REVISITING CHINA’S IVORY MARKETS IN 2017

Yuankun Zhao, Ling Xu, Yu Xiao, Jing Guan and Wilson Lau

August 2017

KEY points:

• In December 2016, the State Council of the People’s Republic of China announced the timetable for a domestic ivory trade ban. A first batch of 67 ivory manufacturers and retail stores was slated to cease processing and selling of elephant ivory on or before 31 March 2017, whilst the remaining group of 105 manufacturers and stores are set to shut down all ivory operations before 31 December 2017. The legal commercial ivory trade from all registered manufacturers and retail stores in China will be completely prohibited by the start of 2018.

• In terms of China’s legal ivory market, 50 of the total of 55 accredited retail outlets that were shut down by March 2017 were visited by researchers in the period April to June 2017, and the findings suggest that all 50 of these stores had ceased (openly) to offer ivory products for sale. One of the surveyed accredited stores was found to sell illegal ivory secretly. Surveys were also conducted at another 60 accredited stores that were slated to close by the end of the year, with 17 stores (28.3%) found to be violating various regulations and four (6.7%) operating outside of the State Forestry Administration (SFA)-designated store locations, thus breaking existing ivory trade laws in China; 23 offered discounts of varying degrees on their ivory products; and 21 dealers mentioned their opinions on what should happen with respect to unsold ivory stocks when the ban takes effect.

• With respect to illegal ivory markets in China, 22 cities were visited in March–May 2017 and a total of 2,307 ivory products in 503 illegal outlets were observed. The average number of ivory items openly displayed or shown to TRAFFIC per outlet was five, with 90% of the ivory products found to be small items, for example bangles, bracelets, necklaces, rings and pendants. Illegal ivory products were reported to be sourced mainly from manufacturers in Fujian Province, with a very small number of items said to be smuggled from Thailand and Viet Nam.

• In the legal ivory market, the average price of a pair of ivory chopsticks was USD4.52/pair, while ivory bangles averaged USD1.58. In the illegal market, the corresponding prices were USD1.53 for a pair of chopsticks and USD36.68 for a bangle. Lower than the legal market price by 72% and 64%, respectively. Compared to 2012, the average price of ivory chopsticks and bangles in the illegal market in 2017 had declined by 57% and 25%, respectively. The average price of ivory pendants in illegal markets was USD6.80/gram in 2012, which was similar to the price in 2017 of USD7.00/gram.

• From January to April 2017, TRAFFIC monitored 33 websites and found 1,687 new advertisements for ivory items, some 382 advertisements (19%) fewer compared to the same period in 2016. Among them, 1,658 (98%) advertisements were concentrated on just five collection websites. Some 19 (more than 60%) of monitored websites were not found to have any illegal ivory products for sale.

• On 24 April 2017, TRAFFIC reviewed 35 targeted social media users and found 301 postings of illegal ivory items, 1,779 pictures and 27 videos. On average, each of these targeted users had nine advertisements, 51 pictures and one video, which represents a decrease of 28%, 15% and 47%, respectively, compared to the same month in 2016. Seven active users posted 99% of the ivory advertisements observed. Moreover, semi- and raw ivory pieces were being marketed through social media channels, presumably in an attempt to target illegal ivory processors.

• In 1981, China became a Party to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), which had already enforced a global ban on the trade of Asian Elephants Elephas maximus and their products through listing in CITES Appendix I.

• In 1988, China issued the Wild Animal Protection Law, which listed the Asian Elephant as a first class protected species.

• In 1989, at the 7th Conference of the Parties to CITES (CoP7), the African Elephant Loxodonta africana was upgraded to CITES Appendix I, which prohibited all international ivory trade for commercial purposes. China banned the import of
African Elephants and ivory products in 1990, and then began to conduct an inventory and registration process for its stockpile of raw ivory.

- In 1993, the African Elephant was classified as a national first-class protected species under Chinese law in order to improve management and enforcement of any ivory trade in China (SFA, 1993).

- In 1997, at CITES CoP10, the elephant populations of Botswana, Namibia and Zimbabwe were downlisted to CITES Appendix II, and a one-off sale of ivory from these countries to Japan was sanctioned, which took place in 1999.

- In 2000, at CITES CoP11, South Africa's elephant population was added to CITES Appendix II, but the Parties did not allow any further ivory sales.

- In 2002, at CITES CoP12, the ivory trade ban was partly lifted with the approval of a second conditional one-off sale involving three African countries, Botswana, Namibia and South Africa (Zimbabwe’s bid was defeated). However, a series of conditional milestones needed to be achieved first, including the effective roll-out of the Monitoring Illegal Killing of Elephants (MIKE) programme’s baseline.

- In 2004, China initiated an Ivory Registration and Certification system to allow the processing and sale of ivory by authorized manufacturers and outlets (SFA, 2008).

- In 2006, ivory carving was listed as a component of China’s intangible cultural heritage (The State Council, 2006).

- In 2006, the baseline data were still not in place but the Standing Committee approved Japan as a trading partner for the one-off sale approved in 2002.

- In 2007, the Standing Committee meeting before CITES CoP14 agreed that the baseline data were met, but rejected an application by China to be a trading partner. At CoP14, a negotiation between African Elephant range States, otherwise known as the African Compromise, was approved by the CITES Parties and resulted in adding Zimbabwe to the list of African countries allowed to sell government stocks of ivory in the still pending one-off ivory sale.

- In 2007, at the 57th meeting of the CITES Standing Committee, on a recommendation from the CITES Secretariat, China was designated as an ivory trading partner in the context of the one-off ivory sale that was previously agreed in 2002. This designation allowed China to join Japan and legally import raw ivory stocks that had been approved at CITES CoP14 as eligible for trade under the African Compromise.

- In 2008, the Standing Committee approved a new application from China for trading partner status and the one-off sale took place later that year. This development ultimately allowed for 62 tonnes of elephant tusks from Zimbabwe, Botswana, Namibia and South Africa to be legally imported into China as raw materials for the country’s domestic ivory carving industry.

- The population of African Elephants declined from an estimated 1.2 million in 1981 to less than 500,000 in 2016 (Thouless et al., 2016). The Elephant Trade Information System (ETIS), which collates and analyses ivory seizure information from around the world on behalf of CITES Parties, has identified China as the leading ivory smuggling destination globally since 2002. To support international efforts for elephant conservation, President Xi and President Obama made a joint announcement in 2015 to commit to shutting down domestic ivory markets in China and the United States.
In April and May 2017, a TRAFFIC and WWF team visited 110 accredited ivory stores in 23 cities (Figure 1), which represented 85% of all accredited shops approved by the State Forestry Administration (SFA) in 2015 (SFA, 2015). Amongst the stores visited, 50 stores had been included in the first batch of retail outlets that had ceased ivory trading by 31 March 2017 (out of 55 retail stores, or 90% of those affected in the first phase), which were located in 21 cities. The other 60 outlets visited were located in 11 cities, and belong to the second batch of retail outlets due to cease ivory trading by the end of December 2017, accounting for 68% of all second batch retail outlets (Figure 2). The survey locations were mainly found in shopping malls and antiques markets.

This research into the status of ivory trading in China was conducted after the first group of ivory manufacturers and retail stores had ceased trading in ivory on 31 March 2017. The research assesses the compliance of these ivory manufacturers and retail stores in implementing the ivory ban, and to some extent, the readiness of the second batch of outlets to do so by the end of December 2017. It also examined other illegal avenues through which ivory continues to be offered for sale. The aim of TRAFFIC’s research, therefore, is to assess the effectiveness and impact of the ivory ban and to provide recommendations successfully to shut down illegal ivory markets domestically and support efforts to reduce consumer demand for ivory in China.

**METHODOLOGY**

**Legal ivory market**

In April and May 2017, a TRAFFIC and WWF team visited 110 accredited ivory stores in 23 cities (Figure 1), which represented 85% of all accredited shops approved by the State Forestry Administration (SFA) in 2015 (SFA, 2015). Amongst the stores visited, 50 stores had been included in the first batch of retail outlets that had ceased ivory trading by 31 March 2017 (out of 55 retail stores, or 90% of those affected in the first phase), which were located in 21 cities. The other 60 outlets visited were located in 11 cities, and belong to the second batch of retail outlets due to cease ivory trading by the end of December 2017, accounting for 68% of all second batch retail outlets (Figure 2). The survey locations were mainly found in shopping malls and antiques markets.

1 This report refers to elephant ivory as “ivory”, other types of ivory are separately described.
The main issue assessed amongst the first batch of ivory outlets was whether they were still selling ivory products or not and, for the second group of ivory stores, whether they were abiding by the ivory registration and certification regulations. The relevant SFA regulations related to:

- Displaying ivory products with accompanying individual identification cards;
- The identification cards were given with the product upon purchase, if asked;
- Displaying the registration certification of accredited ivory stores, and materials and signage that show the message that “ivory can only be sold in mainland China”, as well as other communications materials on elephant conservation required by the SFA (SFA, 2008).

To aid analysis, the various cities offering ivory for sale were classified by TRAFFIC into three categories, according to the compliance with regulations by accredited stores located in the city.

- Category A: all accredited stores in the city abiding by the regulations;
- Category B: 30–60% of accredited stores in the city violating the regulations, e.g. not displaying licences, slogans and corresponding identification cards with ivory products, and refusing to provide identification cards with purchases;
- Category C: 60–100% accredited stores in the city violating the regulations, e.g. not displaying licences and corresponding identification cards with ivory products, and refusing to provide identification cards with purchases.

Accredited stores in Beijing legal market.

Figure 2. Distribution of accredited shops in different provinces and municipalities affected by the first and second phase of the ivory market shut down

The main issue assessed amongst the first batch of ivory outlets was whether they were still selling ivory products or not and, for the second group of ivory stores, whether they were abiding by the ivory registration and certification regulations. The relevant SFA regulations related to:

- Displaying ivory products with accompanying individual identification cards;
- The identification cards were given with the product upon purchase, if asked;
- Displaying the registration certification of accredited ivory stores, and materials and signage that show the message that “ivory can only be sold in mainland China”, as well as other communications materials on elephant conservation required by the SFA (SFA, 2008).

To aid analysis, the various cities offering ivory for sale were classified by TRAFFIC into three categories, according to the compliance with regulations by accredited stores located in the city.

- Category A: all accredited stores in the city abiding by the regulations;
- Category B: 30–60% of accredited stores in the city violating the regulations, e.g. not displaying licences, slogans and corresponding identification cards with ivory products, and refusing to provide identification cards with purchases;
- Category C: 60–100% accredited stores in the city violating the regulations, e.g. not displaying licences and corresponding identification cards with ivory products, and refusing to provide identification cards with purchases.

Accredited stores in Beijing legal market.

Table: Distribution of accredited shops in different provinces and municipalities affected by the first and second phase of the ivory market shut down

<table>
<thead>
<tr>
<th>Province</th>
<th>No. of Accredited Shops to Shut Down Before 31 December 2017</th>
<th>No. of Accredited Shops Shut Down Before 31 March 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>BJ Beijing</td>
<td>33</td>
<td>14</td>
</tr>
<tr>
<td>GD Guangdong</td>
<td>15</td>
<td>10</td>
</tr>
<tr>
<td>FJ Fujian</td>
<td>9</td>
<td>7</td>
</tr>
<tr>
<td>JS Jiangsu</td>
<td>12</td>
<td>5</td>
</tr>
<tr>
<td>ZJ Zhejiang</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>LN Liaoning</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>SX Shanxi</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>TJ Tianjin</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>GX Guangxi</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>HLJ Heilongjiang</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>HB Hebei</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>HN Henan</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>JX Jiangxi</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>IM Inner Mongolia</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>SD Shandong</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>S’X Shaan’xi</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>YN Yunnan</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>SC Sichuan</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>HB Hubei</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>CQ Chongqing</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
ILLEGAL IVORY MARKET

Physical market

TRAFFIC and WWF have been conducting market surveys on illegal ivory trade since 2007. During each survey, details about illegal ivory trade were recorded, including cities, names and addresses of the markets and shops visited, and the number and type of ivory products, prices and weight of the items, as well as sources and origins, if possible, via in-depth conversation. Due to differences in the number of surveyed cities/markets in different years, “the average number of ivory items openly displayed for sale per outlet” is used to compare and assess trade trends in physical markets over the past years.

For this research, TRAFFIC and WWF visited ivory outlets in 22 cities (Table 1), which can be divided into first-tier (mega)-cities, second-tier cities and third-tier cities. Beyond the mega-cities of Beijing, Tianjin, Shanghai and Guangzhou, China has some 170 second-tier cities, which are loosely defined as provincial capital cities or municipalities with populations ranging from four to over 14 million people. Others are listed in third-tier cities.

Table 1. Cities visited for the physical market survey in 2017

<table>
<thead>
<tr>
<th>First-tier cities (4)</th>
<th>Beijing, Shanghai, Guangzhou, Tianjin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Second-tier cities (14)</td>
<td>Hangzhou, Nanjing, Suzhou, Harbin, Xi'an, Taiyuan, Zhengzhou, Chengdu, Chongqing, Kunming, Changzhou, Xiamen, Fuzhou, Nanning</td>
</tr>
<tr>
<td>Third-tier cities (4)</td>
<td>Pu'er, Putian, Xishuangbanna, Yuxi</td>
</tr>
</tbody>
</table>

Online Market

In China, all online ivory trade is prohibited and therefore all findings of ivory being offered online are considered illegal. TRAFFIC started undertaking online monitoring of illegal ivory trade from 2010. Since 2012, monthly online monitoring has been carried out. The methodology of this research was the same as that used in previous e-commerce surveys, which is based on the routine monitoring of selected Chinese websites by searching keywords for specific illegal wildlife products and recording the number of new ivory product advertisements every month (Xiao and Wang, 2015). Due to the very large number of advertisements, it is not possible to capture all online ivory trade, so “Total Ivory Product Advertisements (TIPA)”3 and “New Ivory Product Advertisements (NIPA)”4 are recorded monthly to evaluate illegal activities on each individual website monitored. Previous research indicates that the NIPA indicator does reflect adequately the level and trend in illegal ivory trade online overall. In this regard, NIPA excludes older advertisements of illegal ivory, capturing data on new offers of ivory trade products (Xiao and Wang, 2015). TRAFFIC also routinely monitors a growing number of websites through keyword searches, many of which are purposefully designed to evade the monitoring of law enforcement. A total of 40 keywords were used in the current survey to identify ivory products online, including “XY”, “牙”, “X teeth”, “white plastic”, “jelly”, “yellow material”, “African material” and so on. TRAFFIC divides websites into four types, according to the way commodities are sold and/or advertised on the different platforms: Collection websites, Collection forums, Service websites and E-commerce websites (Guan, unpublished report). Collection websites are mainly focused on the antiques trade; Collection forums are used for information exchange where users can share or advertise information on specific boards; Service websites and E-commerce websites are places where a wide range of products are sold, not only ivory items, and generally include basic information, unlike on Collection websites and forums. TRAFFIC sends the results of its online monitoring to website/platform managers and government law enforcement agencies for their reference and follow-up, which could lead to punitive actions being taken.

---

3 TIPA: Total Ivory Product Advertisements
4 NIPA: New Ivory Product Advertisements
Social Media Market

In March 2014, TRAFFIC began monitoring illegal ivory trade on social media platforms, which were increasing rapidly at the time (Xiao and Wang, 2015). TRAFFIC surveyed targeted users who regularly posted illegal ivory advertisements on exclusive invitation-only social media platforms and recorded important information, including the number of illegal ivory advertisements, pictures and videos, types of ivory products, and their prices. “The number of advertisements, pictures and videos per user” have been used for comparison in order to assess trade trends on social media platforms (Xiao et al., 2017).

Finally, prices of different ivory products in legal and illegal markets, from the different platforms on which they appeared, were compared. In the legal physical markets, chopsticks and bangles were selected for comparison; in the illegal physical, online and social media markets, chopsticks, bangles and non-carved pendants were selected for comparison. The prices of these machine-produced ivory products can be a relative indicator of raw ivory values. By comparing the prices of these generic ivory products, which are less influenced by the value-added artistic embellishment attributed to masterly carved ivory objects, overall trends in the value of ivory products on the Chinese market can be assessed over time.

A conversion rate of US Dollar (USD)1 = 6.89171 Chinese Renminbi (RMB) / RMB 1 = 0.14507 USD was used.\(^5\)

RESULTS AND DISCUSSION

Legal ivory market

The survey of the 50 accredited ivory outlets which were included in the first batch of outlets to cease ivory trading in the context of the national ivory ban found that all surveyed outlets have stopped open sales of elephant ivory products. One outlet in Beijing, however, was found to offer illegal elephant ivory products secretly. Out of the 50 accredited ivory outlets surveyed, 12 stores (24.0%) have changed their business to trade in mammoth ivory, jade and wood carvings; while 38 stores (76.0%) were closed for business. The single exception was an accredited shop in Beijing that was ostensibly selling only mammoth ivory, but when asked for elephant ivory, products were produced from under the table; the vendor also said that the ivory product identification card, which was also observed, would not be provided in the event of a sale.

\(^5\)https://www.oanda.com/currency/converter/ accessed on 3 May 2017
Amongst the 60 accredited stores from the second batch that are scheduled to end ivory sales by December 2017, some were found to be violating current regulations: 16 stores (26.7%) did not display the corresponding ivory product identification card with displayed ivory items; three stores (5.0%) had no accreditation licence on display; while two stores (3.3%) had no communications materials, such as posters and slogans, on display. In all, 17 accredited stores (28.3%) were found to violate the ivory registration and certification regulations to varying degrees. In addition, four stores (6.7%) had failed to sell ivory from the registered location, which is against the law.

The percentage of outlets by cities that were found to be violating regulations was compared (Figure 3). Kunming had a score of 100% of stores in violation, as the one accredited store located in that city did not have its registered licence on display. Meanwhile, three out of four stores in Putian failed to display the corresponding identification cards, giving it a violation rate of 75%. By comparison, 12 out of 17 stores in Beijing had violated regulations (71%).

Kunming, Putian and Beijing are therefore listed as Category C, for a violation rate of over 70%. Stores in Tianjin, Fuzhou, Changzhou and Nanjing were found to have some violation issues, including a number of ivory products that did not have an accompanying ivory product identification card. With violation rates of these cities around 50%, these four cities are listed as Category B (30-60% of outlets violating regulations). There were no violation issues amongst stores in Shanghai, Hangzhou, Guangzhou and Shanxi, which are listed as Category A cities.

Category A: Shanghai, Hangzhou, Guangzhou, Taiyuan
Category B: Tianjin, Fuzhou, Changzhou, Nanjing
Category C: Kunming, Putian, Beijing

![Legal ivory carving in Beijing market.](image)

![Figure 3. Percentage of shops with violations among all shops visited in different cities](image)
Since the announcement of the ivory ban, a total of 23 accredited stores were found to be offering sales and discounts on ivory items to attract consumers and to liquidate their stocks. These discount-offering outlets were concentrated in Beijing, Shanghai and Guangzhou. Six out of the 23 stores were State-owned enterprises and 17 were private companies. As for the discounts, four stores in Guangzhou, Nanjing and Dalian were offering discounts of 60% or more off ivory items. The remaining (19) stores were offering discounts on some items, ranging between 10% and 40% off; among them, three stores had 40% off, 10 stores had 30% off, two shops had 20% off and one shop had 10% off. This suggested that a 30% discount was an average discount level for most ivory dealers at the current point in time.

Although an ivory trade ban is imminent, the China government has yet to articulate a clear ivory stock management policy concerning what will happen to unsold ivory stocks currently in the hands of (formerly) accredited ivory dealers in the country after 31 December 2017. In the absence of a clear directive, industry insiders currently hold a wide range of opinions concerning what should happen. Based on insights from 21 accredited stores, seven (33%) had expectations that the government would re-purchase unsold stocks, five (24%) stated that they expected to display their ivory products in museums, four (19%) expected to keep their ivory stock collections and await for China’s ivory market to re-open in the future, three (14%) stated that they will attempt to put unsold ivory products up for auction, while two (9.5%) will attempt to sell all ivory stocks by the end of December 2017 (Figure 4). Government re-purchase and museum displays were the two most preferred options for managing unsold ivory stockpiles after the ban for most surveyed ivory dealers, but disposal through auctions or a future re-opening of the ivory market was not discounted.

Figure 4. Accredited dealers’ opinions on what will happen to unsold ivory stock
ILLEGAL IVORY MARKET

Physical market

From March to May 2017, a survey of illegal ivory trade was conducted in 22 cities in China. A total of 503 outlets were found to sell 2,307 ivory items illegally, which is an average of some five ivory items per outlet. This was a decline of 49% compared to findings in 2016, a 73% decline compared to a decade ago in 2007 (18 ivory items per outlet), and an 88% decline since the peak in 2011 (40 items per outlet) (Table 2 and Figure 5).

Table 2. Illegal ivory market availability, as observed by TRAFFIC in China (2007–2017)

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of cities surveyed</th>
<th>No. of illegal outlets</th>
<th>No. of ivory items</th>
<th>Average No. of illegal outlets per city</th>
<th>Average No. of ivory items per outlet</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>2</td>
<td>27</td>
<td>487</td>
<td>14</td>
<td>18</td>
</tr>
<tr>
<td>2008</td>
<td>3</td>
<td>14</td>
<td>530</td>
<td>5</td>
<td>38</td>
</tr>
<tr>
<td>2009</td>
<td>5</td>
<td>111</td>
<td>3981</td>
<td>22</td>
<td>36</td>
</tr>
<tr>
<td>2010</td>
<td>5</td>
<td>66</td>
<td>1184</td>
<td>13</td>
<td>18</td>
</tr>
<tr>
<td>2011</td>
<td>5</td>
<td>221</td>
<td>8818</td>
<td>44</td>
<td>40</td>
</tr>
<tr>
<td>2012</td>
<td>10</td>
<td>260</td>
<td>9239</td>
<td>26</td>
<td>36</td>
</tr>
<tr>
<td>2013</td>
<td>3</td>
<td>128</td>
<td>1473</td>
<td>43</td>
<td>12</td>
</tr>
<tr>
<td>2014</td>
<td>11</td>
<td>359</td>
<td>3690</td>
<td>33</td>
<td>10</td>
</tr>
<tr>
<td>2015</td>
<td>8</td>
<td>168</td>
<td>1318</td>
<td>21</td>
<td>8</td>
</tr>
<tr>
<td>2016</td>
<td>11</td>
<td>282</td>
<td>2596</td>
<td>26</td>
<td>9</td>
</tr>
<tr>
<td>2017</td>
<td>25</td>
<td>503</td>
<td>2307</td>
<td>20</td>
<td>5</td>
</tr>
</tbody>
</table>

Figure 5. Domestic ivory market trends in China 2007–2017
Trends in the number of ivory items observed being sold illegally in shops, as indicated by the average number of ivory items openly displayed per outlet, suggest that many items were openly displayed around 2008–2009 and 2011–2012 (Table 2 and Figure 5). For the period 2011–2012, more illegal ivory items in a larger number of outlets were observed in 2012 than 2011. However, 2011 had a higher average number of ivory items openly displayed per outlet. The high levels of ivory items observed between 2008 and 2012 began to drop significantly in 2013, stabilizing between 2013 and 2016 at much lower levels, before reaching its lowest point in 2017, in part due to policy change combined with persistent and effective law enforcement.

In the current 2017 survey, most illegal ivory items were sold in the second-tier cities. There were 1,742 ivory items found in 350 outlets in second-tier cities (n=14), accounting for 76% of the total observed ivory items. In contrast, the number of ivory items observed in 134 outlets in first-tier cities (n=4) totaled 513, accounting for 22% of the illegal ivory items observed during the survey. In the third-tier cities (n=4), only 33 ivory items were available in 19 outlets, making up just over 1% of the total observed ivory. The average number of ivory items openly displayed per outlet (five) was also highest in second-tier cities, compared to four items per outlet in first-tier cities and two in third-tier cities.

According to survey results and interviews with traders, most ivory products could be traced back to factories located in Fujian province, with a few items reportedly carved in Thailand or Viet Nam, which were presumably smuggled into China. Fujian is a leading distribution centre for small worked ivory products observed in other parts of China. In another province, Guangdong, traders reported that some ivory products were smuggled from Africa, others were from Viet Nam with Guangxi as a transit hub. Raw elephant tusks were rarely sold in physical illegal markets, and even in second-tier cities with a greater number of illegal ivory and respective outlets, 90% of ivory products were small items, especially bangles, bracelets, necklaces, rings and pendants.

To gain insight into ivory trade trends concerning what has been observable in one of the biggest ivory markets in China, TRAFFIC has been conducting annual surveys of illegal ivory markets in Beijing since 2007. The data allow for an analysis of trends in an illegal domestic ivory market over the past decade. Table 3 and Figure 6 show that during the period 2007–2017, a total of 4,593 ivory items were found in 551 illegal outlets in Beijing, indicating an average of eight ivory items per outlet over the 11-year period. The greatest average number of ivory items observed in Beijing was in 2009, when an average 39 ivory items openly displayed per outlet was found. In all other years, the average number of ivory items openly displayed per outlet never exceeded 17, with a continuous decrease from 2013 onwards to the present. The pattern of the average number of ivory items openly displayed per outlet in 2007–2017 in Beijing shows that immediate growth happened in 2009 and then stayed relatively stable at high levels between 2010 and 2014. It then dropped significantly in 2015 with a period of stability between 2015–2017 at lower levels. This change coincided with a period of concerted action by Beijing Forest Police in combating wildlife crime. For example, in the period from 2014 to mid-2016, a total of 51 criminal cases—mainly involving illegal ivory trade—were detected, and 86 suspects were arrested6. At CITES CoP17 in 2016 in Johannesburg, Sun Lei, Deputy Director of Beijing Forest Police received the Clark Bavin Award for Wildlife Law Enforcement for his contributions to combating wildlife crime in China.

---

Table 3. Observations at illegal ivory outlets in Beijing in 2007–2017

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of illegal ivory selling outlets found</th>
<th>No. of illegal ivory items observed</th>
<th>Average No. of ivory items openly displayed per outlet</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>6</td>
<td>101</td>
<td>17</td>
</tr>
<tr>
<td>2008</td>
<td>4</td>
<td>30</td>
<td>8</td>
</tr>
<tr>
<td>2009</td>
<td>6</td>
<td>236</td>
<td>39</td>
</tr>
<tr>
<td>2010</td>
<td>14</td>
<td>182</td>
<td>13</td>
</tr>
<tr>
<td>2011</td>
<td>91</td>
<td>956</td>
<td>11</td>
</tr>
<tr>
<td>2012</td>
<td>30</td>
<td>225</td>
<td>8</td>
</tr>
<tr>
<td>2013</td>
<td>73</td>
<td>826</td>
<td>11</td>
</tr>
<tr>
<td>2014</td>
<td>136</td>
<td>1254</td>
<td>9</td>
</tr>
<tr>
<td>2015</td>
<td>56</td>
<td>247</td>
<td>4</td>
</tr>
<tr>
<td>2016</td>
<td>64</td>
<td>293</td>
<td>5</td>
</tr>
<tr>
<td>2017</td>
<td>71</td>
<td>243</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>551</td>
<td>4593</td>
<td>8</td>
</tr>
</tbody>
</table>

Online market

From January to April 2017, TRAFFIC monitored 31 websites and found 1,687 new ivory advertisements among a total of 2,069 endangered species product advertisements; in the same months of 2016, 2,367 new ivory advertisements were found among 3,250 endangered species product advertisements (Figure 7). This represents an increasing ratio of ivory advertisements among all targeted endangered species product advertisements from 73% to 82% in 2016–2017. However, the number of new ivory advertisements in 2017 is lower than that in 2016 (19%).

7 TRAFFIC’s online research targets the following species: Elephants, rhinos, Tigers, sea turtles, pangolins, leopards, Helmeted Hornbills and Saiga Antelopes.
Among 1,687 new ivory advertisements observed in 2017, 1,658 (98%) were found on five collection websites. Some 19 (more than 60%) of websites surveyed did not have any illegal ivory products for sale. TRAFFIC’s online survey of ivory products was conducted monthly, and these monthly survey results are shared with website/platform operators, who then take a range of enforcement actions, including removal of advertisements, blocking keywords and closing the user’s account. The survey results indicate that the number of monthly new ivory advertisements tends to fluctuate from month to month, for example there were 487 advertisements in January; 357 in February; 490 in March and 353 in April.

Analysis of New Ivory Product Advertisements (NIPA) was undertaken over a longer period from January 2016 to April 2017. Figure 8 shows that NIPA reached a peak in May 2016 (1,036 new advertisements per month), but has gradually declined thereafter. The latest monitoring results in April 2017 showed that the NIPA is 353 new advertisements per month, which represented a decrease of 66% compared to the May 2016 peak. This decrease could be an indication of the impact of persistent monitoring work (in part by TRAFFIC) which has led to greater law enforcement actions by website managers and government law enforcement agencies.

Figure 7. Online Market Survey Results in the months January to April, in 2016 and 2017

Figure 8. The number of New Ivory Product Advertisements (NIPA) from January 2016 to April 2017
Social media market

The social media market has become another major channel for illegal ivory trade in China. Comparative monitoring results in 2015 and 2016 have shown that the number of illegal ivory products posted on social media platforms is increasing, as has the quantity of trade transactions (Xiao et al., 2017). More and more, dealers are using social media apps due to a number of favorable characteristics:

1. There is a widely-held perception that social media provides a secure, private platform, enabling people that have become “friends” to receive messages and make transactions in relative privacy;

2. Dealers can often use encrypted messaging, double-talk, video and emoji to replace text descriptions;

3. The final prices for ivory products sold through social media are not open to the public, and require direct consultation with the dealer, which then puts consumers directly in touch with those selling ivory and away from prying eyes;

4. Users can delete “moments” and “chat history” at any time and continue to post illegal ivory advertisements by using their “backup accounts” if their original accounts are ever blocked;

5. Some users hire “agents” to extend their audiences, which can massively increase the reach of illegal ivory dealers;

6. Raw elephant tusks or semi-worked ivory products can often be found on the social media platform, which are otherwise relatively difficult to find for sale in physical markets.

In a one-day snapshot survey conducted on 24 April 2017, TRAFFIC surveyed 35 targeted users and found 301 illegal ivory advertisements, as well as 1,779 pictures and 27 videos of ivory items. On average, each of these targeted users had produced about nine illegal ivory advertisements, 51 pictures and one video, representing a decrease of 28%, 15% and 47%, respectively, compared to a 2016 survey on the same date. However, the great majority of the illegal ivory advertisements (99%) were in fact posted by just seven active users (out of the 35 surveyed).
**PRICE COMPARISONS**

**Legal ivory market**

Price information was recorded in the market surveys of eight cities for ivory chopsticks (n=28), and six cities for ivory bangles (n=17) (Figures 9 and 10). As many legal retailers were offering major discounts on ivory products, all price information was recorded at the discounted price. The most expensive pair of ivory chopsticks was found in Tianjin (USD1,712) whilst the cheapest was found in Beijing (USD145). Overall, the average price in this dataset was USD542. The most expensive ivory bangles were found in Shanghai (USD3,556) whilst the cheapest was found in Beijing (USD348). Overall, the average price in this dataset was USD1,581.

![The highest prices for chopsticks](image1.png)

**Figure 9. The highest prices for a pair of chopsticks recorded in eight Chinese cities with orange line noting the average price, 2017**

![The highest prices for bangles](image2.png)

**Figure 10. The highest prices for (single) bangles recorded in six Chinese cities with orange line noting the average price, 2017**
Illegal ivory market

The survey recorded price information on illegal new ivory chopsticks (n=11) in four cities, ivory bangles (n=47) in 14 cities and non-carved ivory pendants (n=39) in eight cities (Figures 11, 12 and 13). The most expensive pair of ivory chopsticks was found in Hangzhou (USD290) whilst the cheapest was found in Beijing (USD116). Overall, the average price in this dataset was USD153.

The most expensive ivory bangle was found in Hangzhou (USD1,000) whilst the cheapest was also found in Hangzhou (USD232). Overall, the average price in this dataset was USD 568.

Figure 11. The highest prices for a pair of chopsticks recorded in four Chinese cities with orange line noting the average price, 2017

Figure 12. The highest prices for (single) bangles recorded in 12 Chinese cities with orange line noting the average price, 2017
For non-carved ivory pendants, the most expensive price was found in Harbin (USD7.30) whilst the cheapest was found in Zhengzhou (USD4.50). Overall, the average price in this dataset was USD4.60.

![The highest prices for (non-carved) pendants](image)

**Figure 13 The highest prices for (single) pendants recorded in eight Chinese cities with orange line noting the average price, 2017**

This research compared the prices of ivory chopsticks, bangles and non-carved pendants in both legal and illegal ivory markets in first-tier and second-tier cities. The ivory chopsticks, bangles and non-carved pendants are mostly machine-produced functional products, and their prices are usually not affected by artistic factors, so the prices can indirectly reflect the profitability of raw ivory markets.

Table 4. Comparative average price information for ivory chopsticks, bangles and pendants in first- and second-tier cities (Unit: USD)

<table>
<thead>
<tr>
<th></th>
<th>A pair of chopsticks (New)</th>
<th>(Single) bangles (New)</th>
<th>(Single) non-carved pendants</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Legal</td>
<td>Illegal</td>
<td>Legal</td>
</tr>
<tr>
<td>First-tier cities</td>
<td>560 (n=22)</td>
<td>116 (n=4)</td>
<td>1,783 (n=12)</td>
</tr>
<tr>
<td>Second-tier cities</td>
<td>474 (n=6)</td>
<td>174 (n=7)</td>
<td>1,097 (n=5)</td>
</tr>
<tr>
<td>Average</td>
<td>542 (n=28)</td>
<td>153 (n=11)</td>
<td>1,581 (n=17)</td>
</tr>
</tbody>
</table>

The prices for ivory chopsticks and bangles were compared for both legal and illegal markets, and between first-tier and second-tier cities. In general, this survey did not focus on third-tier cities and, as only 1.4% of the data concerned such locations, comparison with the data from first- and second-tier cities in not possible. The comparison of prices indicates considerable differences between those found in legal and illegal ivory markets in China (Table 4).

The average price of new chopsticks in illegal markets was USD153/pair, which is only a fraction (28%) of the price for the same product in legal markets (USD542/pair). The average price of new bangles in illegal markets was USD568, which again is only 36% of the price for the same item in legal markets (USD1,581).
So even with the discounts being offered in legal retail shops, ivory prices for these commodities were still several times greater than those found in China’s illegal market. This indicates that ivory trade profitability is still possible with prices at much lower levels. Compared with survey results five years ago, the 2017 illegal market average prices for these two popular items show a considerable decrease, with a 57% price decline in illegal ivory chopsticks (USD357/pair (n=7) in 2012) and 25% price decline for illegal ivory bangles (USD753 (n=160) in 2012) (TRAFFIC, unpublished data).

Considering the price of non-carved pendants, where price data were only collected in the illegal market, there appears to be only a modest difference between first-tier cities (average USD4.40/gram) and second-tier cities (average USD4.70/gram), and between 2016 (average USD4.30/gram) and 2017 (average USD4.70/gram).

Monitoring of seven very active social media users was also conducted over three one-day survey events on 24 April, 17 May and 11 June 2017. The average price for ivory bangles on offer was USD194, while ivory pendants were being sold for USD3.30/gram. Generally, the prices on social media platforms were slightly lower than those in physical markets. The reason for this may reflect ivory processing that occurred in Africa rather than within China where costs are greater. One pair of elephant tusk tips for sale on social media can cost USD3,483, while a cut section of elephant tusk costs USD1.40/gram.

Based on over 50 ivory seizures and investigations from law enforcement agencies in Beijing, the price of raw ivory tusks in the illegal market is shown below. Table 5 shows price information for (illegal) raw ivory tusks from 2015–2017 in China9. In 2015, after elephant tusks were smuggled into China, the first-hand wholesale price in two border provinces, Guangdong and Guangxi, was between USD870–1,450/kg; and the second-hand wholesale price in Beijing (one of the most important end-use markets) was USD2,320–2,900/kg. The price difference is about two to three times greater between wholesale ivory markets in southern and northern China. In addition, looking at the price series for the Beijing market, raw ivory prices dropped 20–25% between 2015 and 2016, and then dropped by 50% in 2017. In general, the price of raw ivory tusks has apparently declined over the past three years.

<table>
<thead>
<tr>
<th>Unit: USD/kg</th>
<th>1st half year in 2015</th>
<th>1st half year in 2016</th>
<th>1st half year in 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beijing</td>
<td>2,320–2,900</td>
<td>1,740–2,320</td>
<td>870–1,160</td>
</tr>
<tr>
<td>Guangdong/Guangxi</td>
<td>870–1,450</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

N/A = Not Available

CONCLUSION

This is TRAFFIC’s first assessment of China’s ivory markets since the formal announcement of the ban timetable by the Chinese government on 30 December 2016. The current report examines ivory markets in China during a critical period of transformation, shortly after 55 legal ivory retail stores shut down their ivory businesses. The physical ivory surveys conducted for this report found that the 50 retail outlets surveyed (out of the 55 retail outlets that had been scheduled to shut down ivory trade by March 2017), were all abiding by the new regulations to end the sale of ivory products completely with one exception: one outlet in Beijing was found to offer illegal elephant ivory products when such items were specifically asked for. In addition, signage bearing slogans such as “Nationally Appointed Ivory Specialist Store” and “Ivory Specialty Store” were found still to be displayed in some accredited stores that are already implementing the ban. This signage is clearly a legacy of the legal ivory trade.

---

8 The exchange rate used here is USD1=RMB6.3, as on June 2012.
9 Price information provided by an enforcement officer engaged in combating wildlife crime in China.
period but could now mislead consumers to believe that legal trade is still allowed and ivory is being sold.

Of the 60 retail outlets that were slated to be part of the second batch of legally operated ivory businesses to end ivory sales by December 2017, the results were mixed. The survey found 17 out of 60 stores (28.3%) in violation of the still in-force ivory registration and certification regulations to some degree, such as failing to show and provide ivory product identification cards for purchases, while four stores were selling ivory in unauthorized locations as defined by the State Forestry Administration, which is against the law (6.7% of total). Although the violation rate in 2017 is much lower than what was observed in 2016 (Xu et al., 2016), the legal ivory market is still in need of enhanced law enforcement.

Many of the accredited shops in the second batch of outlets (23 out of 60, or 38.3%), which are due to close down their ivory business at the end of December 2017 were offering discounts for ivory items. Four stores in Guangzhou (2), Tianjin and Dalian were offering more than 60% off listed prices, while the remaining 19 stores were offering discounts of between 10–40%, indicating a desire amongst the accredited ivory dealers to liquidate as much stock as possible before the ban takes hold. However, when asked what they were likely to do with existing ivory stockpiles after the ban was fully implemented, the expectations amongst accredited dealers was for the government to assist in finding alternative uses of the stocks. Government re-purchase (33%) and museum displays (24%) were stated by the majority of the accredited dealers as the two best ways to deal with ivory stockpiles. Other dealers expected unsold ivory to be offered as part of a future ivory auction, whilst still others expected ivory trade to reopen in the future so they were content to hold on to existing stocks. Whether any of these expectations will be met remains to be seen.

What is absent at this point in time is a clear government policy with respect to future ivory stockpile management. It is not clear if privately-owned ivory stocks will be required to be inventoried and declared to government, marked, held securely and subject to periodical audits to prevent leakage into existing illegal markets or not. The lack of clarity in terms of what happens next with regard to unsold ivory stocks is a serious issue which needs to be addressed.

In 22 cities surveyed for illegal ivory in physical markets, some 503 outlets were found to be offering a total of 2,307 ivory pieces for sale. The average number of ivory items openly displayed per outlet (five) was at the lowest level observed since 2007 when TRAFFIC began regular ivory market surveys in China, indicating that the physical markets for illegal ivory trade may be adapting to less conspicuous, lower risk marketing strategies in the face of persistent law enforcement. The greatest number of ivory items per outlet were found in second-tier cities, which may reflect a better regulation of ivory market availability in first-tier cities than in the second-tier cities. On the other hand, illegal physical market outlets in China are gaining more traction in second-tier cities and future monitoring needs to assess whether this is a consistent trend.

Online trade appeared to have declined in 2017, with a total of 1,687 new ivory advertisements found for sale in 31 websites between January to April 2017, which is a decrease of 19% compared to the same period in 2016. Despite this drop in new advertisements, the problem of illegal trade online still exists; an average of 400 new illegal ivory advertisements continue to be posted on various websites every month. Most of these new advertisements are concentrated in five collectors’ websites (98% of new ivory advertisements), therefore vigilant actions by a few website companies in removing illegal advertisements and preventing new postings through strengthened monitoring would be very effective.

Illegal ivory trade on social media has also witnessed improvements compared to the previous year, which was likely due to the strengthened joint efforts by social media companies and law enforcement agencies to stamp out postings by users for ivory products. The number of advertisements, pictures and videos showing and
offering illegal ivory on social media platforms in 2017 has declined compared to 2016 levels (decreases by 28% of advertisements, 15% of pictures and 47% of videos). However, findings suggest that numerous ivory dealers in physical markets now prefer to appeal to new consumers and conduct ivory transactions on social media platforms. These dealers might simply display two to three items in store, and post a much wider range of ivory items in pictures and videos on their social media “Moments”, while new interested customers that are added, or “friended”, can view these items privately. Financial transactions on social media could then occur via “Red Packet” or “Money Transfer”, with products delivered through a courier company, with buyer and seller never having to meet in person, and transactions entirely encrypted such that no trails are left. Understanding this medium of trading remains difficult to assess accurately.

Finally, price comparisons for ivory products in the legal and illegal markets suggest that illegal markets offer ivory items at a fraction of the price for a similar item offered through legal ivory trade channels, usually between two or three times cheaper. These differences are especially pronounced in first-tier cities compared to second-tier cities.

These findings together demonstrate a market in considerable flux. Various channels still exist for transactions of ivory items to be made, and despite the best efforts of law enforcement, the private sector and non-governmental organizations, illegal ivory trade continues to occur with regularity. The survey findings of this current monitoring effort suggest that ivory trade, both legal and illegal, has declined in some respects, but it is difficult to interpret exactly what the results mean. For example, the drop in the number of ivory products at individual illegal outlets in physical markets could represent adaptations and lower-risk marketing strategies in the face of an intense law enforcement climate. Likewise, the movement of illegal ivory trade to second-tier cities could also be motivated by perceptions of less law enforcement than what is occurring in first-tier cities. It is clear that the current situation is still far from the closure of China’s domestic ivory market that was envisioned when an ivory ban was announced in December 2016. These findings should, of course, be tempered by the fact that only a few months have passed since the ban’s announcement, and that most accredited outlets that have closed appear to be abiding by the rules of the ban.

Yet, what continues to be alarming is the scale and persistence of illegal ivory trade in non-accredited physical markets, as well as online markets and social media platforms. As much as the ban will put an end to the presence of legal ivory outlets, and send a powerful message to many potential consumers, this is compromised by the variety of alternative avenues through which illegal ivory purchase might still be accessible. The need to scale up efforts now, in conjunction with the full implementation of the ivory ban in December 2017, is pressingly clear. Collaborations between law enforcement, the private sector such as e-commerce and social media companies, courier companies and auction houses, as well as non-governmental organizations have proven effective in leading a change in curtailing the supply of, and demand for, illegal ivory. Such efforts need to be enhanced, through the leadership of SFA and all relevant Chinese government departments, to engage further additional stakeholders to counteract the persistence of illegal ivory trade.

RECOMMENDATIONS

1. One accredited ivory outlet included in the first batch to cease ivory trading was found to offer illegal elephant ivory items when a potential customer specifically asked for such a product. To prevent such illegal trade, the State Forestry Administration (SFA) should take the lead and issue a clear directive on future ivory stock management policy, which could be a deciding factor in turning the ivory ban into a conservation success. It is also important that SFAs monitoring of stockpiles will continue even after the ban is being fully implemented.

2. Those accredited ivory outlets that were amongst the first batch of stores to cease trading ivory, but which continue to bear signage and slogans on their premises stating “Nationally Designated Ivory Specialist Store” and “Ivory Specialty Store” require immediate action by relevant local government authorities to remove such signage. For other accredited stores (in the second batch) listed as Category B and C for moderate or severe violations of regulations, local management authorities should improve their management over these outlets to ensure that ivory products sold are of legal origin and in compliance with China’s ivory trading regulations. Lastly, those failing to operate at designated venues should be investigated by the local Forest Police and Commerce and Industry Department for possible prosecution for violation of existing regulations.
3. The relative prevalence of illegal ivory market outlets has shifted from first-tier to second-tier cities. Therefore, law enforcement and management need to respond to this trend with strengthened enforcement in second-tier cities, particularly in antiques markets. Forest Police and the Commerce and Industry Department should enhance their collaboration in public communications, e.g. public notifications on the prohibition of sale of illegal wildlife products, at key locations including market entrances, to warn of the legal consequences of making illegal ivory purchases.

4. Internet administrators need to strengthen supervision of websites and e-commerce platforms, to ensure that they take effective compliance measures and fulfill their legal obligations by timely removal of illegal ivory sales information online, while actively co-operating with relevant government authorities in the investigation and collection of evidence.

5. Continued scrutiny and research needs to be carried out in order to counter traders opportunistically exploring ways to move ivory out of China into neighboring markets with less scrutiny and continued legal sales. Therefore, it is suggested that law enforcement agencies strengthen the crackdown on the illegal ivory market and ivory movements, including trans-boundary co-operation, especially after 2018 (when the ivory ban in China will be fully implemented).

6. During the physical market surveys, ivory dealers offering illegal ivory for sale were increasingly encouraging new and potential customers to connect and make transactions on social media platforms. Ivory trade on social media platforms is likely to become increasingly more prevalent in the future, therefore close monitoring of platforms must continue, and go hand-in-hand with enforcement actions by platform managers to remove illegal information and to shut down user accounts. Meanwhile, social media and the courier industry, which are key facilitators of illegal ivory trade online, should increase their capacity to identify illegal wildlife trade transactions. For the courier industry, real-name registration systems could have tremendous benefit in efforts to intercept illegal ivory and other wildlife crimes, and should be implemented swiftly. Real-name registration systems could dissuade traders from exploring illegal ways to liquidate their legal stocks, if the government was clear about how they will deal with remaining stocks.

7. Prioritizing collaboration with prosecutors and the judiciary to establish evidence and increase the effectiveness of case preparation would help the settlement of illegal ivory cases. The aim of this effort should be to increase the rate of prosecution, and potentially the transparency of sentencing, thereby to increase the deterrent effect of the law.

8. Due to insufficient and distorted information about the ivory ban, not all consumers are aware or fully understand the specifics of the ban. Public awareness of fast-changing laws and regulations related to the ivory ban should be increased, through different kinds of awareness raising events to reach targeted consumer groups and other segments of society. Many people do not realize the threat that illegal ivory trade poses to the survival of wild elephant populations, therefore government authorities, private-sector enterprises and NGOs are encouraged to develop additional targeted public campaigns. Such targeted communications campaigns and behavior change initiatives should be directed at key ivory consumer market segments in order to address any persistent demand for ivory products.
ACKNOWLEDGEMENTS

The authors would like to express thanks to the reviewers from WWF and TRAFFIC: Tom Milliken, Colman O’Criodain, Yannick Kuehl, Fan Zhi Yong, Zhou Fei, and James Compton for their comments and advice on improving draft versions of this report, as well as Richard Thomas, Julie Gray and Sammi Li for their great support.

WWF UK, WWF US and GIZ on behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ) and the German Federal Ministry for Environment, Nature Conservation, Building and Nuclear Safety (BMUB) are gratefully thanked for financial support of this study.

REFERENCES


TRAFFIC, the wildlife trade monitoring network, is the leading non-governmental organization working globally on trade in wild animals and plants in the context of both biodiversity conservation and sustainable development.

For further information contact:
TRAFFIC
Headquarters Office
David Attenborough Building
Pembroke Street
Cambridge CB2 3QZ
UK

Telephone: (44) (0) 1223 277427
E-mail: traffic@traffic.org
Website: www.traffic.org

UK Registered Charity No. 1076722,
Registered Limited Company No. 3785518.