

# Increasing rhino awareness in Yemen and a decline in the rhino horn trade

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## Abstract

In Yemen, the wholesale price for rhino horn for making dagger handles has remained at about USD 1,500/kg since 2006, unlike in eastern Asia where prices are over 10 times higher than in Yemen. Left-over shavings sell in Sana'a for about USD 940/kg and are illegally exported to eastern Asian markets. In November 2012, jambiya makers in the Sana'a old souk numbered 83 in 58 open workshops. More craftsmen are now using an increasingly popular material—a solidified gum—to make jambiya handles. These handles first appeared on the Yemen market in 2008 and in about 2010 were improved with a grainy material added that closely resembles rhino horn. Most people call them 'Chinese' jambiyas, believing they are imported from China. These inexpensive handles are now crafted in Sana'a. They need to be further promoted in Yemen. They are helping to reduce pressure on eastern Africa's rhinos. During our November 2012 visit to Yemen, we also worked on an education campaign on the plight of the rhino. Yemen is no longer a major threat to rhinos due to the country's economic crisis, the introduction of the new inexpensive material for making dagger handles, and further campaigning against the use of rhino horn.

## Résumé

Au Yémen le prix de la vente en gros pour la corne de rhinocéros (pour faire des manches de poignards) demeure à environ 1500 USD le kg depuis 2006 par rapport à l'Asie de l'Est où les prix se sont élevés à dix fois plus par rapport à ceux du Yémen. A Sanaa les restes de copeaux se vendent à environ 940 USD et sont exportés de façon illégale aux marchés de l'Asie de l'Est. En novembre 2012, on estimait le nombre de fabricants de jambiya au souk de Sanaa à 83 dans 58 ateliers ouverts. Davantage d'artisans utilisent maintenant un matériau de plus en plus populaire pour faire des manches de jambiya : une gomme solidifiée. Ces manches arrivaient sur le marché du Yémen en 2008 et ont été améliorées aux années 2010 par l'ajout d'un matériau granuleux qui ressemble beaucoup à la corne de rhinocéros. La plupart des gens appellent ces jambiyas «chinois», croyant qu'ils sont importés de Chine. Cependant, ces manches peu chers sont maintenant fabriqués à Sanaa ce qui donne du travail à ceux qui les fabriquent. Il faudrait les promouvoir davantage au Yémen car ils contribuent à réduire la pression sur les rhinocéros d'Afrique orientale. Lors de notre visite au Yémen en novembre 2012 nous avons travaillé sur une campagne d'éducation au sujet de la situation critique du rhinocéros. Le Yémen n'est plus une menace majeure pour les rhinocéros en raison du marasme économique du pays, l'introduction de ce nouveau matériau, et la campagne contre la corne du rhinocéros.

## Introduction

Yemen's soaring demand for rhino horn from eastern Africa in the 1970s and 1980s caused near obliteration of the northern white rhino and the black rhino by the early 1990s. This was despite the Yemen government's ban on rhino horn imports in 1982 and re-exports in 1987. Yemenis have had strong trading links with eastern Africa, and many Yemeni families have lived

for generations in the region. It thus remains relatively easy for traders to smuggle rhino horns to Yemen's capital, Sana'a, to be made into handles for the traditional curved dagger, the *jambiya*, an important possession still treasured by Yemeni men. Rhino horn remains the most sought-after material for a dagger handle.

One of the main factors that enabled Yemeni men in the 1970s to buy expensive jambiyas with

rhino horn handles was the oil boom in Saudi Arabia that brought them much wealth. Thousands of kilos of rhino horn from eastern Africa were carved up into dagger handles in Yemen, with the left-over chips and shavings being sold to China to be made into traditional Chinese medicines at government factories—until the China government banned the trade in 1993. In 1992, the Yemen government had banned all domestic trade in new rhino horn, and in that same year the grand mufti in Sana'a issued a fatwa to say it was against the will of God to kill rhinos for their horns (Martin et al. 1997). In 1997 Yemen finally joined CITES.

As rhino horn supplies reaching Yemen declined, only one of the several rhino horn trading families in Sana'a continued as a major player. Most craftsmen by the 1990s had resorted to carving water buffalo horn for handles (imported from the domestic Indian water buffalo). To promote this material, the government had removed its import tax. Although popular, these did not look like rhino horn handles and were never in the same league, and traders continued to look for substitutes. A public awareness campaign in 2007 and 2008 through banners, posters and stickers that we designed and printed in Sana'a, along with much media attention in the country, helped to encourage substitutes (Vigne et al. 2007; Vigne and Martin 2008).

Since 2008, rhino poaching has been rising in Africa once again, mainly for the East Asian market where there is an economic boom. The number of rhinos illegally killed in Africa has been the highest for several decades and has been especially serious in Zimbabwe and South Africa. While most horn from southern Africa is known to go to Viet Nam and China, there was concern that smuggling of rhino horn could have increased once more from East Africa to Yemen due to lack of law and order.

Yemen has been politically unstable for years, but due to the rising insecurity (including kidnapping of foreigners) culminating in a revolution in February 2011, no conservationists or other wildlife professionals had studied Yemen's rhino horn market since our last visits there in 2007 and 2008 (Vigne et al. 2007; Vigne and Martin 2008). It was therefore important to find out about any recent rhino horn trade, to increase rhino awareness, and to encourage substitute materials for dagger handles.

## Methodology

During a 10-day visit to Sana'a in mid-November 2012, we met the US and British ambassadors in Sana'a, Gerald Feierstein and Nicholas Hopton respectively, for advice and assistance and we shared information with them about the rhino horn trade threat in order to spread awareness. We had meetings with several high-level officials, some of whom we have worked with for many years. These officials included Dr Abdul Karim Al-Eryani, former prime minister, former foreign minister and presently an adviser to the new president; Abdulqader Ali Helal, new mayor of the capital; Abdul Karim Fakhir, Sana'a Zoo manager; and Abdulrahman Al-Eryani, former minister of Water and Environment and newly appointed as the first environment consultant to the president. We visited the government's Environment Protection Authority to talk to Mahmoud Shidiwah, chairman; Omer Baesher, CITES coordinator; and Al Fotooh Abdulla, director general, Biodiversity of Protected Areas.

Information was collected, largely with the help of informers, regarding the origin of new rhino horn still entering Yemen, trade routes, quantities of horn being imported and re-exported, and prices. We visited jambiya workshops, repairers and retailers in Sana'a, concentrating our survey work in the Sana'a Old Town souk. There, we counted the numbers of open workshops and jambiya craftsmen during a spot check one late afternoon when the craftsmen are most active. This method is consistent with our past counts (since the mid-1980s) to ascertain trends. We learned about the present-day making of dagger handles and substitutes, and we heard the views of craftsmen, traders and the general public regarding jambiyas, rhino horn and substitutes. We had a meeting with the head of the main jambiya-making family.

We also produced in Sana'a more stickers, posters, banners and billboards for Sana'a Zoo and elsewhere for a renewed rhino awareness drive. We sent a banner also to the Taiz zoo. We gave out CDs with PowerPoint presentations (in English and Arabic) and films about rhino poaching to influential people in Yemen. These included David Stanton, executive director, and Mohamed al-Duais, associate director of Yemen's Foundation for Endangered Wildlife, FEW, who are also teachers at the International School and Sana'a University, respectively; and to Tim Mackintosh-Smith, writer and educator in Yemen. We also provided laminated information sheets for

student notice boards and spoke to journalists to spread awareness further.

## **Results**

### *Political and economic situations in Yemen*

During the past two decades, Yemen's economy has been driven by oil, but supplies in Yemen have started to decline. Corruption at the highest level, severe unemployment and acute insecurity led the country towards a financial and political crisis that caused, in early 2011, riots in Sana'a and other cities. Following months of demonstrations, President Ali Abdulla Saleh, after 33 years of rule, in November 2011 agreed to step down and in February 2012, following elections, the former vice president, Abdo Rabbo Mansur Hadi, became president (CIA 2012). The revolution sent the economy into a downward spiral. The per capita income fell by over 10% in 2011 (CIA 2012). Half the population today lives below the poverty line and nearly a million small children are acutely malnourished. About 40% of the population lives on only USD 2 a day and many on USD 1 a day. The depressed economy was evident during our visit with some children in Sana'a lacking shoes and not a single tourist group seen, although tourism was formerly a major earner of foreign exchange.

Many Yemenis are divided in their support of the old regime or the new. During our visit, the recent political unrest was still evident. Soldiers were deployed in the capital's streets and even within Sana'a Zoo, where families simply go for entertainment. Some buildings had been burned, and many vehicles and taxis had bullet marks. Further turmoil occurred in September 2012 when a YouTube film denigrated Islam, and again riots led to acute insecurity in Sana'a. The windows of the US Embassy still had their bullet-proof glass splintered from the many bullets. The American staff working at the embassy had to remain in the compound except when on special missions.

Yemenis are tired of their past problems and are ready to see changes in their way of life, wanting more security, equity and, most important of all, an improved economy. The country yearns for reforms (Sanabani 2012; Abdulrahman Al-Eryani, pers. comm. November 2012). The government is aware of the need to generate jobs and growth. Assistance from other Gulf countries enabled the president to improve electricity and lower fuel prices in late 2012,

giving him popularity and providing the country with much-needed stability as time progresses towards elections to be held in 2013.

Due to the country's insecurity, our visit was not welcomed by the US and British ambassadors, whose travel advice is not to come to Yemen. They suggested that we kept a low profile because of kidnappings. The smuggling of rhino horn is not of great concern to diplomats nor to Yemen officials compared with the other problems they presently face. Not only is Yemen an impoverished nation with widespread hunger, it also has over 65,000 refugees who arrived from Ethiopia and Somalia in the first half of 2012, and who continue to come, adding to the economic strain.

Despite the acute challenges, Yemenis' support regarding our work was almost unanimous. Yemenis are renowned for being respectful and courteous and apart from a threatening incident in the souk from some of the retail jambiya salesmen, who blamed us for closing down their trade, forcing us to leave the souk in a hurry, Yemenis wanted to help us in reducing rhino horn demand. Some also asked for advice regarding assistance and expertise in wildlife and environmental issues that they requested us to publicize. Many officials and professionals are also aware of the need to improve their image to the outside world on environmental issues.

### *Rhino horn trade routes and trade in Sana'a*

Rhino horn is still in demand with the small percentage of people who can still afford it. The breakdown in law and order has helped illegal activities such as the rhino horn trade. In October 2012, according to informers, the wholesale price offered to dagger makers for chunks of rhino horn was USD 1,350–1,500/kg for raw whole horn (of about 3 kg on average) in Sana'a. The traders in Sana'a said they would pay USD 900 for rhino horn reaching Djibouti and from there, according to the main trading family, 'friends can help move the horns to Sana'a'; similarly they 'can arrange for horns to be brought to Yemen via contacts in Addis Ababa or Asmara'. The best way to transport horns, our informers were told, is on Yemenia Airlines from Djibouti or Khartoum, or a longer but safer way for a large quantity is via Dubai. Crossing the Red Sea is no longer safe for smuggling due to the many foreign navy vessels whose officers search boats for weapons and other contraband. Traders in Sana'a ask to be told

a day in advance of a rhino horn shipment in order to take care of Sana'a airport customs. The price paid for rhino horns brought to Sana'a depends on quality and condition, with large whole horns being favoured for making dagger handles. Yet the prices offered by dagger makers are not competitive with eastern Asian prices, suggesting that only those in eastern Africa whose contacts are limited to Yemen will offer them to Yemenis. In 2012, according to one of our informers, the main dagger trader bought horns from a Tanzanian and a Yemeni-Sudanese man when he was in his shop in the souk, proving it is easy to get horns through customs to the souk. The horn from the Tanzanian had been used up in 2012, with one of the jambiyas being sold retail for 170,000 rials (USD 783) to a sheikh for his son who was getting married. (Daggers with new rhino horn handles are generally cheaper than older ones as they lack the patina that older handles develop.)

Horns were generally said to originate from South Sudan, South Africa, the Democratic Republic of Congo and East Africa, notably Kenya. According to the main trader, about 22 to 25 kg of rhino horn were imported into Yemen from January to November 2012 and the main trader said he bought about 12 to 15 kg of recently imported horn in 2011. The main smugglers from Africa are Sudanese nationals, Yemeni sheikhs and diplomats, who are not searched. Sometimes horns are smuggled in cans of sesame oil, dates or food paste. Another technique used in Khartoum is to cover the horn in plastic packaging that is water and humidity proof and then insert the horn into stainless steel 20-kg date, ghee or butter containers, which are less likely to be thoroughly searched; the plastic packaging supposedly blocks X-rays, our informers were told. In 2010, we had been informed, most horns were cut into rectangular chunks to smuggle more easily, and most then originated from South Sudan, Tanzania and South Africa. Customs officers normally concentrate their searches on explosives and historical artefacts, making the smuggling of rhino horns easier.

The chips and shavings left over from carving dagger handles were being sold in 2012 for USD 930–950/kg. The main rhino horn trading family normally sells up to 3 kg to a buyer at one time. The main buyers in Sana'a are apparently a French national

working in Sana'a and a Pakistani businessman in Hong Kong who travels to Yemen to buy the shavings. The Yemeni trading family admitted that the recent revolution has benefited trade with laws more lax and easy to circumvent, and that no one comes from the government to check the market any more.

### *Jambiya workshops, retail outlets and alternatives to rhino horn jambiya handles*

The majority of jambiya artisans work in the Sana'a Old Town souk inside tightly packed small workshops that line about four alleyways, an area that has not changed for years. Despite the depressed economy and lack of foreign tourists, most workshops and retailers were active on the afternoon of our survey. We counted 55 open workshops and 83 craftsmen, including the youngest, a boy of six years. The numbers are fewer than in 2007 when we counted 74 and 124 respectively, which was a record number (Vigne et al. 2007). Some of the workshop doors and retail outlets were closed. This may be attributed mostly to the decline in work due to the economic recession, but perhaps also as our visit was soon after the 10-day public holiday following the Haj, when shopping declines.

Craftsmen were seen working on water buffalo horn handles and also the new gum handles, filing and decorating them before connecting them to a blade. Vendors call the new daggers 'Chinese' because many believe these daggers are all imported from China while some use the word 'Chinese' to mean 'copy'.



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Jambiya craftsmen in Sana'a's old souk continue to make handles for daggers in small workshops such as this one.

The material is imported in barrels through Hodeidah port and then put into handle-shaped moulds to set. This type of handle first appeared for sale in Sana'a in 2008. Around 2010, the handle had been increasingly refined to resemble rhino horn, bearing a similar grain within it. A 'mystery' ingredient, possibly powdered marble, is apparently added to the liquid gum. When it hardens the material is cut into blocks and shaped in the traditional manner into handles, as we saw in the workshops.

In the Sana'a Old Town's main rhino horn jambiya retail area, called Souk al Janabi, there were no obvious jambiyas with new rhino horn handles, and older ones were fewer and of poorer quality than on our previous visits. We were informed this was because the political unrest had increased insecurity and led to vendors keeping the majority of valuable ones safely at home. This retail area also had daggers with water buffalo horn handles but no 'Chinese' jambiyas. They are frowned upon in this market 'in the same way as Cartier would not sell fake diamonds', we were told. But outside the souk across the road from the main Old Town souk gate, called Bab al

Yemen, dagger retail outlets abound with this new material. Most stalls now prefer selling the 'Chinese' imitation rhino horn rather than water buffalo horn dagger handles. Some 'Chinese' handles have no grain but have translucent corners very similar to rhino horn handles, while now the most popular style at this market are the 'Chinese' ones with a grain. This is despite propaganda against them from the main jambiya trader (pers. comm. 17 November 2012). The main jambiya trader told us he will not allow any of his craftsmen to use this 'Chinese fake plastic' material nor will he sell it, although other artisans craft it in the souk, providing many hard-working men a much-needed income.

Jambiyas with rhino horn handles seen for sale in Sana'a are usually second or third hand, made since the 1970s, not the rare antiques with a provenance, which their owners normally keep. Those of rhino horn that we priced in Sana'a were of poor or average quality, selling for the equivalent of USD 140 to USD 1,395, depending on handle size and condition (Table 1). These prices are lower than in 2007 (Vigne et al. 2007), yet far higher than the replica 'Chinese' jambiyas that sell for only about USD 16 (Table 2).

The average price for new daggers with water buffalo horn or camel nail handles was USD 28, for wood USD 6, and for plastic USD 5 (Table 2), similar to 2007.

The sheath and belt are extra: 2,000 rials (USD 9) for an inexpensive sheath and belt that are fastened together by a repairer for 250 rials (USD 1.2). These cheap belts are made in Yemen using large computer-run sewing machines.

Table 1. Retail prices for jambiyas with rhino horn handles in Sana'a in November 2012

Handle size	Price range (rial)	Price range (USD)	Av. price (USD)
Small	30,000–110,000	140–512	305
Medium	75,000–110,000	349–512	426
Large	220,000–300,000	1,023–1,395	1,194

Neither very new handles nor very old jambiyas were seen for sale.

Table 2. Retail prices for jambiyas with inexpensive handles in Sana'a in November 2012

Handle material	Handle size	Price range (rial)	Price range (USD)	Av. price (USD)
Water buffalo horn	Small	3,000	14	14
Water buffalo horn	Medium	4,000–8,000	18–37	28
Water buffalo horn	Large	6,000–8,000	28–37	33
Camel nail	Medium	6,000	28	28
Gum ('Chinese')	Small	900–4,000	4–19	9
Gum ('Chinese')	Medium/large	1,200–6,000	6–28	16
Wood	Small/medium	1,200–1,300	6	6
Plastic	Medium	1,000–1,200	5–6	5

The best-quality belts, however, are made by hand with expensive gold thread, either by women at home or by inmates of the Central Sana'a Prison. These belts cost around 60,000 rials (USD 279). There are about six different stages in their making: one person draws the design, another sews the pattern with red or black cotton, a third fills the gaps with gold thread, a fourth man makes the leather backing, a fifth sews the two pieces together, and the final person adds the buckle. Some of these expensive belts are sold nowadays in new smart jambiya shops in the wealthy suburbs such as Hadda. Many newly rich Yemenis have built large houses in these areas and prefer to shop nearby rather than in the souk for replacement belts and also for *sayfani* jambiyas (the older best-quality ones with rhino horn handles).

*Public awareness campaign on rhinos and jambiyas*

It was important to resurrect the campaign we had initiated in 2007 and 2008 to spread awareness about

rhino poaching to reduce demand for new horn (Vigne et al. 2007; Vigne and Martin 2008). The staff at Sana'a Zoo welcomed our return and assisted us in choosing sites for new banners and billboards on metal stands and over the main gateway of the zoo. These showed an array of popular wild animals from Arabia and Africa, as well as a jambiya and the religious edict against killing rhinos. The zoo attracts about 600,000 Yemenis a year. After the 2012 haj, during their 10-day public holiday, about 70,000 visitors came, showing the zoo's popularity and suitability for rhino awareness. It is a good location for educational materials, including posters and stickers, as people take time to observe them, much needed in a country where few people know about rhinos or even what they look like.

The new mayor of Sana'a, Abdulqader Ali Helal, enthusiastically supported our awareness drive at the zoo and elsewhere in the city. He gave us contacts for television to show rhino awareness films. He also asked for more wildlife information and assistance at the zoo, as did the zoo staff, welcoming any expert advice to improve conditions for the animals.

We distributed stickers and posters in Sana'a with the help of Yemenis, displaying them in shop and taxi windows. These asked people to stop buying new rhino horn daggers. We stuck a poster at a cybercafe often visited by a member of the main jambiya-trading family, who was later seen taking photos of the poster. We talked to Yemenis about daggers and rhino horn as we circulated the stickers and posters. It was encouraging that most were interested and sympathetic. Many said we needed to talk to the main jambiya-making family, whom everybody knows, to tell this family to stop using and promoting rhino horn.

We had a meeting with Faris Sanabani, publisher of two prominent publications, the *Yemen Observer* and *Yemen Today*, who also produces a television programme shown in the afternoons, which is prime family viewing time. He suggested he would create an Arabic version of a rhino cartoon we brought him to use on his television programme to popularize rhino conservation. He and another leading journalist, Ahlem Mohsen, would also work



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At Sana'a Zoo we put up banners about the plight of rhinos, such as this one, over the main gateway.



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We printed in Yemen posters and stickers urging Yemenis not to buy jambiyas with rhino horn handles; these were stuck on walls and windows all over Sana'a during our rhino awareness campaign.

to promote the new and popular 'Chinese' jambiyas being made in Sana'a in the *Yemen Observer*.

### Public opinion about jambiyas

An informed Yemeni explained, 'A jambiya is like the car you drive. That with a rhino horn handle is like a Ferrari—people notice it!' Yet people also get pleasure following new trends and fashion as in wearing the new 'Chinese' jambiya. The president, unlike his predecessor, does not wear a jambiya; as he is the country's main role model, this is advantageous to rhino conservation. The president epitomizes the trend that many now share of wanting modernization. With the growth of the internet, globalization and an increased wish to travel, many young men, especially in cities, are leaving behind their old tribal ways, such as wearing jambiyas. Yemenis are gradually becoming aware that the former flourishing rhino horn trade is a thing of the past. Some of the most educated Yemenis prefer jambiyas with agate handles, not only as gifts for foreign dignitaries but also to wear themselves on special occasions (Abdul Karim Al-Eryani, pers. comm., 14 November 2012). Mined in Yemen, agate is rare and expensive. Such a dagger costs around USD 1,000, thus is an appropriately expensive rhino horn substitute.

During Yemen's civil unrest in 2011, many Yemenis were forced to sell their expensive jambiyas

that were often inherited from their fathers. This was a last resort, sometimes to help people leave Yemen or simply to feed their families. Some intend to buy another old rhino horn dagger when they have enough money as old jambiyas cycle in the market. Yet gradually others are choosing the much less expensive 'Chinese' jambiyas. These are of course legal and do not threaten rhinos. A main reason for their demand is that the wearer can walk safely on the streets without fearing theft of a valuable jambiya with a rhino horn handle. Some better-off Yemenis who would not be seen wearing a jambiya with a water buffalo horn handle are happy to wear this new type of dagger as it is so similar in appearance to rhino horn. Even if they still possess a rhino horn one, they often prefer to keep it nowadays safely at home and wear their Chinese alternative.

### Conclusion

Yemen is no longer a major threat to rhinos. First, the severely slumped economy makes it harder for Yemenis to afford rhino horn. Second, there has been a sharp rise in the international price for rhino horn, mostly due to the growth in demand in Viet Nam and China. Third, young Yemenis are modernizing due to increasing popularity in the internet and the media, resulting in more men choosing to wear trousers as opposed to Yemeni dress. Fourth, the new improved, inexpensive material for dagger handles called 'Chinese' resembles rhino horn much more closely than previous alternatives.

Some who will not wear the cheap water buffalo horn daggers are now willing to wear these 'Chinese' ones. They are increasingly being crafted in the souk, giving employment and a new enthusiasm. These handles, however, are discouraged by the main jambiya-making family as they compete with traditional materials, including rhino horn. Even so, the new handles have become popular as the wearers do not need to fear having a valuable rhino horn dagger stolen. Many fathers are choosing to buy this new inexpensive variety for their sons.

It is important for Yemenis to promote these jambiyas and find a more alluring name for them



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A father wears his jambiya with a rhino horn handle while his young son wears one with the much cheaper new substitute.

(dragon's horn has been discussed) to improve their image and marketing success. Public awareness against new rhino horn jambiyas also must continue to discourage wealthy young men who are able to afford them from doing so. Demand for rhino horn not only threatens the rhinos' survival but of course also encourages corruption at all levels in Africa and Asia as well as the loss of human lives, notably poachers and wildlife guards.

The Yemen market, once the main market for rhino horn in the world, has shrunk and has been replaced mainly by Vietnamese demand where traders are willing to pay far greater prices for the horn. Yet Yemen's market must be checked regularly and substitutes for rhino horn continuously encouraged to prevent any possibility of the trade becoming a threat to rhinos again.

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More jambiyas with handles made of the new inexpensive gum substitute can now be seen for sale in and around Sana'a's old souk.

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