overall situation is exacerbated by a range of other factors such as: low awareness of national laws regulating wildlife harvest and trade; very little capacity to identify species and distinguish between protected and non-protected specimens; minimal levels of intra- and inter-agency co-operation; and an overall lack of human resources, equipment and access to

important resource materials. Furthermore, Customs are only one part of the law enforcement equation. Other important law enforcement agencies, most of which are also limited in their capacity and understanding of the impacts of illegal and unsustainable wildlife trade, include the police, prosecutors and the judiciary, quarantine, and staff involved with the functions of national CITES Management and Scientific Authorities.

These are critical issues because without such an inter-agency law enforcement mechanism in place throughout the GMS, economic development via increased transport infrastructure will indeed facilitate these corridors to become the 'super highways' of the wildlife trade.

4. Lessons learned

- (i) Illegal wildlife trade is an attractive and lucrative business and will persist unless robust mechanisms are put into place to address the problem systematically, including increasing the deterrent to participate in illegal activity through efficient legislation, monitoring and surveillance, detection, seizures and prosecutions.
- (ii) Enforcement capacity in GMS countries to address illegal and unsustainable wildlife trade is limited and weaknesses such as these are being taken advantage of by well-organized crime networks.
- (iii) Rapid economic development, and associated infrastructure development, is making formerly remote biodiversity reserves more accessible, and with that rates of extraction and trade of wildlife and wildlife products are likely to increase.
- (iv) Wildlife trade concerns need to be integrated into economic development planning processes so that mitigation measures are adequate and effective, and that sustainable development goals are supported.
- (v) Although illegal and unsustainable wildlife trade is increasingly gaining recognition as an issue of concern in the GMS, it needs to be accorded a much higher political profile and more funds and resources need to be invested for the problem to be effectively addressed.
- (vi) A growing middle class is demanding wildlife and wildlife products inside GMS countries, and the associated commercial wildlife trade activity is servicing external markets.
- (vii) Together these factors are having serious negative impacts on species diversity and richness, ecosystems, and the environment in general.

5. Conclusions and future steps

The economic development of the GMS since 1992 has focused primarily on increased connectivity and integration via 'economic corridors' aligned both north-south and east-west. Within these economic corridors are transport infrastructure networks that are already important conduits (by road, air, sea and rail) for the transport of many natural resources, including illegally and unsustainably harvested animals and plants. The more streamlined these economic corridors become, in an

increasingly liberalized trade environment, the greater the potential impact on remaining reserves of biodiversity – including in protected areas and other extant ecosystem habitat that becomes increasingly adjacent to this expanding infrastructure.

If viable populations of wild animals and plants in the Greater Mekong region, and throughout South-east Asia, are to persist, urgent interventions are required to disrupt the regular flow of illicit wildlife shipments along these major transport routes.

Increased capacity and resources for the various agencies responsible for controlling this trade, especially at the numerous international border crossings is essential; including the ability to enforce CITES (to which all ASEAN countries (and China) are Parties) and national laws and regulations.

The issue of illegal wildlife trade must be accorded priority among the various donors and other stakeholders involved in the development of transport infrastructure in the region. Combating illicit movements of wildlife trade may best be addressed by linking GMS development priorities with the goals of the *ASEAN Wildlife Enforcement Network*, the wider *ASEAN Regional Action Plan on Trade in Wild Fauna and Flora 2005-2010*, and the ongoing co-operation between the six GMS countries on matters pertaining to wildlife trade.

There would seem to be, therefore, great opportunity for the Asian Development Bank's Core Environment Program and specifically the Biodiversity Corridors Initiative to include as a priority for its work with the GMS countries the establishment and implementation of necessary safeguards (*inter alia* technical, human and regulatory capacity, training and strategy) to ensure that any further negative impacts on biological diversity and long-term sustainable development are mitigated.

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