

Executive Summary

Worldwide there is a high – and in many cases growing – demand for wild plants and animals and products made from them. Wild species are used as the source of a wide variety of goods, including foods, medicines, pets, display, fashion and cultural items, industrial resins and extracts, and household items. Use may be local to the resource itself, e.g. hunting for meat for direct consumption, or take place many thousands of miles away, the wildlife products passing along a complex processing and trade chain from harvester to end-consumer.

South-east Asia is both a centre for the consumption of wildlife products, and also a key supplier of wildlife products to the world. Cambodia, Indonesia, Lao PDR and Vietnam are among the south-east Asian countries that act as major sources of wildlife in trade, the trade involving a wide variety of native species, which, in many cases, are declining as a result of unsustainable, and often illegal, harvest. In 2005, with funding support from the World Bank-Netherlands Partnership Program, TRAFFIC initiated a study to better understand the economic and social drivers of the wildlife trade in these four countries, and to assess the effectiveness of interventions that have been employed to halt illegal and unsustainable trade in their native flora and fauna.

Since empirical data are sparse and incomplete, the primary data sources for the study were a survey of expert opinion and a review of relevant literature. A detailed questionnaire was completed by 89 experts on the wildlife trade, drawn from government departments, conservation organisations, universities, scientific bodies, and independent researchers across Cambodia, Indonesia, Lao PDR, Vietnam and elsewhere. The responses covered around 30 plant and animal taxa that are traded in and from the four countries under a variety of market, policy and regulatory contexts. The questionnaire data were analysed at an aggregate level, to give a picture of the wildlife trade overall, and detailed case studies were produced for three species groups: Tiger *Panthera tigris*, agarwood *Aquilaria* spp. and *Gyrinops* spp., and tortoises and freshwater turtles (various species). Workshops and meetings with wildlife trade experts in the region were also organised to guide the project's research and consider and further elaborate on the project findings.

The study aimed to generate findings and recommendations that would be useful to governments, non-governmental organisations, donors and others in considering how interventions to reduce illegal and unsustainable wildlife trade might be applied more effectively in future.

Why illegal and unsustainable wildlife trade in south-east Asia matters

There is increasing recognition that the wildlife trade in south-east Asia has far-reaching effects. Not only does it supply markets and consumers both locally and across the globe, but it also has significant implications for conservation and development at local, national and regional levels, as well as internationally.

The wildlife trade is of significant economic importance in south-east Asia. It involves wide and complex networks for both sourcing and marketing. It engages a diverse range of actors, including rural harvesters, professional hunters, a wide variety of intermediate traders, wholesalers and retailers, up to the final consumers of wildlife – many of whom live thousands of miles away from the product source. Participants derive from across the social spectrum, ranging from poor rural villagers and small-scale traders to large businesses, affluent city-dwellers and politically-powerful interests. The scale of economic benefits received through participating in the wildlife trade are similarly varied, trade in some cases a regular source of income, in others an occasional income source, and in some cases a “safety net” in times

of hardship. For some, selling wildlife can be a lucrative business, attracting large amounts of money and generating very large profits.

The conservation impacts of the wildlife trade in south-east Asia are immense. Unsustainable, and often illegal, exploitation of wild plants and animals is having devastating effects on the region's biodiversity. There has been a drastic decline in the populations of many wildlife species with high commercial value, many of which are now rare, endangered or locally extinct – such as the Tiger, Sumatran Rhinoceros *Dicerorhinus sumatrensis*, Javan Rhinoceros *Rhinoceros sondaicus*, Asian Elephant *Elephas maximus*, pangolins *Manis* spp., freshwater turtles and tortoises, agarwood and numerous wild orchid species.

Where it continues at unsustainable levels, the wildlife trade may also undermine efforts to achieve sustainable development and poverty alleviation in the region, because it is depleting valuable natural assets upon which millions of people depend at least in part. Many of those surviving below the national poverty line in Cambodia, Indonesia, Lao PDR and Vietnam depend to a significant extent on biological resources for their wellbeing and survival, and are less able to access or afford alternative sources of livelihoods when biodiversity is depleted. The loss of wild animal and plant species thus undermines a basic means of production for a large part of the human population in the region, and erodes vital coping mechanisms.

The need to factor economic and social considerations into efforts to halt the illegal and unsustainable wildlife trade

A wide range of interventions has been employed to date in efforts to halt the illegal and unsustainable wildlife trade in south-east Asia. These range from more conventional “command and control” measures (which tighten the laws, regulations, enforcement and penalties restricting wildlife harvesting and trade), through attempts to secure more sustainable sources of wildlife products (such as through the domestication of key species, or the introduction of more sustainable resource management and harvesting techniques), to more innovative mechanisms that aim to tackle the broader conditions that encourage people to participate in the wildlife trade (such as supporting development of alternative livelihood options).

Economic and social factors drive both demand and supply sides of the wildlife trade equation, and any effort to improve either biodiversity conservation or development returns in the region as these relate to the use and trade of wild resources needs to be cognisant of these drivers and to design actions in a way that takes them into account. Yet there remains little common understanding about the trade's underlying economic and social drivers, or about the effectiveness and impacts of wildlife trade-related interventions in economic and social terms.

This gap in knowledge represents a serious constraint to designing comprehensive measures that will not only reduce illegal and unsustainable wildlife trade but also simultaneously result in tangible improvements in livelihoods, poverty reduction and the achievement of sustainable development goals. **This study is believed to be the first broad spectrum effort to generate and synthesize information about economic and social dimensions of illegal and unsustainable wildlife trade in south-east Asia with the specific aim of improving the effectiveness and outcomes of policies, programmes and projects aiming to address this trade.**

Identifying the assumptions that guide wildlife trade interventions

The study was designed to inform two questions, namely: *what drives the wildlife trade?*; and *which interventions are most effective in reducing illegal and unsustainable wildlife trade?*

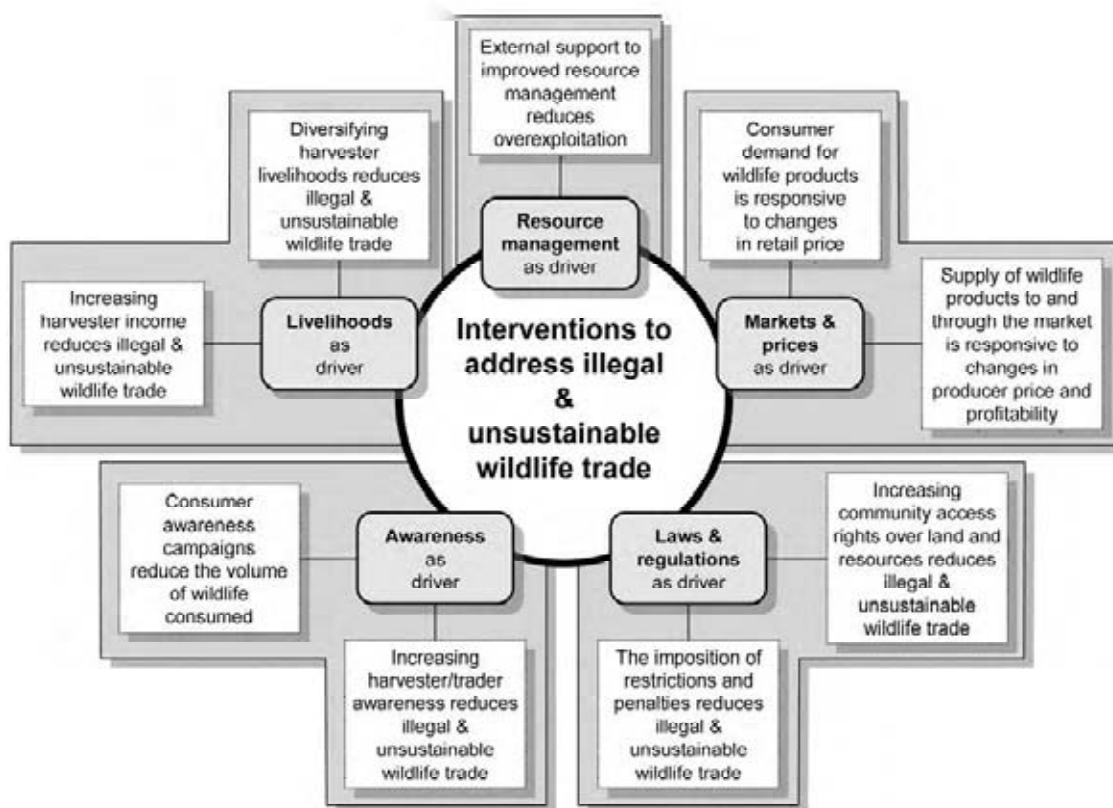
The design of interventions is shaped by a series of assumptions made by governments, non-governmental organisations, and others of what drives illegal and unsustainable wildlife trade, and which conditions therefore need to change in order to reduce it. The interventions that are then set in place employ a series of measures to manipulate, influence and change these key conditions.

While many of the assumptions that guide the design of wildlife trade interventions are based on common-sense thinking, and most are informed by long experience and lessons learned by practitioners in the field, they are rarely made explicit, or investigated thoroughly prior to or during the course of project design. To improve the effectiveness of interventions, there is therefore a need to ascertain whether the assumed economic and social drivers of wildlife trade, and related chains of causalities, linkages and outcomes that are being acted upon, are actually borne out by evidence.

The study investigated whether expert opinion and available literature supported or refuted the assumptions that are made when designing wildlife trade interventions, and to ascertain whether survey respondents believed that associated interventions had been effective in reducing illegal and unsustainable wildlife trade in Cambodia, Indonesia, Lao PDR and Vietnam.

Research focused on five broad categories of interventions that are commonly employed, individually or in combination, to reduce unsustainable and/or illegal wildlife trade. Each of these intervention types is, at least implicitly, founded on assumptions about a different set of economic and social drivers, as illustrated in the diagram below: those concerning people's livelihoods, the markets and prices for wildlife products, the laws and regulations that are in place to govern people's actions, awareness and knowledge of regulations and conservation concerns, and the practices and techniques used to manage wild animal and plant resources.

Figure I: Assumptions underlying wildlife trade interventions



Issues emerging from the study

Gaps in information about the wildlife trade

Beliefs regarding the importance of different drivers and the effectiveness of different intervention types vary among wildlife trade experts. While this may reflect the spectrum of experiences concerning species, product type, harvest site, and other factors, it may also point to a wider lack of clear evidence of generalised traits. This is reflected in the literature, with published work often focusing on trade in particular species or locations, rather than across the trade chain, and lacking data sufficient to assess the impact or effectiveness of different interventions over time and space.

The impacts of illegal and unsustainable wildlife trade

There was a high level of consensus among experts that the abundance of traded species in the wild had declined over the past decade, confirming the findings of the large body of data and literature that draws attention to alarming rates of loss of commercially valuable biodiversity in the region as a result of over-exploitation and trade. Many of the species that are declining are used to support subsistence needs, e.g. for food and medicine, as well as providing a source of income. Further declines will not only affect the status of traded species and the ecosystems in which they occur, undermining achievement of Millennium Development Goal 7 (environmental sustainability), but will also hamper efforts to achieve the Goals related to poverty, hunger and health.

The effectiveness of interventions to control illegal and unsustainable wildlife trade

Many of the interventions that have been employed to control illegal and unsustainable wildlife trade in Cambodia, Indonesia, Lao PDR and Vietnam are believed to have been at least partially successful, although beliefs on the level of effectiveness varied among experts. However, based on survey responses and information from the literature, assumptions made about economic and social drivers in the design of intervention approaches may in some cases be misplaced.

The study illuminated the fact that wildlife trade chains are typically highly variable and complex, with an extremely wide reach involving diverse participants whose actions are shaped by different conditions and drivers from the point of harvest to the end-consumer. It is therefore perhaps not surprising that interventions, which tend to focus on particular parts of the trade chain, may not be successful in reducing illegal and unsustainable trade overall.

Livelihoods as drivers

Efforts to reduce poverty, increase income and diversify livelihoods among rural communities were believed by experts surveyed to have relatively low impact on participation in harvesting wildlife for trade. The links between wealth, poverty and engagement in the wildlife trade are complex: people involved in the trade are not necessarily poor, and the poor who are involved usually do not drive the trade. Further, they do not capture the majority of the trade's monetary value. Expert opinions suggested that improving the income or livelihood status of harvester communities often did not reduce their participation in the wildlife trade.

Markets and prices as drivers

Both experts and literature consulted for this study considered rising affluence and increasing disposable income in consumer countries was a major driver of demand for wildlife in the region. Unsurprisingly, harvesters and suppliers are highly responsive to the market opportunities presented by the wildlife trade, displaying mobility between products, locations and markets in order to meet demand. At the same time, it was noted that a variety of factors associated with economic growth, trade expansion and the

development of infrastructure had facilitated an increased supply of wildlife to markets in the region. Improved communications and connectivity, road development, and the opening up of wild animal and plant habitat via illegal logging and other new activities, thereby facilitating extraction and trade of wildlife products, were believed to be the primary factors influencing the market availability of wildlife. Although it is only relatively recently that price- and market-based instruments (such as product certification, buying agreements, tax incentives and price controls) have started to be used to control the wildlife trade, they were generally perceived to be effective.

Laws and regulations as drivers

The study found that the number of laws and regulations governing the wildlife trade in Cambodia, Indonesia, Lao PDR and Vietnam had increased over recent years, and that these often provided an effective mechanism for controlling illegal and unsustainable trade. However, law enforcement and broader governance conditions were considered to be the critical factors in determining their ultimate success and impact. Although the experts consulted in the study also pointed to tenure arrangements, customary norms, traditional practices, and voluntary agreements as being highly effective where they had been applied, they suggested that relatively little attention had been paid to these measures in wildlife trade interventions.

Awareness as a driver

Experts consulted in this study underlined that interventions had showed relatively high degrees of success in raising awareness about the illegality and negative conservation impacts of the wildlife trade among harvesters, traders and consumers. However, improved awareness was not thought to have resulted in an equal reduction in the amount of wildlife harvested, traded and consumed illegally and unsustainably. Significant gaps in understanding remain about the links between awareness-raising and changes in the attitudes and behaviour of participants in the wildlife trade.

Resource management practices as drivers

A range of resource management practices were reviewed in the survey of expert opinion (including species management plans, harvest controls, such as closed seasons and limits on technology, harvesting size and age of the species). For the most part these interventions were considered to have been at least somewhat successful in controlling illegal and unsustainable wildlife exploitation. Experts however noted that a weak information base about the multiple and complex factors influencing the sustainability of harvesting regimes, and about what levels and types of exploitation were sustainable in a given case, continued to act as a constraint to the effectiveness of these types of interventions.

Conclusions and recommendations

Despite the evidence that, thus far, those seeking to stop illegal and unsustainable trade are, for the lack of better terminology, “losing the war”, there are also numerous examples demonstrating that individual battles are being won. The key motivation for this study was the desire to increase the number of battles being won, and, ultimately, to win the war, by improving the targeting and design of efforts to reduce illegal and unsustainable wildlife trade, bearing in mind both conservation and development priorities. This was based further on the recognition that resources to address illegal and unsustainable trade are limited, and therefore it is critical to consider how and where best to invest those resources to achieve the conservation and development aims of the people and countries concerned.

This study is not unique in posing questions concerning the relative effectiveness of different conservation approaches, questions that are increasingly being asked within conservation more generally. However, it is believed to be the first effort to address such questions focusing on wildlife trade drivers

and interventions across multiple countries and products in south-east Asia. This research highlighted the diversity of the trade and pointed to the need for a greater effort to understand more fully this diversity and how best to respond to it to achieve conservation and development aims.

Eight preliminary conclusions relevant to improving the effectiveness of interventions to reduce the illegal and unsustainable wildlife trade in south-east Asia made on the basis of this review are provided below. These are by no means definitive. They may not, for example, be universally applicable to individual products, or to the situation within different countries, the latter point highlighted by government staff considering the research findings. They are therefore proposed as a starting point for further investigation and refinement, including through collecting more detailed data on wildlife harvest, trade, consumption and the application and impact of associated interventions. Recommendations based on these preliminary conclusions are also provided, in the belief that increased action is required alongside increased research in order to reduce illegal and unsustainable trade.

The evidence base for wildlife trade interventions needs to be strengthened – there are needs both to improve available data and knowledge about the wildlife trade, and to make this information more practical, policy relevant and easily accessible to planners and decision-makers. In particular, investments are required to further develop the evidence base for wildlife trade interventions, including research on specific species, products, locations and stakeholder groups where data are currently lacking. Research on the specifics of wildlife trade dynamics on a national basis should also be undertaken, as suggested by government staff during this study. The use of models and tools such as Bayesian Belief Networks in predicting the likely outcome of different interventions should also be explored further.

Wealth appears to be a stronger driver of illegal and unsustainable wildlife trade in south-east Asia than poverty - interventions to reduce poverty alone are unlikely to be effective in reducing illegal and unsustainable wildlife trade. There is a critical need to ensure that interventions are better targeted to, and more cognisant of, the dynamics of increasing affluence and wealth, rising aspirations and demands, and wider processes of economic growth in the region. Particular efforts need to be made to target interventions to urban consumers, and to richer and more powerful groups.

The design of wildlife trade interventions needs to take into account the broader conditions and trends that act to drive illegal and unsustainable wildlife trade – as well as considering the impacts of changing wealth status, efforts are needed to ensure that wildlife trade concerns and safeguards are integrated into trade and infrastructure expansion in the region.

Laws and regulations stand little chance of success unless they are effectively implemented and enforced, and wider issues of governance are also tackled – a greater emphasis needs to be placed on enforcing the wide array of harvest and trade controls already in place. This includes integrating policy on management of wildlife harvest and trade with implementation and enforcement of that policy; ensuring that policies and controls are targeted at those points in the trade chain likely to have the greatest impact; strengthening the judicial sector's understanding of the significance of illegal and unsustainable wildlife trade, and focusing on the building of multi-agency law enforcement capacity. Efforts are also required to ensure the good governance that is required to ensure the equitable and effective application of harvest and trade controls.

Non-regulatory approaches to controlling illegal and unsustainable trade, e.g. market-based interventions and support for improvements in resource management, are under-used – support needs to be given to efforts to manage wildlife harvest and trade sustainably and to help channel legally and sustainably produced goods to appropriate markets. This includes encouraging greater investigation of, and where appropriate, investment in measures such as buying agreements and product certification,

support for traditional management systems, and for research to develop more sustainable management practices.

Awareness efforts to reduce illegal and unsustainable trade need to be targeted to specific audiences and their effectiveness evaluated over time – greater understanding is required regarding how best to communicate to the various stakeholder groups involved in the wildlife trade to shift their behaviour away from illegal and unsustainable activities. Additional efforts to improve the knowledge base regarding the shaping of stakeholder attitudes toward the harvest, trade, purchase and consumption of wildlife products are needed. Awareness campaigns should also incorporate a monitoring and evaluation component.

Co-ordinated packages of mutually reinforcing interventions are required to address illegal and unsustainable wildlife trade in a more comprehensive manner – there is a need to better co-ordinate the design and application of different trade interventions along the trade chain. This includes ensuring that interventions present a balanced mix of enabling and positive incentives together with more restrictive and punitive measures; ensuring that interventions are inter-linked and targeted across the different species, products, countries, locations, actors and stages in the trade chain; and actively fostering better co-ordination, data-sharing and joint efforts between different government agencies, sectors and countries, and between governments and non-governmental organisations, according to their specific mandates, agendas, interests and capacities.

Increased policy attention and action is required if wildlife trade is to be brought within sustainable levels and conducted according to national and international trade controls – meaning that there is a need to shift the way in which wildlife trade is perceived, and to raise the priority that is accorded to the policies, interventions and resources that are targeted towards addressing it. This includes securing high-level political support to ensure that measures to address illegal and unsustainable trade are accorded a high priority, and mainstreaming wildlife trade issues not only within conservation policies, programmes and budgets, but also within policies, programmes and budgets targeted towards meeting development and poverty reduction goals.