



Environment Briefing Paper

Does CITES work?

Four case studies

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Introduction

The objective of the Convention on International Trade in Endangered Species (CITES) is to regulate international trade in specimens of species of wild fauna and flora. To achieve this, CITES relies on specific management authorities from signatory nations to issue permits and certificates for import and export. Particular animal and plant species (or parts thereof) may be subject to one of three different levels of regulation, corresponding to the particular 'appendix' upon which they are listed:

- **Appendix I** includes species threatened with extinction and for which trade must be subject to particularly strict regulations and only authorised in exceptional circumstances.
- **Appendix II** species are not necessarily currently threatened with extinction but may become so unless trade is strictly regulated. Appendix II also contains so called 'look-alike' species which are controlled because of their similarity in appearance to the other regulated species, thereby facilitating a more effective control.
- **Appendix III** includes species that are subject to regulation within the jurisdiction of a party and for which the co-operation of the parties is needed in order to prevent or restrict their exploitation.

Various factors threaten the conservation status of wild species of fauna and flora; of these, habitat conversion, fragmentation and destruction account for the greatest number of species losses. Excessive commercial exploitation accounts for a much smaller, but still significant, proportion of losses. CITES is intended to protect those species that are threatened by excessive commercial exploitation. To do this, it focuses on a very narrow aspect of commercial exploitation, namely transactions that take place across international borders (i.e. 'international trade'). CITES is not designed to address issues such as supply mechanisms, domestic trading regimes or consumer demand.

CITES is therefore very limited in its potential effectiveness as a conservation tool. Not only does it fail to address issues of habitat loss, but it also fails to create mechanisms to control the supply of wildlife products or any direct means to influence consumer demand. As it is currently structured, CITES operates primarily as a restrictive mechanism, rather than an enabling one. Implicit in its existing structure is an assumption that all trade is somehow bad for conservation unless proven otherwise. Measures taken under CITES therefore tend to emphasize limitations on trade rather than ways to facilitate trade that may ultimately enhance the status of wild species.

In theory, CITES is supposed to supplement, not replace, effective control of the supply of wild species (field protection). In practice, however, there are many cases where field protection is completely lacking and CITES provides the only readily available mechanism for controlling commercial exploitation.

Can CITES trade measures replace the need for effective field protection? The following four case studies suggest that it cannot. Each of these cases highlights serious shortcomings of the existing CITES mechanism. Perhaps we can gain some insights from these case studies, and use them to design more effective wildlife trade regulation policies and mechanisms.

1 Rhinos

Background

There are five extant rhino species, two in Africa and three in Asia.

The African species are the black rhino and the white rhino. Black rhino numbers have dropped from an estimated 65,000 in 1970 to about 2,400 in 1995. In the last five years numbers have increased in three range states: South Africa, Namibia and Kenya. Elsewhere they continue to decline. There are two separate populations of white rhino. The northern population declined from some 2,000 in 1970 to a single population in Zaire of 17 in 1984. Since then this population has increased to about 30 but remains highly endangered. The southern white rhino was almost

extinct at the turn of the century, and reduced to a single population of perhaps 20 animals in the Hluhluwe-Umfolozi district in South Africa. However, with careful management numbers have grown to over 7,500 today, and continue to increase.

The Asian species are the Indian, Javan and Sumatran rhinos. Indian rhino numbers have fluctuated; there was an increase in the early 1980s, followed by a decline in the late 1980s and another recovery in the 1990s; estimates put the population at 2,100 animals in 1995. Javan rhino numbers appear to have remained fairly stable over the last decade or two, at some 75 animals. Sumatran rhino numbers have dropped considerably during the 1990s from an estimated 600-1,000 to the existing level of about 270.

In Africa, black and white rhinos were widely exterminated by hunting until conservation measures were implemented. Subsequently rhinos have been eliminated by poaching for their horn. In Asia, the forest-dwelling Javan and Sumatran rhinos have been largely eliminated through habitat loss, although poaching for rhino products has also played a role. Indian rhinos have been affected by habitat loss, hunting and poaching for horn.

Rhino horn is a highly sought-after commodity. Horn of both Asian and African species is used as an ingredient in traditional Chinese medicines, to treat serious fevers and various other ailments. African horn is also used in Yemen to carve traditional dagger handles. Other rhino body parts are also used in traditional medicines, especially in Southeast Asia; virtually every single body part has some use.

Ironically, the southern white rhino was probably the rarest of all rhino species and subspecies at the turn of the century, whereas today it is more numerous than all other rhino species put together. The southern white rhino is the only true rhino conservation success story, and it is worth examining the factors that have contributed to this success and contrasting these with the factors that led to the demise of all other rhinos.

Round One/First measures

The white rhino and three Asian species were listed on CITES Appendix I at the Convention's inception in 1975. The black rhino was moved to Appendix I in 1977. After the Appendix I listings, the price of rhino horn rose dramatically in all consumer markets. For example, in Japan recorded import prices per kg increased from US\$75 in 1976 to US\$308 in 1978; in

South Korea prices increased from US\$49 in 1976 to US\$355 in 1979 and US\$530 in 1981; and in Taiwan they rose from US\$17 in 1977 to US\$477 in 1980. In Yemen, the wholesale price of horn increased from US\$764 in 1980 to US\$1,159 in 1985. Trade continued despite the ban and demand was further fuelled by speculative stockpiling.

The Appendix I listings of all rhino species has not had a discernible positive effect on rhino numbers and does not seem to have stopped the trade in rhino horn. If anything, the Appendix I listings led to a sharp increase in the black market price of rhino horn, which simply fuelled further poaching and encouraged speculative stockpiling of horn.

Round Two/Subsequent measures

Recognising the failure of the Appendix I listing, the delegates at the third CITES Conference of the Parties (COP) in 1981 passed an additional resolution (Resolution Conf. 3.11) on rhino horn trade. This resolution called on nations that were not parties to CITES also to take measures to prevent the international trade in rhino products and it called for a moratorium on the sale of all government and parastatal stocks of rhino products.

Subsequent to this resolution, rhino poaching and trade continued unabated in most African countries: for example, between 1981 and 1987 Tanzania's black rhino population dropped from 3,795 to about 275 and Zambia's dropped from 3,000 to just over 100.

The obvious failure of Resolution Conf. 3.11 prompted a further resolution to be passed at the sixth CITES COP in 1987. This resolution called for even stricter measures, including the complete prohibition of trade in all rhino products both internationally and domestically. It also called for the destruction of government stocks of rhino horn, and suggested that affected countries should be financially compensated for destroying their stockpiles.

Since the 1981 resolution was also being ignored by governments of several countries, the new resolution recommended that parties should exert political, economic and diplomatic pressure on any countries that 'continued to allow the trade in rhino horn'. This later resolution (Conf. 6.10) was again ignored by several consumer countries and range states. Most range states refused to destroy their stockpiles of rhino horn and several key consumer countries failed to implement domestic legislation. Rhino horn trade and poaching

continued: for example, Zimbabwe's black rhino population was reduced from 1,750 animals in 1987 to 430 in 1992, despite a policy to 'shoot to kill' poachers on sight. To protect its remaining rhinos, the Zimbabwean Wildlife Department had them all dehorned and moved to a few intensive protection zones (IPZs), where they remain under constant surveillance by heavily armed guards.

Dissatisfied with the performance of the CITES ban, the governments of South Africa and Zimbabwe concluded that it would make more sense to allow a controlled legal trade in rhino horn. Wildlife departments in both countries had obtained significant stockpiles of horn through seizures from illegal traders and horns retrieved from dead animals and dehorning operations. At the eighth COP in 1992 South Africa proposed to down-list its white rhino population to Appendix II and Zimbabwe proposed to down-list both its white and black rhino populations to Appendix II. These proposals were all rejected by the COP.

In 1992 the United Nations Environment Programme (UNEP) appointed a 'special envoy for rhinos' and provided him with funding to visit various countries to persuade their governments to abide by CITES. At the same time the United States government threatened four consumer nations with trade sanctions under the so-called 'Pelly' amendment. This piece of US legislation empowers the US President to suspend any wildlife and fisheries trade between the USA and any country considered responsible for diminishing the effectiveness of an international treaty designed to protect a threatened or endangered species. Governments of consumer nations responded to these pressures by passing some laws and intensifying efforts to control illegal trade, but these efforts only served to drive the trade further underground.

In 1993, UNEP held a meeting in Nairobi to raise funds for rhino conservation. At the meeting range states requested US\$60 million in emergency funds over the next three years, but only US\$5 million were pledged over the next 12 months. At the same UNEP meeting, South Africa again reiterated its belief that a legal trade in rhino horn offered a potential solution, because sales of legally held rhino horn stockpiles could provide a substantial source of revenue to conservation agencies.

In South Africa, the Natal Parks Board has ably demonstrated how commercial use and management

could enhance the status of rhinos. After initially reintroducing white rhinos to many state parks and reserves, the Natal Parks Board embarked on a programme to re-establish white rhino populations on private land. White rhinos became increasingly popular among private land owners as a 'draw-card' species, for both trophy hunting and non-consumptive tourism (i.e for game-viewing purposes). Since 1986, the Natal Parks Board has auctioned white rhinos to the private sector. In 1990, the Natal Parks Board also starting auctioning black rhinos. Increasing demand and rising prices for live rhinos have ensured that private land-owners have a strong incentive to conserve and breed up rhino populations.

At the time of writing, 20% of the white rhino population in South Africa is in private hands. Tourist viewing and trophy hunting revenues have been considerable and have mostly been re-invested in rhino conservation. The Natal Parks Board has also raised considerable revenues from its auctions of the live animals, the proceeds of which are also re-invested directly into conservation.

After an initial meteoric rise, the prices of live white rhinos started to stabilise in the early 1990s. In 1994, at the ninth CITES COP, South Africa applied to have its white rhino population down-listed to Appendix II, subject to an annotation. The annotation provided that only live animals and trophies would be traded commercially. All other trade would continue to be prohibited. What effect did this have? At the subsequent 1995 Natal Parks Board auction, the average price of a live white rhino once again increased. This was primarily because the market for live white rhinos had been expanded to allow international bidders to participate in the auction. The Appendix II down-listing clearly had a positive effect on conservation because the Natal Parks Board was able to generate extra revenues.

What next?

With the exception of the southern white rhino, all rhino species appear to remain critically threatened and cannot survive without intensive field protection. If consumer demand for rhino horn were to increase, the consequences for wild rhino populations could be dire. Conservation agencies would require increased funding for field protection. At present, however, the budgets of most conservation agencies are being reduced, not increased. This is even true of South Africa's

conservation agencies, whose white rhino populations may no longer be secure if the previous high levels of field protection are reduced. It is for this reason that agencies such as the Natal Parks Board are investigating the legal sale of rhino horn stockpiles to supplement their field protection budgets.

Lessons

The CITES Appendix I listing of all rhino species failed to stop either trade or poaching. Although poaching levels have dropped in recent years and some populations appear to be increasing, it is not clear that this is a direct consequence of successful implementation and enforcement of CITES. Where there have been successful rhino conservation efforts this appears to have more to do with high levels of field protection than enforcement.

South Africa's experience with the southern white rhino suggests a possible way forward. A logical next step would be to allow South Africa to sell its legal stockpiles of horn, provided this can be managed and controlled effectively. Unfortunately, however, the CITES system is steeped in politics. South Africa's proposal may be rejected, either because there are no immediate or direct benefits for other range states with limited field protection measures in place, or because environmental lobby groups are concerned that this may set a precedent that would lead to the acceptance of other more contentious proposals, such as those to re-establish a legal ivory trade.

2 Elephants

Background

There are two extant elephant species, the African elephant and the Asian elephant. The African elephant definitely survives in nineteen range states and possibly in another eighteen. The Asian elephant survives in thirteen range states.

African elephant numbers are thought to have dropped from more than 1.3 million in 1979 to roughly 632,000 in 1989, and were thought to be between 286,000 and 580,000 in 1995. Scientists estimated the Asian elephant population at between 30,000 and 55,000 animals in 1990.

The main cause of the African elephant's decline has been poaching for ivory. In contrast, the main cause for the Asian elephant's decline has been habitat loss and encroaching human population. Habitat loss and human

encroachment is also a factor affecting the African elephant in some parts of its range, and will become increasingly important in the future. Only fully mature Asian elephant bulls have tusks sufficiently large to be attractive to poachers; ivory poaching constitutes a lesser, but still significant, threat to Asian elephants. Both African and Asian elephants are also poached for their meat and hide in some parts of their range.

Traditionally, elephant ivory has been widely used for ornamental purposes. The demand for ivory is strongly entrenched in Asian culture. In Japan, ivory is especially prized for making traditional personal seals called *hankos*. Japan, Hong Kong and Singapore have been major centres for working ivory to make ornaments. Although previously substantial, the demand for worked ivory and ivory ornaments has dropped considerably in Europe and North America since the 1989 ivory ban. During the 1980s, demand for ivory increased strongly in Asian countries such as South Korea and Taiwan, and there is evidence that this demand persists.

Round One/First measures

The Asian elephant was listed on Appendix I at CITES' inception. The African elephant was initially listed on CITES Appendix II, in 1976. This listing clearly failed both as a trade measure, and as a conservation measure. In an attempt to make the listing more effective, special resolutions were passed at the third, fourth, fifth and sixth Conferences of the Parties.

At the fifth COP, CITES parties introduced a management quota system which took effect in 1986. A subsequent study by the Ivory Trade Review Group (ITRG) revealed that neither the management quota system, nor any of the prior CITES COP resolutions were sufficient measures to control illegal poaching and trade. They concluded that the CITES Appendix II listing of the African elephant had been a failure. 'Weak management and enforcement capacity' was cited as the key reason for this failure.

Round Two/Subsequent measures

The release of the ITRG report led to calls by major western environmental groups for a complete ban on the international trade in ivory. Thus at the seventh COP in 1989, the majority of the CITES parties voted to list the African elephant on Appendix I. Eight African range states opposed this listing, arguing that they had adequate capacity to regulate illegal trade, but their

protests were disregarded. Most proponents of the ivory ban favoured a blanket ban, to avoid possible laundering of ivory products through other countries. This was a valid concern, as countries such as Burundi and South Africa were shown to be major entrepôts for ivory poached in neighbouring range states.

The CITES Appendix I listing was accompanied by considerable media coverage and there was much anti-ivory publicity. Traditional western consumer markets in North America and Europe were noticeably affected by this and the demand for worked ivory products in these markets effectively collapsed. This had an obvious effect on the market price of ivory which also fell substantially. Nonetheless, subsequent to the ban, there was evidence of ongoing demand, especially in Asian consumer countries. Ongoing demand for ivory is indicated by:

- continued poaching and illegal trade in certain African range states, especially those with poor levels of field protection,
- rising demand for substitute products such as hippo ivory, and
- records of mammoth ivory mining in northern Siberia.

At the two CITES COPs after 1989, some African countries attempted to have their elephant populations down-listed back to Appendix II. Indeed, South Africa submitted proposals to down-list its elephant population at both COPs 8 and 9; at COP 8, in 1992, it requested permission to trade in both ivory and hides, but this proposal was rejected; at COP 9, in 1994, it requested permission to trade in elephant hides only, but after a show of vigorous opposition, it withdrew this proposal.

Shortly after CITES COP 9, a group of respected elephant scientists released a report which argued that the effects of the CITES Appendix I listing were mixed, with some range states reporting increased incidences of poaching. The report also noted with concern that field enforcement budgets were falling in most range states. The release of this report provoked an indignant reaction from many environmental groups who seem determined to maintain the orthodox belief that the CITES ivory ban has been an unqualified conservation success.

What next?

At present, the case of the African elephant presents CITES with an interesting challenge. In certain African range states elephants are thriving and, in some locations, even becoming a problem. In Kenya and Zimbabwe, expanding elephant populations are increasingly encroaching on areas inhabited by peasant farmers. These animals are becoming a menace to the local people, destroying their crops and threatening their lives. In South Africa, elephant populations are confined within fenced protected areas and their numbers may need to be controlled to prevent the adverse ecological impacts of excessive population pressure.

There are essentially three ways to control elephant numbers. The first is through managed culling operations; the second is to translocate live animals to new areas, and the third is to use some form of elephant contraception. All three methods are costly and problematic. Elephant culling is costly and only profitable if the products from culled animals (meat, hides and ivory) can be sold at reasonable market prices. Elephant translocation, whilst arguably more 'humane', is considerably more expensive than culling and is only a viable option as long as sufficiently large unpopulated areas of elephant habitat remain. Elephant contraception, a technique that is still being developed, is also more costly than culling and raises other ethical concerns.

It is ironic that scientists are now grappling with ways to control expanding elephant populations, when the rationale for the 1989 Appendix I listing was the imminent 'threat of extinction of the African elephant'. It is also ironic that African range states now possess in excess of 500 tonnes of stockpiled ivory, worth millions of dollars, which they are unable to sell, while their conservation departments are desperate for funds for field protection. As time progresses this situation will be exacerbated; ivory stockpiles will increase further and elephant populations will expand further in areas where they are well-protected, thereby creating problems of over-population. At the same time, elephants will continue to be poached heavily in other areas where they are unprotected, thus providing further impetus for calls to maintain a complete trade ban. How can this situation be resolved?

Lessons

The case of the African elephant demonstrates clearly that CITES Appendix II listings are ineffective in developing countries with neither the will nor the resources to implement the CITES system. The Appendix I ban appears to have worked because of the fall in demand that resulted from the media publicity surrounding the ivory ban, however there remain some substantial markets, especially in East Asia, and these provide an incentive for continued illegal activity. In the longer term the Appendix I listing of the African elephant may not be any appropriate conservation measure, since it fails to address either this ongoing demand for ivory products, or the opportunity costs of conserving elephants in African range states.

3 Tigers

Background

There are five extant tiger subspecies. These are the Bengal, Indochinese, Sumatran, Amur (Siberian) and South China tigers. A further three subspecies have already become extinct this century: the Caspian, Javan and Balinese tigers.

At the start of the twentieth century, wild tigers were widely distributed throughout Asia, with an estimated total population of 100,000 animals. Their range extended as far west as Turkey, as far north and east as south-eastern Russia, and as far south as the Indonesian islands of Java and Bali. Today the wild tiger's range has been reduced considerably but populations still survive in fourteen different Asian range states. According to recent estimates there are between 4,800 and 7,300 surviving tigers. Of these, some 2,500 to 3,750 animals survive in India, making it the most significant range state.

Tigers breed easily in captivity and there may be as many animals in zoos and circuses as there are in the wild. Most captive animals are of mixed or uncertain pedigree but some 1,200 are recorded as pure-bred specimens representing one of the five subspecies. There are concerted international efforts to establish healthy captive populations of all five subspecies.

Tigers are threatened by loss of habitat, conflict with humans, and poaching. Habitat loss and fragmentation appears to be the most significant reason for the tiger's decline. In areas where tiger conservation efforts are successful, expanding populations tend to come into

conflict with people, attacking them and their livestock. Dead tigers have considerable commercial value; their skins and bones are especially prized. Tiger bone is used as an ingredient in traditional Chinese medicines used to treat rheumatism and a wide range of other ailments. Most tiger populations are poorly protected in the field, and many survive outside protected areas, where they are especially susceptible to habitat destruction.

Until the early 1970s tigers were eliminated throughout Asia through habitat loss and hunting. Being widely regarded as pests, tigers were frequently eradicated under government-sponsored 'bounty' programmes. However, in the early 1970s, conservationists from India called for measures to protect the rapidly disappearing Bengal tiger. In 1973 the Indian Government launched 'Project Tiger', an initiative which was backed by a WWF fund-raising campaign called 'Operation Tiger'. The aim of Project Tiger was to create a number of dedicated tiger reserves where tigers, their habitat and prey would be protected. Outside of India, WWF also supported projects in Nepal, Bangladesh, Thailand and Indonesia. Many Asian countries also passed stronger wildlife protection laws, banning tiger hunting and creating new protected areas. These measures seemed to be effective for the first 10-15 years; reports from India, Nepal and the Soviet Union indicated that tiger numbers were once again increasing in those countries. Unfortunately this success was short-lived.

Round One/First measures

From the inception of CITES, all tiger subspecies were listed on Appendix I, except the Amur tiger, which was listed on Appendix II. In 1987 the Amur tiger was moved up to Appendix I. After 1987 there were mounting concerns that the tiger's status was not as secure as previously thought. During 1987 the Chinese National Pharmaceutical Bureau had asked the Beijing Pharmaceutical Company to draw up plans for a tiger breeding facility near Beijing to 'solve the problem of the shortage of tiger bone' needed for the manufacture of medicinal liquor. There were clear indications that the prices of tiger body parts were rising. In 1992 serious levels of poaching were recorded for the first time in two high profile areas: India's Ranthambore tiger reserve and the Russian far-east. This spurred the international conservation community into action, to

address this perceived new threat of commercial demand for tiger parts.

Round Two/Subsequent measures

The trade in tiger bone is especially hard to control because of the so called 'look-alike' problem. Tiger bones are difficult to distinguish from bones of other animals; in particular they are virtually indistinguishable from the bones of similarly sized felids, such as lions. This fact, coupled with poor border controls between various Asian range states, compromises proper implementation of the CITES Appendix I listing. In an attempt to encourage greater enforcement from within consumer states, environmental groups persuaded the US Government to threaten certain range states under the 'Pelly' amendment. This prompted a response and some enforcement measures from consumer countries, but failed to end illegal trade and poaching.

At CITES COP 9, the CITES parties noted that range states had undertaken an initiative called the Global Tiger Forum to launch a worldwide campaign to save the tiger. The Global Tiger Forum developed slowly, and does not appear to have achieved much at the time of writing.

What next?

There are two principal ways to address the tiger conservation problem. The first involves measures to tackle the trade in tiger products, and the second is to address factors that present a direct threat to wild tiger populations. Since the main threat to wild tigers appears to be a lack of suitable habitat, rather than commercial exploitation, trade measures alone may have little effect on the wild tiger's long-term prospects. CITES also appears incapable of influencing consumer demand or preventing illegal trade any further than it has already. This is now up to the consumer nations, who will only succeed in this if they have the political will and resources to do so.

An alternative approach to the problem of excessive illegal commercial exploitation would be to provide a cheaper, legal source of tiger products to the market. This could possibly be achieved by tiger farming. The Chinese government has expressed interest in pursuing this option, but this has been vigorously opposed by conservationists and environmental groups.

Lessons

A CITES Appendix I listing does not appear to be a complete solution to the tiger conservation problem. In this particular case CITES is weakened by the fact that several consumer states also happen to be range states, with much trade taking place domestically. Although tiger farming may present a possible means to discourage poaching (by providing a cheaper and authentic source of supply), CITES is not structured in such a way as to facilitate this option. If tiger farming were allowed under CITES, under a registered captive breeding programme, there is no mechanism to ensure that proceeds from the sale of farmed tiger products would in any way be invested toward the conservation of wild tigers.

4 Bears

Background

There are eight extant bear species. These include the American black bear, polar bear, brown bear, Asiatic black bear, sun bear, sloth bear and spectacled bear. These seven species all produce a substance called ursodeoxycholic acid (UDCA), which has unique medicinal qualities. The eighth bear species, the giant panda, does not produce UDCA, and some biologists dispute whether it is in fact a true bear.

The American black bear is the most common species with as many as 800,000 individuals surviving on the North American continent. The brown bear is the second most numerous species ($\approx 180,000$) and is widespread from Europe, through Asia, to North America. There are thought to be between 20,000 and 30,000 polar bears surviving in the arctic regions of North America, Europe and Asia. The spectacled bear ($\approx 10,000$) is found in the Andes region of South America. The remaining species, the Asiatic black bear ($\approx 50,000$), sun bear ($< 50,000$) and sloth bear ($< 10,000$) all survive in parts of Asia. Populations of the American black bear and polar bear appear to be stable, and even increasing. The brown bear is secure in some areas and declining in others, and numbers of the remaining four species continue to decline.

Worldwide, bears are threatened by habitat loss, bear-human conflict and excessive levels of commercial harvesting. Various bear body parts have commercial value, including gall-bladders, paws, meat, skin, teeth and claws. The bile contained in bear gall-bladders is

highly sought after by Korean, Chinese and Japanese people who use it as a traditional medicine and health tonic. Bear meat, especially the meat from bear paws, is a prized delicacy and also considered to have therapeutic effects, especially by Koreans. To satisfy the demand for gall-bladders and paws in Asia, bears have been harvested unsustainably in several Asian range states. For example, the Asiatic black bear may now be extinct in South Korea.

Most Asian range states have passed laws restricting the harvest of wild bears, but the consumption of bear products is still widely accepted in countries such as China and Japan. For the last 10 years the Chinese government has encouraged bear farming. Captive bears are confined to small cages and have catheters surgically inserted into their gall-bladders to enable bile 'milking'. In 1996 there were more than 7,500 captive bears on farms in China. Most of these animals are subjected to conditions that are considered unacceptable by animal welfare groups.

Wild bears are legally hunted in several countries including the USA, Canada, Russia and Japan. Around 40,000 bears are killed every year in North America by trophy hunters alone; this is considered to be a sustainable level. Russia and Japan allow the harvesting of bear parts from legally hunted animals, as do certain jurisdictions within the USA and Canada. Conservationists allege that there are high levels of illegal hunting and trapping in addition to the legal off-take of animals.

Round One/First measures

Apart from Russia's brown and polar bear populations, all Asian bears have been listed on CITES Appendix I, as has the spectacled bear. The brown bear is 'split-listed', on Appendix I in some range states, and Appendix II in others. The polar bear is listed on Appendix II. Initially, the American black bear was not listed under CITES.

It is virtually impossible to distinguish between the gall-bladders of different bear species without conducting a laboratory test. For this reason, customs officials have difficulty in differentiating between gall-bladders from Appendix I listed bears, and other species. This 'look-alike' problem is of great concern because it provides an opportunity to trade in gall-bladders of Appendix I bears on the pretence that they were obtained from unprotected species. As long as the American black bear remained unlisted, traders

could 'launder' gall-bladders from illegally poached Appendix I species through the USA and Canada.

Round Two/Subsequent measures

In recognition of the 'look-alike' problem Canada listed its population of American black bears on CITES Appendix III. However this measure proved to be of little use as many Asian range states do not make provision for CITES Appendix III species in their domestic legislation. The continued problem of 'laundering' through North America prompted both the USA and Canada to list the American black bear on CITES Appendix II at the eighth conference of the parties in 1992.

What effect did this have? By September 1995 only three CITES permits had been issued to export American black bear gall-bladders from the USA, and ten permits had been issued in Canada. This was certainly not representative of the level of trade in bear products taking place through those countries. Most trade in bear parts takes place informally between individuals who are reluctant to comply with customs formalities. The only really noticeable effect of the Appendix II listing was to increase the administrative burden to all those involved in Canada's trophy-hunting business: hunters, outfitters, managers and customs officials. The Appendix II listing of the American black bear has had no discernible effects on bear conservation generally.

What next?

For some people, the obvious next step would be to list all bear species on CITES Appendix I. What effect would this have? Bear farms in China would remain operational, and legal bear hunting would continue in various range states. However, legal hunters would be discouraged from harvesting gall-bladders (other than to sell to a few selected domestic markets). By further restricting the supply of bear products to the market, their price would most certainly increase. This would encourage further bear farming within China and would create additional incentives for poaching in all range states.

Listing all bears on Appendix I would still not solve the 'look-alike' problem, because bear gall-bladders are virtually indistinguishable from the gall-bladders of other animals such as pigs. Indeed, many 'bear' gall-bladders available on the market are in fact fakes from pigs, cows and other animals. This presents a real

challenge for enforcement, but also provides an opportunity to create a credible legal supply source of officially authenticated bear gall-bladders, that could effectively out-compete many illegal supply sources. Hong Kong has already introduced a system of authentication, with positive results.

If a consumer authentication system could be linked to an appropriate mechanism to retrieve gall-bladders from legally hunted bears, this could have positive benefits all around - to hunters, conservationists, consumers and animal welfarists eager for an alternative to bear farming. But is CITES appropriately structured to facilitate the development of such a system?

Lessons

The case of the bear trade highlights several problems with the CITES mechanism. First, it suggests that Appendix III listings may have little value, because they are ignored by some consumer nations. Second, it demonstrates that Appendix I listings are difficult to enforce when there are 'look-alike' species that are listed on Appendix II or, worse, not listed at all. The only foolproof solution to this problem is to list *all* look-alike species on Appendix I. In the case of bear gall-bladders, this would mean listing not only all bear species, but also all other look-alike species (such as the domestic pig!) on Appendix I, which is obviously impractical.

The well-established practice of bear farming in China presents a further challenge to CITES. The Chinese government has indicated that it believes that bear farms are the only practical solution to the bear conservation problem, and is clearly reluctant to close them down. In any event, closing all bear farms would probably have disastrous consequences for wild bears, because the resultant supply shortage would almost certainly trigger a drastic price increase, which would fuel another surge in poaching activity.

Most farmed bears are Appendix I listed species, so China is not allowed to export these, unless it registers its farms as captive breeding facilities under CITES. Thus far, the Chinese government has not applied to register its farms, because of fairly vigorous opposition to this idea. However, there is clear evidence that bear farming has substantially reduced the domestic market price of wild-harvested bear gall-bladders in China, and there can be little doubt that if China were allowed to export farmed bile, prices would fall elsewhere too, with beneficial effects for wild

bears everywhere. Unfortunately, bear farming raises significant animal welfare considerations, and there is a degree of conflict between what is best for the welfare of individual farmed bears, and what is best for conservation of wild bears. CITES is not designed to deal effectively with this conflict.

Conclusions

The four case studies discussed above have certain similarities. All four involve large charismatic mammal species, which yield high value products that are in great demand in Asian markets. Three of the examples involve products that are sought after as essential ingredients in traditional Asian medicines, and for which substitutes are not readily accepted (this is especially true of rhino horn). All these products are relatively easy to smuggle; they can be reduced to fairly small sizes and easily concealed; some (e.g. bear gall bladders) also resemble other products for which trade is legal, thereby complicating the task of customs officials.

How well did listings on CITES Appendices I, II and III perform for these case studies? The only species that seems to have benefited from an Appendix I listing is the African elephant. However, as discussed above, this listing may not be economically sustainable in the long term, as elephant numbers continue to increase to problematic levels. Appendix I listings have not stopped illegal commercial exploitation of rhinos, tigers and bears.

The Appendix II down-listing appears to have worked for the southern white rhino, but this probably has more to do with good domestic management and field protection than to CITES. An Appendix II listing did not appear to work for the African elephant, and the listing of the American black bear for 'look-alike' reasons has been largely ignored by traders of bear products, whilst creating unnecessary additional complications for legal trophy hunters. Similarly, an Appendix III listing of the American black bear seemed to have little positive effect.

The system of listing species on different Appendices is problematic. If a particular species is 'split-listed', this creates an opportunity to launder products through the jurisdiction with the most lenient regulations. The only real solution is to list the species on one Appendix over its entire range, as has been done for the African elephant. The problem with this is

that inevitably the entire species must be accorded the strictest status, i.e. CITES Appendix I, thereby penalising range states with good management systems who are both capable and keen to engage in legal trade. CITES tends to benefit those range states with poor management systems and inadequate field enforcement, thereby creating perverse and inappropriate incentives.

The CITES Appendix II system assumes that wildlife trade is a formal sector activity, and that all traders have an incentive to trade through legal and formal channels if their product was legally obtained. This is not so; most wildlife trade takes place through the informal sector, through traders who are keen to avoid customs duty and other taxes, and thus have incentives to under-declare their product shipments, if they declare them at all. Customs officials are not conservationists, but CITES places the full burden on them to catch offenders, without providing them with any real incentive to do so. One of the greatest challenges facing CITES is to create incentives for commercial exploitation and trade to take place through legal channels, regulated and monitored by people with a vested interest in conservation.

Perhaps the most serious shortcoming of CITES is its narrow focus on restricting 'trade'. Trade itself is not bad for conservation. There are many examples of species whose conservation status has been greatly enhanced by commercial exploitation, such as the southern white rhino. The future of successful conservation lies in recognising instances where trade can be beneficial to a species, and creating a mechanism that encourages *sustainable* use and *legal* trade, while discouraging unsustainable and illegal exploitation only.

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