

Conservation news

New rhino conservation project in South Africa to understand landowner decision-making

Africa is facing a rhino-poaching crisis, largely driven by increased demand for rhino horn in Asia. This problem has received international attention and there have been general calls to invest more in anti-poaching efforts, increase enforcement of legislation against illegal trade, and develop projects to reduce demand in consumer states. In addition, two state conservation agencies responsible for protecting the largest populations of rhinos in South Africa have called for the legalization of trade in rhino horn. Following the 16th Convention of the Parties to CITES this suggestion was supported by the South African Minister of Environmental Affairs, who argued that legalization of trade 'is the right direction' as it could reduce poaching pressure and raise funds for conservation. This suggestion remains controversial but current attempts to predict the impacts of legalizing trade are hampered by a lack of information on the incentive structures that underpin rhino conservation in South Africa. Working together with partners we have recently developed an online system that aims to address this by monitoring factors influencing the decision-making of the owners of private reserves.

The importance of South African private reserves is often neglected in debates over rhino conservation but a quarter of South Africa's 20,700 rhinos are found on private land, more than the combined rhino population of the rest of Africa. Moreover, the country's success in conserving rhinos has been in part because of early recognition that involvement of private landowners would increase the availability of land, funding and expertise. This is why the state conservation agencies have long championed the role of private reserves by creating financial incentives for stocking rhinos, based on generating revenue from tourism, trophy hunting and live sales. This has helped increase the country's rhino population by 130% since 1997. Moreover, this increase continues, despite a 23-fold increase in poaching incidents over the past decade last year's poaching rate of 3.2% of South Africa's rhinos was less than the natural population growth.

Unfortunately, this annual rate of poaching continues to grow—reaching 4.3% of the population for the first 5 months of 2013—moving closer to the tipping point where rhino numbers would start to fall. However, the indirect impacts of poaching could be more critical for rhino conservation if they undermine the financial incentives for stocking these species on private land. This is because private reserves risk losing their animals, bear greater enforcement costs, and face increased economic uncertainty through changes in the market value of live rhino. This could seriously affect land

available for rhinos and anecdotal evidence already suggests some private reserves no longer wish to stock them. Such a move would also affect state agencies that rely on selling rhinos to the private sector as an important source of conservation revenue. It is significant, however, that this evidence is anecdotal. Although conservationists have developed increasingly sophisticated means of monitoring rhino numbers, there are no equivalent coordinated systems for understanding the critical human element underpinning the success of rhino conservation in South Africa. Thus, we lack reliable data on these trends, and can only speculate about how legalizing trade in rhino horn would change the incentive structure.

Funded by the Critical Ecosystem Partnership Fund, we have started working together with the Private Rhino Owners Association and the IUCN African Rhino Specialist Group to develop a system to monitor factors influencing decision-making by owners of private reserves. This system is based on an online questionnaire that includes sections on: About you, About the reserve, Reasons for stocking rhino, Incentives and barriers to stocking rhino, and The contribution of private reserves to rhino conservation. The system will be launched in May 2013 and should provide a wealth of data to help understand this crucial aspect of rhino conservation.

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Demand for rhino horn declines in Yemen

For decades, conservationists have been wary of Yemen's pivotal role in the trade in rhino horn. The oil boom in the Middle East in the 1970s caused a massive influx in remittances to Yemen and a huge demand for rhino horn to make handles for the traditional curved dagger, the *jambiya*. Demand for rhino horn rapidly resulted in the obliteration of rhinos in much of central and eastern Africa. Since the 1980s we have visited Yemen regularly to monitor the trade, encourage law enforcement and support the use of substitute materials to replace rhino horn.

Since 2008, however, kidnappings of foreigners and a breakdown in law and order in Yemen have meant that no conservationists went to check on the use of rhino horn, despite rising rhino poaching in Africa. However, after the revolution that started in 2011 a new President was elected in February 2012 and we were able to return in November 2012. We learned that the political crisis had made it easier to smuggle rhino horns, mostly from Kenya via Djibouti and

Khartoum, through customs at Sana'a airport. But annual imports have perhaps halved since 2008, to c. 25 kg of rhino horn in 2012. Yemen cannot compete with the higher prices offered in eastern Asia. Yemen's wholesale price for horn has remained stable since 2008 at USD 1,500 per kg. The left-over shavings sell illegally in Sana'a for USD 940 per kg, for the eastern Asian market. Vietnam and China are experiencing an economic boom, stimulating demand for the horn.

Yemen's economic crisis resulted in some Yemenis selling their valuable daggers with rhino horn handles, to pay for air passages to leave the country or simply to feed their families. Only the rich can now afford new rhino horn handles for their daggers and, unlike the former President, the new incumbent does not wear a *jambiya*. Moreover, many Yemenis in Sana'a no longer want to wear an expensive dagger on the street, for fear of it being stolen.

To help further reduce demand for new rhino horn, we produced billboards, banners, posters and stickers about the plight of the rhino. We posted these in the Sana'a zoo, and elsewhere in the city, including in shop windows and taxis. Apart from hostility from some sellers of rhino horn daggers in the souq, Yemenis welcomed us warmly, and were sympathetic.

With new rhino horn daggers less popular, Yemenis have been developing an alternative material for handles that is inexpensive yet closely resembles rhino horn. The handles are made of a gum with a mystery additive that looks like the grain seen in a rhino horn handle. This handle was first introduced in 2008, initially in China, we were told, and has been steadily improved by artisans in the Sana'a souq. Some Yemenis who will not wear cheap daggers with water buffalo horn handles (which are most commonly made) are happy to wear these new so-called Chinese daggers. Many people in Sana'a mistakenly believe they are still imported from China but they are actually being crafted in the souq, bringing much needed employment to artisans.

The time is ripe to expand the marketing of the new *jambiya*. We spoke with journalists in Sana'a who agreed that these new daggers need to be publicized with a more alluring name: dragon's horn (*qarn al tinnin*) has been recommended as it conjures up images of mystery, legend and power combined. Let us hope it catches on in a country ready to move on, with Yemenis seeking change and improvement in multiple ways.

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Rediscovery of the supposedly extinct *Dipterocarpus cinereus*

Trees of the family Dipterocarpaceae are valued for their timber and resin. In Sumatra the family is represented by

eight genera and c. 109 species and six subspecies, of which at least 11 species are endemic. One of these endemics, *Dipterocarpus cinereus* Sloot., was categorized as Extinct on the IUCN Red List in 1998. According to Ashton (*Dipterocarpaceae*. Flora Malesiana, Series I, 92, 237–552) this species is only known from the c. 8,000 ha Mursala (= Morsala, Moesala or Mansalaar) Island in the District of Tapanuli Tengah in North Sumatra Province. It was first collected in 1916 by A.V. Theunissen and described by Dirk Fok van Slooten under the name *Dipterocarpus cinerea* in 1927. In 1982 Peter Ashton asserted its name to be *Dipterocarpus cinereus* Sloot.

With the support of the Government of Indonesia through the Indonesian Institute of Sciences, Bogor Botanic Gardens carried out an expedition during March–April 2013 to survey for a possible remnant population of *D. cinereus* on Mursala Island. After more than 2 weeks the team found *D. cinereus* in at least two localities. However, we found only three mature trees, and several seedlings that we believe to be of this species. According to local people *D. cinereus* is a species targeted for its timber, along with other dipterocarp species such as *Dryobalanops aromatica*, *Shorea* spp. and *Dipterocarpus caudatus* ssp. *penangianus*.

Bogor Botanic Gardens is now carrying out further studies on the genetic variability of *D. cinereus* and other dipterocarp species found on the island. With the collaboration of the local people we are also planning to collect the fruits of *D. cinereus*, for propagation and future restoration of the species in the wild. Mursala Island is currently managed as a protected forest by the local government but we recommend that it receives improved protection, through the Ministry of Forestry.

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From research to responsible advocacy: the Association for Tropical Biology and Conservation finds common ground in Aceh, Indonesia

Dramatic losses of forest and biodiversity across the Asia-Pacific region are a great cause for concern. The region's tropical ecosystems are under immense pressures, be it from conversion to exotic plantations in Indonesia and Malaysia or intense demand for wildlife products in Vietnam and China. The fragmentation and disturbance of natural vegetation by proliferating road networks and other infrastructures is seriously affecting many sensitive species, especially those that are slow-reproducing, large-bodied or range-restricted. Such changes are already altering