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SETTING SUNS

The Historical Decline of Ivory and Rhino Horn Markets in Japan

APRIL 2016

Tomomi Kitade and Ayako Toko





TRAFFIC REPORT

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SETTING SUNS:

The Historical Decline of Ivory and Rhino Horn Markets in Japan

Tomomi Kitade and Ayako Toko



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Black Rhinoceros and African Elephant

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ABBREVIATIONS AND ACRONYMS

CITES.....	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CoP.....	meeting of the Conference of the Parties
ETIS.....	Elephant Trade Information System
FPMAJ	Federation of Pharmaceutical Manufacturers' Association of Japan
GNP.....	Gross National Product
IUCN.....	International Union for Conservation of Nature
JAPIC	Japan Pharmaceutical Information Centre
JIA.....	Japan Federation of Ivory Arts and Crafts Associations
JPY.....	Japanese Yen
JWRC	Japan Wildlife Research Centre
LCES.....	Law for the Conservation of Endangered Species of Wild Fauna and Flora
MA.....	Management Authority
METI.....	Ministry of Economy, Trade and Industry
MHLW	Ministry of Health, Labour and Welfare
MITI.....	Ministry of Information, Trade and Industry
MOE.....	Ministry of Environment
NGO.....	Non-Governmental Organization
USD	United States Dollar
WCS	Wildlife Conservation Society
WWF.....	World Wide Fund for Nature (formerly World Wildlife Fund)

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EXECUTIVE SUMMARY

Japan was formerly recognized as one of the world's largest end-use markets for wildlife products, particularly during the height of the national economic boom which lasted throughout the mid-1970s and 1980s. Wildlife products traded to Japan at the time were extensive and wide-ranging, and included everything from animal fur and leather for fashion, exotic animals for pets and zoos, to taxidermy specimens, raw materials for traditional medicine and other traditional manufacturing industries. Rhino horn and elephant ivory, arguably the two symbols of the current illegal wildlife trade crisis, were also traded to Japan in massive quantities until 1980 and 1989, respectively, when international trade bans were introduced pursuant to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). For a time Japan ranked as the world's largest consumer of both rhino horn and elephant ivory, but the market for these products declined significantly over the years, to a point where only a small fraction of the former domestic market remains significant today.

This research sheds light on Japan's wildlife trade history as a case study on the contributing factors that helped reduce the market for rhino horn and elephant ivory. By conducting comprehensive research into these phenomena, this report aims to elucidate the circumstances and drivers for change, in the hope that it may provide useful understanding for the contemporary context in other Asian markets facing problems with wildlife trade. Additionally, this study critically reviewed the status of the current domestic market and regulations to amplify where Japan stands today in terms of the historical and global context and provides recommendations for addressing current issues in Japan, especially in light of severe contemporary global levels of illegal wildlife trade.

Because of the holistic approach taken and the historical knowledge required for this study, information was collected and analysed from a wide range of sources. In terms of literature, sources in the Japanese language were especially utilized, including the database of National Diet records and national newspaper archives. Various data relating to trade, production, and socio-economic status, as well as records associated with regulatory schemes, were obtained from many sources including the Japanese government, domestic industry associations, and CITES-related databases (i.e. the CITES Trade Database and the Elephant Trade Information System). Furthermore, critical insights were gathered through a series of stakeholder/expert interviews, especially with industry members who were directly part of the process. Finally, an original consumer survey was conducted in 2014 to gain further understanding of consumer perspectives.

Drivers of socio-political change around CITES

The study firstly characterized the underlying socio-political change vis-a-vis CITES that occurred in Japan in the 1980s. That is: how did Japan, which was the leading destination for unregulated wildlife products at the time, revise its policy towards CITES and make progressive improvements on a range of wildlife trade issues? The primary driver of this change was found to be the formal international pressure that emanated from CITES fora and processes, particularly the perceived damage to Japan's international image that was engendered by condemnation of Japan's non-compliance at the first CITES regional seminar for countries in Asia and Oceania in 1984. That was followed immediately by a visit to Japan by HRH Prince Philip, the then President of the World Wildlife Fund (WWF), who openly requested Japan's co-operation in wildlife conservation. These back-to-back events became an important tipping point in terms of CITES implementation and enforcement in Japan.

Other important drivers domestically were awareness-raising and lobbying activities by various organizations and figures, salient features of which included the ongoing market monitoring by TRAFFIC that constantly uncovered a series of problematic wildlife trade issues; and the supporting role of the mass media in amplifying Japan's wildlife trade problems and disseminating critical opinions calling for change. A subsequent rise in domestic awareness was captured by a government public opinion poll conducted in 1987 that revealed a high level of awareness (73%) of the general issue

of illegal wildlife trade and the existence of regulations on import and sales of certain ornaments/fashion accessories and pets of wild origin. A 2014 consumer survey further illuminated a high level of awareness in older age groups who experienced this critical period of history. Also in the background, advocacy for nature conservation was visible during the 1980s when influential people conveyed messages in various sectors of Japanese society, although their specific impact on wildlife trade issues was not examined in this study. Finally, the 2014 consumer survey also revealed a trend towards a declining awareness of threatened species and illegal wildlife trade among younger age groups in contemporary Japanese society.

History and drivers of decline in the market for rhino horn

Having depicted the underlying socio-political trends, the study then reviewed the history of the rhino horn market in Japan, including its rise and subsequent decline. Rhino horn was historically part of the Japanese traditional medicine system, which flourished in the Edo period some 300 years ago. Rhino horn was listed in the national pharmacopoeia between 1962 and 1980, until the legal import ended after Japan joined CITES. Trade records suggested a substantial demand throughout the 1960s and 1970s. Japan imported nearly 1.8 t of rhino horn in the peak year of 1973 and continued purchasing large volumes even though the import price grew exponentially in subsequent years, suggesting stockpiling prior to the imposition of the 1980 trade ban.

Examination of the major usage of rhino horn in traditional medicine during this time revealed distinct types of rhino horn-containing medicine, including directly in the form of rhino horn slices and well-known manufactured household medicines that used rhino horn as one of many ingredients. The first type of medicine was used for treating colds, fevers and measles in children, whereas the household medicine brands came in two kinds, one for children's symptoms (used as a sedative), and the other for adult conditions (cardiotonic uses). While there were nearly 100 such rhino horn-containing medicines listed in a National Formulary in 1978, the number dropped dramatically after 1980, and today only a handful of manufacturers continue their production of household medicines using old stocks.

The primary driver of the decline in the rhino horn market was identified as the 1980 import ban, which was introduced in association with Japan's accession to CITES, coupled with the industry's adoption of a substitute, the horn of Saiga Antelope *Saiga tatarica*, which was believed to have a similar medicinal effect. The formerly abundant wild populations of Saiga Antelope in the 1970s later became Critically Endangered due to multiple conservation threats and *S. tatarica* has been listed in CITES Appendix II since 1995. The reason for the immediate transition to a substitute was because major household medicine manufacturers that utilized most rhino horn supply were able to replace it while compromising neither the perceived efficacy of the medicine nor the existing customer demand. The results of the consumer survey also revealed that the majority of consumers who purchased these medicines did so not because of any particular knowledge about the rhino horn contents or its efficacy, but rather for the overall trust in the brand-named medicine itself.

Social pressure was found not to be a driver for the decline in the rhino horn market in Japan, according to interviews conducted with manufacturers and the absence of domestic media coverage or NGO campaigns around the use of rhino horn. Furthermore, no significant record of illegal trade in rhino horn occurred in Japan after the 1980 import ban, a fact that further lends support to the notion that there was a gradual decline in rhino horn usage in the domestic market. The analysis identified further extrinsic drivers that led to a decline in the use of rhino horn in traditional medicine. They included a modernization of the medical system, changes in the distribution and sales pattern of medicines, and a break in tradition through changes in the family structure in Japan.

Regarding the current state of the rhino horn market in Japan, it is still legal to manufacture and sell medicines containing rhino horn derived from legally registered pre-Convention stocks. There are only a handful of manufacturers left, using a total of less than 1 kg of long-stockpiled rhino horn annually. In terms of regulations for rhino horn medicine, *the Law for the Conservation of Endangered Species of*

Wild Fauna and Flora (LCES) prohibits domestic trade in whole rhino horn with the exception of items with proof of legal import. Apart from this, no regulation exists for overseeing the trade or possession of rhino horn and its derivatives in Japan. There is, however, an industry regulation that provides a framework for manufacturers annually to report their stocks and trade of legally registered rhino horn materials.

Finally, regarding the current market, the study found a very low level of consumer interest in purchasing rhino horn-related medicine in the future (below 2%). However, the use of other wild species continues, including Saiga Antelope horn, bear bile, and musk contained in many household medicine brands, as well as a vast quantity of plant materials used in *kampo*, a system of Japanese traditional medicine also prescribed to patients by doctors. The current level of consumer awareness about the use of wild biological resources in traditional medicine was found to decline in younger age groups (e.g. only 29% among people in their 20s). While sustainability in these other species needs to be assessed, the continued use of Saiga Antelope horn in particular requires urgent attention.

History and drivers of decline in the market for elephant ivory

The study investigated the history of the decline in the market for elephant ivory in Japan. The origin of the traditional ivory carving industry also dates back to the Edo period. However, this review found that the types of ivory products varied dramatically over the centuries to meet changing market opportunities. Ivory *hanko*, a personal signature seal, followed by ivory jewellery represented the majority of ivory consumption in Japan in the 1970s and the 1980s. During the economic boom, various ivory products gained popularity as luxury and status symbols according to industry reports as well as the results of the 2014 consumer survey. These also revealed that traditional, practical items like *bachi* (a plectrum for the *shamisen*, a Japanese musical instrument) were in high demand, and that polished whole ivory tusks were also widely marketed as investments and for home decoration.

Japan imported roughly 950 t of raw ivory within the peak years of 1983 and 1984. There was evidence of some speculation ahead of an impending CITES ban and stockpiling by traders and even individuals outside the industry. Although a complete ban on the international ivory trade was agreed under CITES in 1989 with the transfer of the African Elephant *Loxodonta africana* to Appendix I, illegal import of ivory persisted thereafter, indicating that demand for ivory was not immediately curbed. Nevertheless, over the following two decades, the scale of the industry gradually shrunk to a fraction of its peak, as did Japan's involvement in the global illegal ivory trade. Today, the scale of the industry is estimated at roughly 10% of what it was in the 1980s, with the production of ivory *hanko* comprising around 80% of current production followed by the manufacture of traditional musical instrument components comprising about 10%. In both of these markets, ivory is recognized as the best quality material available.

The primary driver of declines in the market for ivory turned out to be the tightening of international trade through CITES regulations that ultimately ended with the complete ban in 1989. Despite an industry outcry, the socio-political climate that the Japanese government was facing with respect to illegal wildlife trade necessitated that Japan co-operated with the CITES decision without reservation. Social pressure also turned out to play a role, as exemplified by the closing down of ivory product sales, especially ivory jewellery, by major department stores in Japan. Piano manufacturers also phased out the use of ivory keys, while certain companies and public offices refrained from using ivory *hanko*. The impact of social pressure on consumer behaviour, however, was difficult to gauge in the context of this study, but evidence suggested that domestic awareness of the elephant poaching situation was widely understood in Japan.

An important extrinsic driver that contributed to the decline of ivory demand in recent decades was the economic recession that began just a few years after the 1989 trade ban. The long-lasting recession that followed the economic bubble of the 1980s decisively turned consumers from spenders into savers. This development was felt strongly by the ivory industry. In conjunction with this trend, consumers

increasingly turned away from ivory as a status and luxury symbol while the country's "declining trend of population" was also identified as a driver for the steady decline in the personal *hanko* market.

No alternatives to ivory in *hanko* or traditional musical instruments were adopted despite attempts to introduce several around 1989, including natural materials such as mammoth ivory as well as a range of synthetic substitutes. However, recently there has been an advance of titanium as the next high-end *hanko* material, while TRAFFIC's 2014 consumer survey found that over 80% of ivory *hanko* users would willingly consider a substitute. There is also a new multi-stakeholder initiative emerging in the Japanese traditional music sector with ambitions to conserve both craftsmen's carving skills and traditional music that depends upon it by developing a suitable synthetic ivory substitute.

Despite being reduced substantially since the 1980s, the current ivory market in Japan is still significant compared to that for rhino horn, with a production output estimated to emanate from more than 10 t of raw ivory stocks consumed annually. Since 1989 Japan has received nearly 90 t of ivory from southern African countries through the two one-off legal sales permitted by CITES and executed in 1999 and 2008. These new stocks, combined with the pre-Convention stocks held from before 1989, provide the continuity of supply for the domestic ivory industry today. The gradual re-selling of a huge quantity of whole tusks sold for personal ownership during the boom in the 1970s and 1980s provides a significant proportion of the ivory used by the industry each year. Regarding regulations, LCES regulates the trade of individual whole tusks as well as certain aspects of trade in processed ivory pieces and products. However, there are loopholes including the issue of unknown domestic stocks, insufficient coverage in the government's ability to control businesses, and the lack of mechanisms for ensuring legality in the market. Furthermore, recent seizures reveal that ivory is actually being illegally exported from Japan to countries with higher demand such as China and Thailand. Finally, regarding current consumer attitudes, the study found that while the level of interest in purchasing ivory products was around 9%, the level of awareness about the legality of ivory products was limited (26%) among those who had experience in purchasing ivory *hanko* and a considerable portion (over 15%) even expressed indifference toward illegal ivory.

Conclusion

In conclusion, this case study on Japan generated a wealth of insights into the history of the decline in the rhino horn and ivory markets, where a range of drivers exerted different influences depending on the specific nature of the demand behind various products. Of these drivers, regulations and the strong leadership of the government were identified as the primary influencers, triggered by a surge in formal international pressure in 1984 that was sustained for the rest of that decade. Co-operation by core industry members was also a key feature in both the rhino horn and elephant ivory cases. The impact of social pressure was evident in curbing demand for ivory to some extent but not rhino horn. There was, however, widespread public awareness domestically about Japan's illegal wildlife trade problems in the late 1980s. This was notably driven by the activities of various NGOs and public figures, combined with the supportive role played by the domestic mass media. Last but not least, socio-economic transitions that the country experienced over the ensuing decades acted as critical underlining drivers of continued decline in the market for both rhino horn and ivory.

Although it is difficult to extract lessons that are directly applicable to other Asian markets in the contemporary context, it is hoped that some clues and insights may be taken from the detailed review of these historical cases into the present time, particularly to inform the range of ongoing efforts made by NGOs and partners in tackling the current poaching and illegal wildlife trade crisis. In the meantime, work needs to continue in Japan to address certain areas of concern in the current traditional medicine and ivory markets, with particular emphasis on the regulatory loopholes in the domestic ivory management system and recent seizures of illegal ivory exports, as well as the considerable ignorance and indifference observed amongst current consumers, especially the younger generation. It is also hoped that Japan, in light of the country's historical role, will strive to make further contributions internationally to support the conservation and sustainable use of wildlife.

RECOMMENDATIONS

For achieving a market decline for wildlife products in the current global context:

- * The following influential and contextual factors were identified as important in the decline of Japan's rhino horn and ivory markets. Current and future efforts in other consumer countries should note that a multi-faceted approach may be necessary for long-term success:
 - 1) International policy pressure to elicit strong government commitment in implementing national measures including legislation, regulations and law enforcement;
 - 2) Full co-operation of domestic industry bodies and stakeholders regarding compliance with trade and market regulations and/or adoption of substitute(s);
 - 3) Activities of NGOs in facilitating policy change and public awareness-raising at the national level, particularly through trade monitoring, exchange of objective information, and engaging key players at the national level (i.e. the government, industry stakeholders and mass media);
 - 4) An increase in public awareness and social pressure at the national level to influence consumer behaviour as well as policies in relevant private sectors;
 - 5) Broader socio-economic trends exerting distinct impacts on different products (e.g. transitions in health systems, family structures, national economy and population trends).
- * Japan's relative success in realizing positive results in market declines for rhino horn and elephant ivory should allow the Government of Japan to share proactively its experience with other CITES Parties, including increased co-operation on implementation and law enforcement efforts at the international and regional levels. Japan's role in assisting relevant countries in optimizing efforts to reduce illegal supply and demand could, for example, be catalysed initially through Japan providing relevant technical support to countries of primary concern, secondary concern and importance to watch in the CITES National Ivory Action Plan process in areas such as the implementation of domestic trade controls, stock management systems and registration schemes.

On Japan's current rhino horn use and traditional medicine market:

- * While the use of, and demand for, rhino horn in Japan has declined to low levels, the management of domestic stocks and effective border control remains necessary, especially to prevent any illegal re-export to countries with high demand. In this respect, the following improvements are needed in Japan:
 - 1) The Government of Japan should strengthen the domestic management of rhino horn stocks to meet the recommendations of CITES *Resolution Conf. 9.14 (Rev. CoP15)* by identifying, marking, and registering all rhino horn stocks including those that are not managed by the industry self-management system (i.e. held by pharmacies and personal owners);
 - 2) The Government of Japan should further adopt and enforce a comprehensive management system that effectively controls domestic trade in not only whole rhino horn but also rhinoceros parts and derivatives and establishes traceability for all products in the domestic market;
 - 3) Law enforcement agencies should increase their efforts to prevent illegal domestic trade and be alert to the potential threats of illegal rhino horn re-export to countries with high demand. Border control should be enhanced through better co-operation with other countries in the region and at the global level.
- * The government and industry should assess the sustainability of other ingredients in traditional medicine that are sourced from endangered wild species. Any necessary measures, including the adoption of appropriate substitutes, should ensure that such species are not adversely affected

and that continued use will not lead to trade that is illegal or conducted at unsustainable levels. In particular, the use of Saiga Antelope horn as a rhino horn substitute in Japan and elsewhere needs urgent attention as a component of wider Saiga Antelope conservation measures.

On Japan's current ivory market:

- * Given the persistent domestic ivory market and industry, the Government of Japan should urgently strengthen the enforcement of domestic trade regulations under current LCES provisions; specifically, monitoring for any businesses operating without notifications or any trade of unregistered whole tusks, with a particular emphasis on online markets and trade via antique dealers and auction businesses.
- * The government should further conduct an overhaul of the current regulatory provisions and make amendments so that Japan's LCES meets the requirements of CITES *Resolution Conf. 10.10 (Rev. CoP16)* and is sufficient to ensure the domestic ivory market remains a closed system. Specific improvements should include the following:
 - 1) A nation-wide registration programme of all ivory tusks and cut pieces in private possession should be conducted to delineate the total domestic stocks;
 - 2) Cut pieces should be included in the compulsory registration scheme;
 - 3) Control of ivory businesses should be updated to a system of registration or licensing instead of notification, and information on registered/licenced businesses should be disclosed;
 - 4) The existing voluntary certification scheme should be strengthened into one that effectively establishes traceability and marking of all legal products in the market.
- * The government should take urgent enforcement measures in the following areas to address the emerging trend of illegal re-export of ivory (e.g., to countries such as China and Thailand):
 - 1) Law enforcement effort focused on domestic trade dynamics, including border controls, should be strengthened in order to halt the leakage of existing ivory stocks and to prevent any smuggling of ivory into the country as a transit point for other end-use markets;
 - 2) A regional platform for co-operation between CITES authorities and law enforcement agencies amongst Parties in the Asian region should be established for improved information sharing and co-ordination of border controls;
 - 3) The CITES Management Authority of Japan should exercise increased vigilance against the re-export of pre-Convention ivory to prevent possible laundering of illegally-sourced ivory into this trade.
- * The Government of Japan, stakeholders and NGOs should strive to address the following aspects of Japan's persistent market and various characteristics of consumer demand:
 - 1) Through awareness raising, the public and target audiences need to be informed about the current status of elephants as well as the regulations and issues concerning international and domestic ivory trade;
 - 2) Development and mainstreaming of ivory substitutes needs to be facilitated so that demand will not outstrip the existing supply as the remaining legally registered ivory stocks decline in the future;
 - 3) Online and physical platforms providing ivory sales outlets for businesses/individuals should strengthen policies and enforce regulations to eliminate illegal trade and also facilitate awareness raising of users and consumers;
 - 4) Further research is needed to dissect the characteristics of current consumer attitudes, including the generational differences in awareness observed in this study. Targeted awareness-raising through behavioural change messaging should be considered to address the existing and latent demand for ivory in Japan.

1. INTRODUCTION

1.1. Background

Consumption of wildlife products in Asia has long been one of key drivers for trade in many species. This partly stems from long-standing values that Asian cultures place in the use of wildlife parts and derivatives, as seen in many traditional medicines and other culturally significant products. Certain demand, however, may be more transitional and may emerge as an outcome of changing society and consumption patterns. Just around half a century ago, from the 1960s through to the 1980s, Japan emerged as Asia's first economic superpower and, with increased disposable income, exerted enormous demand on a great range of wildlife products from around the world. Without doubt Japan was one of world's largest destinations for illegally traded wildlife (Anon., 1987f; Milliken, 1981).

In the midst of continued economic boom, Japan's appetite for wildlife products drove consumption of everything from animal fur and leather for fashion, exotic animals for pets, zoos and taxidermy, to raw materials for traditional medicine and other traditional manufacturing industries using ivory and *bekko* (shell of the Hawksbill Turtle *Eretmochelys imbricata*). Despite signing the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) in 1973, Japan did not accede to CITES until 1980. Even after the Convention entered into effect, Japan's political will for stringent implementation for years lagged far behind, and illegal wildlife trade kept growing (TRAFFIC Japan, 1985a).

Part of Japan's reluctance in engaging on global wildlife trade issues was the result of being embroiled in the contentious whaling issue which spilled over to CITES engagement, resulting in the defensive stance of the government. Within Japan, there was a strong perception that the Western preservationist movement was assuming dominance in the international policy arena at the International Whaling Commission, which was becoming saturated with animal welfare issues and animal rights advocacy. Japan was increasingly viewed by anti-whaling proponents as lacking sympathy for the environment and wildlife, but in Japan the issues were seen as a kind of cultural imperialism that unjustly denied access to natural resources, leaving an ingrained conflict that still lingers today (Catalinac *et al.*, 2005). Japan's illegal wildlife trade issue, however, was much more substantive and was eventually decoupled from the issue of whaling, leading to a turn in policy in the mid- to late-1980s toward serious implementation of CITES.

This tipping point was triggered by international pressure and growing domestic awareness over Japan's illegal wildlife trade at the time. With the government engagement as a starting point, Japan's market for many wildlife products subsequently subsided through the 1990s and 2000s. Drivers for this overall change were likely a combination factors, including compliance with regulations, stalling economy, and social changes. The case of Japan represents a unique history in Asia where a major decline in market demand was achieved in what was once the world's largest wildlife consumer country.

African elephants and rhinoceroses are two symbolic examples where wild populations were severely affected by waves of poaching in the 1970s through to the mid-1990s. The Black Rhinoceros *Diceros bicornis*, for example, collapsed by 97% from an estimated 100 000 animals across Africa in 1960 to a mere 2410 animals by 1995 (Emslie *et al.*, 2007). The African Elephant *Loxodonta africana* also suffered severe mortality from poaching in the period between 1970 and 1990, particularly in Central and Eastern Africa (UNEP *et al.*, 2013). Poaching was ultimately driven by demand for rhino horn and ivory in other parts of the world.

Although rhinoceros species were listed in CITES Appendix I from 1975 (Black Rhino from 1977) onwards, Japan continued to import rhino horn until it finally became a Party to CITES in 1980. As for the African Elephant, import of ivory continued until 1989 when the species was up-listed to Appendix

I (from Appendix II). For these periods running up to the end of legal international trade, Japan ranked among the largest importers for both rhino horn and elephant ivory (TRAFFIC, 1983). Domestically, rhino horn was an important ingredient for manufactured traditional medicine, while ivory was processed into *hanko* (personal signature seals), jewellery, polished tusks for decoration, as well as parts of traditional musical instruments, statues and *netsuke* (TRAFFIC Japan, 1989).

Following the import ban, declines in the market for both rhino horn and elephant ivory occurred gradually in Japan, to a point where only a limited domestic market persists today. In the meantime, poaching pressure was also reduced in many affected areas in Africa during the following decades, allowing some populations to recover. The elephant numbers in Eastern Africa, for example, recovered from an estimated 105 000 in 1995 to 160 000 over a period of 10 years (Blanc *et al.*, 2007; Said, 1995). Owing to conservation efforts in range States, populations of the African Black Rhino also doubled over 10 years from an estimated low of 2475 in 1992 to 4880 by 2010 (Milliken *et al.*, 2012). Furthermore, South Africa achieved great success in conserving the Southern White Rhino *Ceratotherium simum simum*, where the number of animals grew ten-fold from 1880 animals in 1968 to 18 800 animals by 2010 (Milliken *et al.*, 2012).

However, since around 2007, intensive poaching of these species has been re-ignited by growing demand from a new wave of emerging Asian economies (Milliken *et al.*, 2012; UNEP *et al.*, 2013). In South Africa, where over 80% of Africa's rhinos are found, the number of poached rhinos soared from 13 animals in 2007 to 1215 in 2014 (South African Government Department of Environmental Affairs, 2015). Elephant poaching also hit the highest levels in decades with an estimated 100 000 elephants lost during the three-year period from 2010 through 2012 across the African continent (Wittemyer *et al.*, 2014) and the levels of illegal killing remain alarmingly high (CITES, 2015b). Illegal ivory trade activity similarly recorded the highest level in 2011, at nearly three times that in 1997 (CITES, 2012). Current destination markets for illegally traded rhino horn and elephant ivory are Asian countries particularly growing economies such as China and Thailand for ivory and Viet Nam (also China) for rhino horn (Milliken *et al.*, 2012; UNEP *et al.*, 2013).

Tackling the recent re-emergence of crises in these emblematic species is made more challenging by increased involvement of organized criminal networks in poaching and trafficking, which is seriously undermining security and livelihoods in range States (UNEP *et al.*, 2013). In the consumer markets of Asia, governments are under the spotlight to mobilize strong measures to tighten controls, while NGOs in partnership with various public and private bodies have rolled out initiatives to reduce the demand by influencing consumer and corporate behaviour.

Even though the global and national contexts are very different from the situations faced today, Japan's history of decline in the markets for rhino horn and elephant ivory offers a unique case study to examine and take lessons from. Furthermore, the very fact that market decline was achieved in what was once a major wildlife consumer country in Asia may represent hope for drastic change in the contemporary context, even in places presently faced with seemingly insurmountable problems. To this end, the current study investigated the contexts and drivers of decline in the markets for rhino horn and elephant ivory products in Japan. The study also evaluated the current status of domestic markets, regulations and consumer attitudes in Japan.

1.2. Purpose of the study

The aim of the study was to understand the history of use of rhino horn and elephant ivory in Japan and uncover key drivers behind the decline in the markets for these products. This study took a holistic approach, first to understand the nature of usage and demand for different types of rhino horn and ivory products, and second to examine the multiple interacting factors that led to declines in the overall markets in the country, including drivers such as international and domestic regulations, industry

responses, the socio-economic environment and consumer attitudes. It was clear that declines in the ivory and rhino horn markets did not occur in isolation but were actually concurrent component, although to different degrees, of background socio-political change around CITES and illegal wildlife trade in Japan during the 1970s and 1980s. The current study therefore includes an analysis of what drivers there were for this overall socio-political change, in order to describe the background for the market decline in rhino horn and ivory and to gain further insight into the unique history of social change in Japan.

Although this study presents a valuable case study, it is recognized there are very significant differences between Japan in the 1980s and other countries in Asia today. Applying the lessons learned from this study to the current situation in Asia will therefore certainly warrant further analysis and reflection.

1.3. Structure of the report

The main results of this report are organized into the following three sections: Japan's socio-political change around CITES in the 1980s to early 1990s; decline in the market for rhino horn; and decline in the market for ivory. The history of rhino horn and elephant ivory use are treated separately because of their distinct differences in the paths that led to market declines in Japan. Secondly, the overall shift in Japan's socio-political and regulatory context around CITES and wildlife trade is introduced in a chapter preceding the cases of rhino horn and ivory, in order to outline the overarching trend. Finally, recommendations are presented with regards to addressing issues in Japan's current domestic markets as well as sharing lessons learned in achieving market declines.



African Elephant *Loxodonta africana*

Credits: MARTIN HARVEY / WWF

2. METHODS

2.1. Literature survey and data collection

Both Japanese and English literature was searched for the history of rhino horn and ivory use in Japan. Historical incidents regarding relevant CITES and wildlife trade issues in Japan was reviewed using sources such as CITES meeting documents (<https://cites.org/>), the *TRAFFIC Bulletin* (1979–present) (<http://www.traffic.org/bulletin/>), the *WWF Japan Newsletter* (in Japanese, 1972–present: <http://www.wwf.or.jp/join/panda/mgznl/>), and the *TRAFFIC Japan Newsletter* (in Japanese, 1983–2006: <http://www.trafficj.org/publication/newsletter/newsletter-bkn.html>). Information on relevant domestic incidents/contexts was searched in the Japanese National Diet record search system (in Japanese: <http://kokkai.ndl.go.jp/>), the Cabinet Office public opinion polls (in Japanese: <http://survey.gov-online.go.jp/>), along with databases of major newspaper archives, including the Yomiuri-Shimbun (*Yomidasu Rekishikan* in Japanese, 1874–present), the Asahi-Shimbun (*Kikuzou II Visual* in Japanese, 1879–present), and the Mainichi-Shimbun (*Maisaku* in Japanese, 1872–present) .

Data related to trade, stocks and usage of rhino horn and elephant ivory in Japan were obtained from various published materials including government statistics, as well as from government and industry held data provided to TRAFFIC. Trade data were primarily obtained from the Ministry of Finance trade statistics (in Japanese: <http://www.customs.go.jp/toukei/srch/index.htm>) and the UNEP-WCMC CITES trade database (<http://trade.cites.org/>). Domestic data included ivory-related data provided by the Ministry of Economy, Trade and Industry (METI), the Ministry of Environment (MOE) and Japan Wildlife Research Centre (JWRC). Data on rhino horn stocks were provided by the Federation of Pharmaceutical Manufacturers' Association of Japan (FPMAJ). Data on illegal trade of elephant ivory involving Japan were obtained from the Elephant Trade Information System (ETIS). Data regarding Japan's historical socio-economic conditions were obtained from statistics produced by the Ministry of Internal Affairs and Communications (in Japanese: <http://www.stat.go.jp/>).

The numbers of rhino horn containing medicines and companies producing them were compiled using information published by the Japan Pharmaceutical Information Centre (JAPIC) for over-the-counter drugs (editions published in 1978, 1991, 1999, 2014). For the 1999 and 2014 editions, an electronic database was searched using the keyword for rhino horn (*saikaku* in Japanese). All drugs found were under the categories “child sedative” or “cardiotonic”. For the 1991 edition, the sections corresponding to these two categories were searched visually, while for the 1978 edition, which had no such corresponding categories, only those in the “antipyretic/pain-killing/anti-inflammatory” and “circulatory system” were counted, although rhino horn-containing medicines were also observed in other categories including “digestive system”, “antihypertensive”, and “nutritional/performance enhancement”.

Unless noted otherwise, historical currency rates were obtained from official exchange rates published by the World Bank (2015) (<http://data.worldbank.org/indicator/PA.NUS.FCRF> - page=6). Currency conversions to current values were based on the World Bank's 2014 rate (1 USD=105.94 JPY).

2.2. Stakeholder/expert interviews

A number of stakeholder/expert interviews were conducted during the study. The interviewees included key stakeholders from the traditional medicine and ivory industries as well as officials from the relevant ministries of the Japanese government. All interviews were conducted between June 2014 and November 2015. The list of interviewees is summarized in **Table 1**. An alphabet code is designated to each interviewee for referencing in the body of the report: for example, “*TRAFFIC Japan held regular press conferences highlighting topical issues from market survey results*” (A, interview).

Table 1. List of interviewees

Code	Organization / Position	Description
A	TRAFFIC Japan/Former Director (1982-1991) http://www.trafficj.org/	Tokyo branch of TRAFFIC, the wildlife trade monitoring network. TRAFFIC Japan was established in 1982 to monitor trade and support the enforcement of CITES in Japan (later it was named TRAFFIC East Asia-Japan).
B	(Anonymous) traditional <i>kampo</i> pharmacy/ Owner (pharmacist)	A hundred-year-old <i>kampo</i> pharmacy in Tokyo.
C	Federation of Pharmaceutical Manufacturers' Associations of Japan (FPMAJ)/Chairman, CITES-related Coordinating Committee http://www.fpmaj.gr.jp/index.htm	Established in 1948 as an association for Japanese pharmaceutical manufacturers. Within FPMAJ, there is a subcommittee called the CITES-related Coordinating Committee, which organizes CITES-relations for domestic traditional medicine industry and oversees an industry management system for certain ingredients, including rhino horn.
D	(Anonymous) traditional medicine manufacturer and wholesaler/Advisor, International Operations Division	Established in 1947, this manufacturer used to use/ trade rhino horn. The head office is located in Tokyo.
E	<i>Kyushin</i> Pharmaceutical, Co., Ltd./Chief Director and Director http://www.kyushin.co.jp/	Established in 1913, <i>Kyushin</i> is a major manufacturer of traditional medicine that used to use rhino horn as one of the ingredients for their main product " <i>Kyushin</i> ", a derivative of <i>Rokushingan</i> . The head office is located in Tokyo.
F	<i>Uzukyumeigan</i> Corporation/Manager, Planning Department http://www.uzukyumeigan.co.jp/index.htm	Established in 1597, <i>Uzukyumeigan</i> is a major manufacturer of traditional medicine that used to use rhino horn as one of the ingredients for their main product " <i>Uzukyumeigan</i> ", a derivative of <i>Kyumeigan</i> . The head office is located in Tokyo.
G	WWF Japan/Secretary to Chief Executive Officer https://www.wwf.or.jp/	Established in 1971, WWF Japan is one of the largest NGOs promoting nature conservation in Japan. The interviewee had been a member of staff since 1986.
H	(Anonymous) a traditional medicine manufacturer/President	A manufacturer in Kyoto continuing to use rhino horn as one of the ingredients in their traditional products (<i>Rokushingan</i>). The company has been making the product using the same recipe for more than 120 years.
I	Japan Federation of Ivory Arts and Crafts Associations (JIA)/Board Members http://www.tokyo-ivory.or.jp/	JIA consists of two separate branches in Tokyo (Tokyo Ivory Arts and Crafts Association) and Osaka (Osaka Ivory Arts and Crafts Association). Established in 1985, JIA has been the steering organization for the ivory industry in Japan. Currently there are 35 manufacturers registered as members.
J	Japanese Seal Engravers Association (Public Interest Incorporated Foundation)/Representative Director http://www.inshou.or.jp/inshou/insho-0.html	The Japanese Seal Engravers Association aims to inform the public about the importance of <i>hanko</i> and facilitate smooth registration of <i>hanko</i> signatures at municipalities. The Association's membership includes approximately 1200 traditional <i>hanko</i> retailers.
K	Gendai Publishing, Co., Ltd./Chief Editor http://www.gendai-press.co.jp/	Established in 1971 as the publisher of a specialized magazine for the <i>hanko</i> industry, it has been the leading media for the sector.
L	Tokyo Japanese Musical Instrument Commerce Association/Managing Director http://www.wagakki.org/	Association of makers/retailers of <i>koto</i> and <i>shamisen</i> in Tokyo, who also promote the playing of these instruments in traditional music.
M	Hogaku Journal/Chief Editor, Editor http://hogaku.com/	A publishing company specializing in Japanese Traditional Music. The company publishes a monthly journal, musical scores and books, and holds workshops and events.
N	Japan Wildlife Research Centre (JWRC) (General Incorporated Foundation)/Research Director http://www.jwrc.or.jp/	Organization conducting administrative work for certain LCES provisions under MOE. In terms of rhino horn and ivory, it conducts registration of whole horns and tusks as well as issuing product certificates for ivory products.

Code	Organization / Position	Description
O	Ministry of the Environment (MOE)/Wildlife Division, Bureau of Nature Conservation	Ministry office responsible for LCES.
P	Ministry of Economy, Trade and Industry (METI)/ Paper Industry, Consumer and Recreational Goods Division, Manufacturing Industries Bureau	Ministry responsible for the control of ivory businesses through provisions for Special International Species Business under LCES.

2.3. Consumer attitude survey

A survey was conducted using structured questionnaires to examine the changes in consumer attitude and demand for ivory products and rhino horn medicines in Japan. A panel of 1000 Japanese consumers (aged 20 years old and above) was obtained from a pool of online respondents to a market survey company questionnaire (**Table 2**). The questionnaire was administered in July 2014 and contained questions regarding: knowledge of ivory products and rhino horn medicines; experiences in purchasing, receiving and using such products; interest in future purchases; attitude towards the current ivory market and use of traditional medicines containing wild and endangered species; and knowledge about the endangered status of certain flagship species such as elephants and rhinos. Results were analysed by age groups, although each time a pooled result was given for the whole sample, weights of age groups were adjusted to match the actual population composition (**Table 2**). This was necessary because the panel intentionally recruited more respondents from older age groups in order to increase the levels of historical knowledge.

Table 2. Composition of consumer attitude survey sample (N=1000)

Age as of 2014. *Adjusted proportion corresponds to the population age composition during the 2010 population census.

Age group	Year of Birth	Number of respondents (M/F)	Proportion in sample (M/F)	Adjusted proportion* (M/F)
20s	1985–1994	100 (50/50)	10% (5/5)	16.50% (8.37/8.13)
30s	1975–1984	100 (50/50)	10% (5/5)	21.80% (11.03/10.77)
40s	1965–1974	200 (100/100)	20% (10/10)	20.16% (10.13/10.03)
50s	1955–1964	300 (150/150)	30% (15/15)	19.61% (9.74/9.87)
60s +	1954 and before	300 (150/150)	30% (15/15)	21.94% (10.63/11.31)



Credits: MICHEL TERRETAZ / WWF

Black Rhinoceros *Diceros bicornis*

3. DRIVERS OF SOCIO-POLITICAL CHANGE AROUND CITES

3.1. Development of legal framework for CITES

3.1.1. International pressure

In the 1960s, the need to control the unregulated trade in rare and endangered wildlife became globally recognized. An international framework to address wildlife trade issues was called for by the International Union for the Conservation of Nature (IUCN) General Assembly in 1963, followed by the United Nations Conference on the Human Environment in 1972. The text of CITES was drafted in response and was finally adopted on 3rd March 1973 in Washington, USA, entering into force on 1st July 1975. CITES has since provided an essential forum for international co-operation, particularly through its legally binding mechanisms for controlling international trade.

While CITES was being established, Japan was in the midst of spectacular economic growth. From the mid-1950s to the early 1970s, Japan marked 10% growth in average real GNP, making the country the world's second largest economy after the USA. The growth rate then slowed but the economic boom continued through the 1980s into the early 1990s at a sustained average of around 4% (Ohno, 2006). During this time, a rapid rise in disposable income resulted in a consumption boom across the country until the economy entered a long recession from 1991 onwards that has persisted to the present day (Figure 1). Japan's marked economic growth throughout the 1960s to the early 1990s made the country Asia's demand centre, where a growing middle class sought wealth and luxury products. Demand for wildlife was no exception; Japan was known as one of the world's largest unregulated wildlife markets throughout the 1970s into the 1980s (Anon., 1987f; Milliken, 1981).

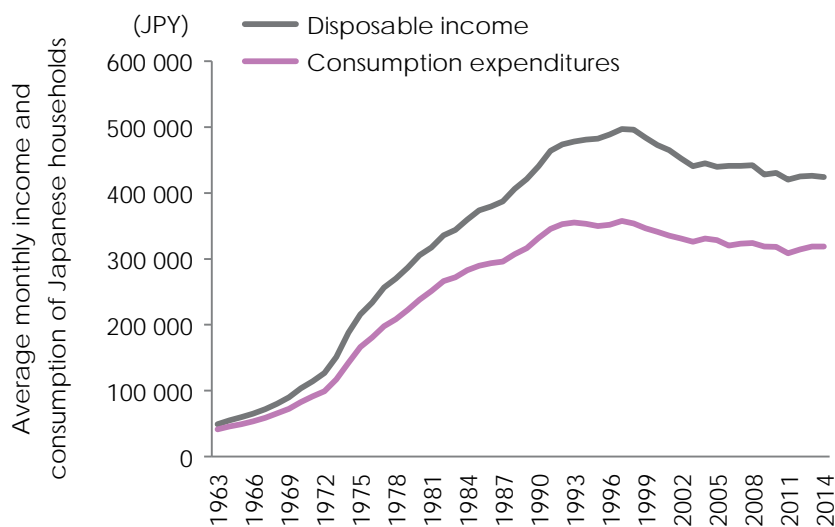


Figure 1. Average monthly disposable income and consumption of Japanese households between 1963 and 2014
Source: Ministry of Internal Affairs and Communication, Statistics Bureau, Family Income and Expenditure Survey (2015a)

A survey of department stores in Tokyo conducted by TRAFFIC in 1981 revealed a wide array of luxury wildlife products for sale, including leather items made from turtles, lizards, crocodiles, snakes, peccaries and ostriches (Milliken, 1981). The fur market was also booming, and the survey found a range of animal fur coats at very high prices while some 60–70% of the furs sold in boutiques of major Japanese fur companies were from wild (rather than farmed or ranched) animals (Milliken, 1981). Exotic species for the live animal trade and as taxidermy specimens were also in high demand. One

overseas black market dealer identified the Japanese as “the biggest customers” in a newspaper article (Anon., 1979a). Grave concerns were growing amongst the international community as well as the domestic NGO community because, despite signing CITES in 1973, Japan had failed to accede to the Convention (Kikuchi, 2011; WWF Japan, 1977). In 1978, the National Diet documented growing criticisms of the government over the mass importation of endangered animals in the form of furs, materials for taxidermy and live specimens (Anon., 1978).



Past popularity of animal furs as fashion items in Japan

In 1980 Japan finally joined CITES as its 60th member (acceptance on 6th August, entry into force on 4th November). The delay, as the government explained (Anon., 1979b), was attributed to conflicts with domestic industries who relied on imports of Appendix I listed species as the source of raw materials for their production purposes. When Japan joined CITES it placed nine Reservations¹ on Appendix I species, including three species of marine turtles, *Chelonia mydas*, *Eretmochelys imbricata* and *Lepidochelys olivacea*, three species of monitor lizards, *Varanus flavescens*, *V. bengalensis* and *V. griseus*, the Saltwater Crocodile *Crocodylus porosus*, the Himalayan population of Siberian Musk Deer *Moschus moschiferus* and the Fin Whale *Balaenoptera physalus*. The government proclaimed that these Reservations were necessary to safeguard traditional industries, specifically referencing the *bekko* (Hawksbill Turtle shell), reptile leather and traditional medicine sectors (Anon., 1980).

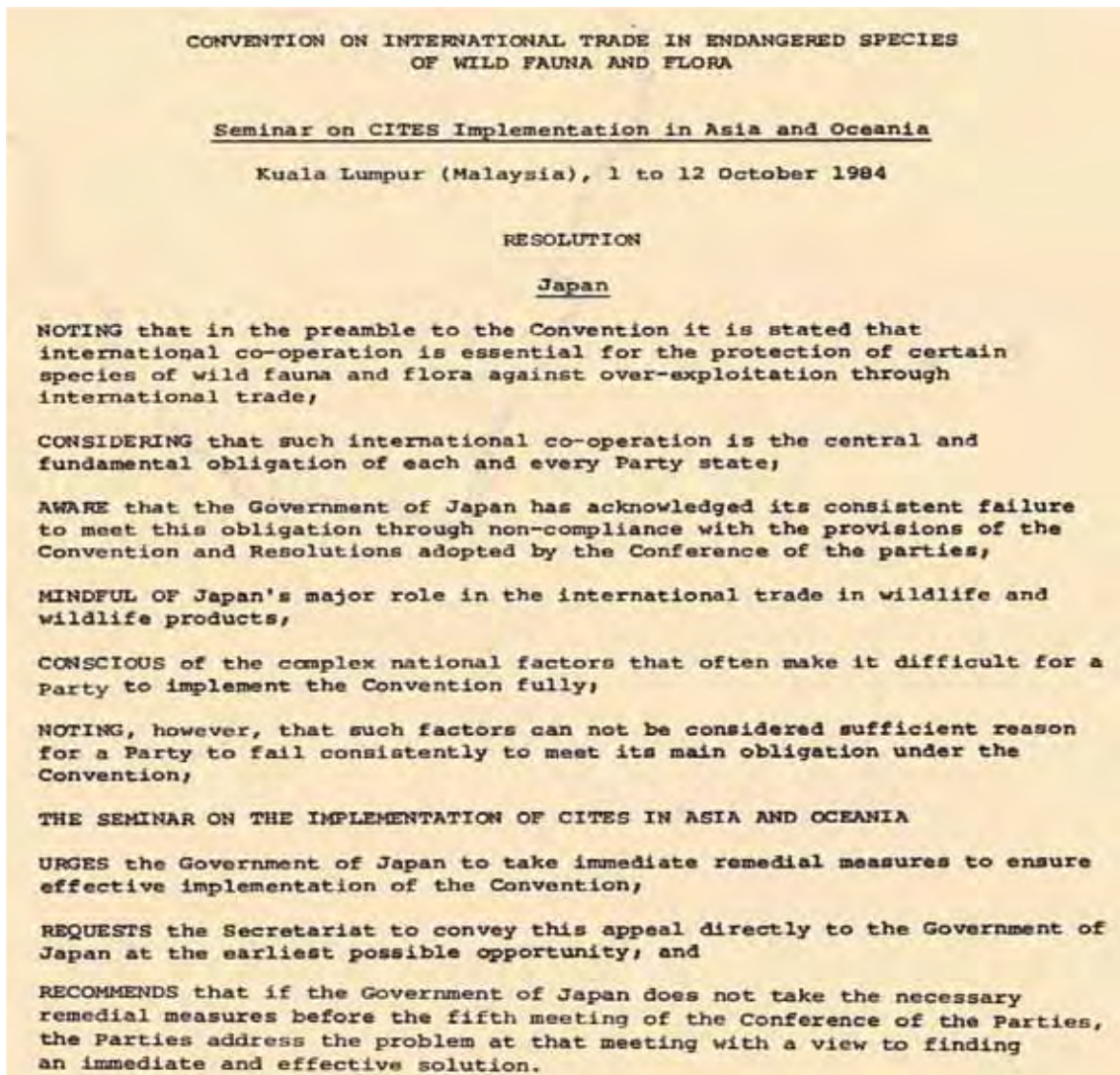
However, Japan did not place any Reservations on rhinoceros species in order to safeguard the trade in rhino horn, which may be indicative of a relative lack of the need for such a measure in the industry (see **Section 4.1.2**). In the meantime, the legal import of African Elephant ivory, then listed in Appendix II, continued until 1989.

Even after joining CITES, Japan’s weak implementation allowed an influx of large quantities of illegally traded wildlife items through its borders during the 1980s. Systemic problems stemmed from loopholes in CITES trade controls: Japan continued to allow uncontrolled trade in Appendix I species against which it had entered Reservations and also accepted imports of Appendix II and III specimens with “certificates of origin” instead of proper export permits issued by the CITES Management Authorities (MAs) of exporting States. As the government continuously failed to implement CITES effectively, criticism from the international community grew, particularly from countries whose wildlife was being illegally sourced to feed the demand in Japan (TRAFFIC Japan, 1985a).

In October 1984, at the first ever Seminar on CITES Implementation in Asia and Oceania held in Kuala Lumpur, Malaysia, Japan failed to attend the majority of the meeting and only participated in the opening and closing ceremonies. The Japanese government did not even send a delegate with the

¹ Reservations, as provided for in Article 23 of the Convention, grants Parties the right not to be bound by the Convention with respect to specific species declared, though special provisions still apply.

appropriate technical remit to the meeting, which fuelled reproach toward Japan and because the country was central to wildlife trade problems in the region, other CITES Parties at the Seminar felt compelled to adopt a Resolution that condemned Japan's state of implementation for the Convention and urged the country to take immediate remedial measures before the next meeting of the Conference of the Parties (CoP5, Buenos Aires, Argentina, April 1985) (TRAFFIC Japan, 1985a).



Resolution adopted by Parties at the Seminar on CITES Implementation in Asia and Oceania in Kuala Lumpur 1984. (TRAFFIC Japan, 1985a)

This event, which was filmed by a national Japanese TV channel, became a domestic media sensation and news of the Resolution against Japan was a front page story in every Japanese newspaper. The outcry triggered an immediate reaction from Japan's then Prime Minister, Yasuhiro Nakasone, which then led to more serious engagement by the government to improve CITES compliance. A diplomatic event that undoubtedly reinforced this sequence of events was the timely visit to Japan of HRH Prince Philip, the Duke of Edinburgh, the President of WWF International at the time. Two days after the adoption of the Resolution, Prince Philip arrived in Japan and later in the week met Prime Minister Nakasone. The Prince openly asked for Japan's co-operation in wildlife conservation, to which Prime Minister Nakasone expressed deep shame and pledged to take the necessary actions to meet his country's CITES obligations (Anon., 1984b, 1984d). Nakasone stated in the following Cabinet meeting that the circumstances surrounding Japan's lack of CITES implementation and enforcement was "causing immense harm to the country's international reputation" (Anon., 1984a). Discussions in the

National Diet were rife concerning the reputational damage to the country, while responsible ministries were lambasted for their attitude towards handling CITES implementation and enforcement, leading them to pledge to undertake concrete remedial measures (Anon., 1985b, 1985c, 1987c).



LEFT: The Duke of Edinburgh, then President of WWF International, meeting Prime Minister Nakasone, 18 October 1984; RIGHT: Domestic newspaper headlines reporting on the Resolution against Japan adopted at the Seminar on CITES Implementation in Asia and Oceania. (TRAFFIC Japan, 1985a)

Following the order by the Prime Minister, the Ministry of International Trade and Industry (MITI) (now the Ministry of Economy, Trade and Industry, METI), in its function as the CITES MA of Japan, swiftly amended the Cabinet Orders under *the Foreign Exchange and Foreign Trade Control Law* in 1985 properly to require export and re-export permits for Appendix II and III specimens (effective from 1st April 1985) (TRAFFIC Japan, 1985a). In order to avoid reproach at the next meeting of the Conference of the Parties (CoP5), the government also undertook other short-term measures such as designating Customs offices for CITES ports of entry, conducting Customs training and awareness-raising campaigns. Although many problems remained, Japan's overall turn of attitude toward CITES engagement was well received at CoP5 (TRAFFIC Japan, 1985b). The series of swift responses by the Japanese government following the Resolution passed at the 1984 CITES Seminar suggests that international pressure acted as the tipping point.

3.1.2. Domestic awareness

In the following years, Japan continued to experience regular incidents of illegal import, which generally was enabled by lax import controls, the remaining CITES Reservations, and the absence of domestic regulations beyond the point of importation. Records of discussions in the National Diet between 1985 and 1992 that led to further legal reforms reveal an array of high-profile, illegal imports of CITES-listed species, many of which occurred as a result of the Japanese MA carelessly accepting fraudulent permits. This trade included large quantities of products like musk (Anon., 1985b, 1987c) and monitor skins (Anon., 1987c), both of which Japan placed under Reservations, crocodile skins (Anon., 1986a, 1987c, 1992), ivory (Anon., 1985d), as well as a range of live animals for the pet trade and zoo exhibitions (Anon., 1985a, 1987e, 1988b, 1991a). One incident concerning Golden-headed Lion Tamarins *Leontopithecus chrysomelas* even developed into a long diplomatic negotiation with Brazil, the only range State for this highly endangered primate, over the return of the animals (Anon., 1988b, 1988c), a story that drew plenty of domestic media attention (Anon., 1986b, 1986d).

The National Diet records (Anon., 1985a, 1988b) from this period also shed light on the monitoring activities of TRAFFIC Japan², a national branch of TRAFFIC established in Tokyo in 1982 (where it

² TRAFFIC Japan was established in 1982 as a branch of the TRAFFIC Network in East Asia. Its official name was changed to TRAFFIC East Asia-Japan in 2002. It is known as TRAFFIC, Japan Office and is hosted by WWF Japan.

was hosted by WWF Japan), and its role in uncovering and reporting on the cases of smuggling and domestic sales of CITES-listed species. TRAFFIC Japan held regular press conferences highlighting topical issues from their market survey results, including trade in many of the aforementioned taxa as well as illegal trade in plants, cacti and orchids in particular, and fish, namely the Asian Arowana *Scleropages formosus* (A, interview). Such activities by TRAFFIC Japan were officially commended by the government in the form of a Foreign Minister's Award given to WWF Japan in 1987 recognizing the contribution in supporting the implementation of CITES (WWF Japan, 1987). Tom Milliken, the then Director of TRAFFIC Japan, also recalled the influence of famous Japanese figures on domestic audiences, including the then Crown Prince (now Emperor) of Japan, Akihito, who voiced grievance and concerns over repeated reckless exploitation, as well as one influential, prestigious family within the Japanese business community who showed extensive support for wildlife conservation. Such messages seem to have resonated with the private sector, particularly global companies who risked jeopardizing their overseas reputation if Japan did not make progress in solving its wildlife trade problems (A, interview). Furthermore, extensive TV coverage of a famous actress participating in emblematic conservation-related activities (such as visiting the Giant Pandas in China) served to foster concern for the environment (A, interview).

Domestic media coverage of illegal wildlife trade issues also intensified during this period. Editorials in national newspapers, for example, unanimously voiced highly critical opinions concerning rampant illegal imports and the passive attitude of the government towards effective CITES implementation (Anon., 1984c, 1987a, 1987d, 1987g, 1987h, 1987i, 1987j, 1989j, 1991c). The media also placed an emphasis on the negative image Japan was sending to its international peers. These articles were painted with expressions such as “international blame”, “shame”, “disgrace”, “wildlife smuggling superpower”, “economic animal”, and “dirty animal business”. This media attention peaked around 1987, when discussions on preparation of the first domestic trade regulations were taking place. Some national newspapers provided critical commentaries and extensive coverage of high-profile cases of



Articles from national newspapers between 1983 and 1987, featuring the issue of Japan's unregulated wildlife imports and the enactment of the first domestic trade regulation in 1987

illegal imports and spotlighted the activities of TRAFFIC and amplified its call for effective domestic provisions (Anon., 1987b, 1987k).

Although the impact of such media coverage on public awareness and their behaviour cannot be assessed precisely, it can be assumed that a significant proportion of the public was exposed to such information, at least through the coverage in national newspapers. Another glimpse into public awareness was given through the first government opinion poll featuring “illegal wildlife trade” as one of the current environmental affairs issues, which was conducted in 1987, coinciding with the height of newspaper coverage preceding the introduction of the long-awaited law for regulating domestic trade (Government of Japan Cabinet Office, 1988). According to the poll, the majority (73.2%) of the public at this time was aware that illegal wildlife trade had become an issue and that import and trade of certain ornaments, fashion accessories and pets of wildlife origin were regulated (**Figure 2**). Furthermore, only 0.4% indicated they actively sought rare wildlife products for their value, while 6.7% said they may be purchasing regulated items without being aware of the fact. These results indicate that a high level of public awareness likely already existed by 1987.

Public awareness of the illegal wildlife trade issue in 1987

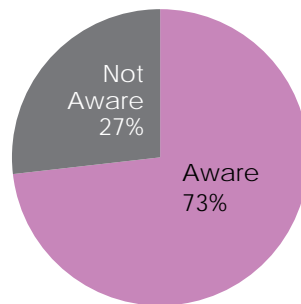


Figure 2. Public awareness about illegal wildlife trade issues in 1987 from a public opinion poll conducted by the Japanese government

Respondents were asked if they were aware that trade or sales in certain ornaments, fashion accessories and pets was regulated, with the proposition that illegal trade in endangered valuable wildlife and products had become an issue. (N=2362)

Source: Cabinet Office, Public Opinion Poll on Environmental Issues, 1988

In 1987, 12 years after joining CITES, the then Environment Agency (now the Ministry of the Environment, MOE) finally introduced the first measures to regulate certain aspects of domestic trade in endangered species of wild fauna and flora (measures that entered into effect on 12th December 1987), and later became integrated into the *Law for the Conservation of the Endangered Species for Wild Fauna and Flora* (LCES) in 1992 (which entered into effect on 1st April 1993). The original version of these measures was deemed far too insufficient in terms of coverage and effectiveness to prevent and deter all levels of illegal wildlife trade. For example, the coverage was restricted to whole specimens of Appendix I species, completely leaving out Appendix II and III species, as well as all parts and derivatives including ivory and rhino horn (TRAFFIC Japan, 1988). LCES later became the legislation that incorporated control of the domestic ivory industry following the CITES ban on international ivory trade in 1989.

With regards CITES Reservations, the government finally reconciled itself with domestic industries and withdrew eight of its nine initial Reservations between 1987 and 1994³. The National Diet record notes that it was considered inevitable that Japan would continue receiving concerted criticisms at CITES

3 All the initial Reservations except that for Fin Whale have now been withdrawn. *Chelonia mydas* and *Varanus griseus* in 1987, *Moschus moschiferus* and *Crocodylus porosus* in 1989, *Lepidochelys olivacea*, *V. flavescens* and *V. bengalensis* in 1992, and *Eretmochelys imbricata* in 1994. Japan entered further Reservations for whales and other marine species that are still in effect today, but they stem from a separate government policy for fisheries matters and are outside the consideration of the present study.

meetings unless these Reservations were addressed (Anon., 1988a, 1990c). Furthermore, in 1989 when the transfer of the African Elephant to Appendix I was adopted at CoP7, Japan refrained from entering a Reservation despite an outcry from the domestic industry. Both international pressure and domestic awareness contributed to these outcomes regarding ivory and are discussed in more detail in **Chapter 5**. Hosting of CITES CoP8 in Kyoto in 1992 put Japan firmly in the international spotlight, providing a stage for the government to showcase the country’s improved performance to both international and domestic audiences. Finally, in 1994 the withdrawal of the last CITES Reservation, on Hawksbill Turtles, which had been retained in support of the *bekko* industry, was forced through by a trade sanction threat made by the USA (Anon., 1991b; TRAFFIC Japan, 1994).

3.2. Consumer attitude

The 2014 consumer attitude survey (see **Section 2.3**) characterized current Japanese consumers by administering a questionnaire to a cross-section of different age groups in order to gain an insight into generational differences in experience of and attitude towards products made of rhino horn and elephant ivory and the potential shift in consumers’ awareness of wildlife consumption and its impact on the species concerned. **Figure 3** depicts the time period in which each age group was considered to have been in the major consumer segment. That is, on average earning enough to purchase wildlife products that are often non-essential and luxury goods; for convenience’s sake it is simply set as individuals 30 years old and above.

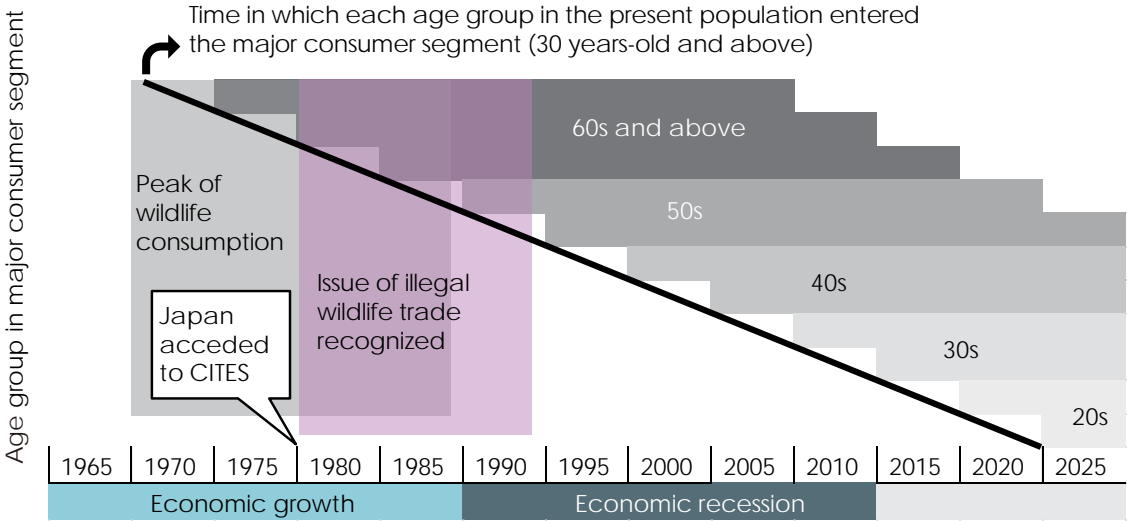


Figure 3. Representation of the time period in which each age group in the present population sample entered the major consumer segment (set here as 30 year-old and above, as earning enough on average to afford non-essential wildlife products)

Source: authors’ work

The age group of 60s and above in the current population sample, as seen in the above figure, represented the major consumer segment by the mid-1980s when the issue of illegal wildlife trade was at its peak during the economic boom. The 50s age group entered the major consumer segment around the mid-1980s to mid-1990s, by the end of which time Japan’s legal framework and CITES compliance had improved and the economy started to stall. The 40s and 30s age groups entered the major consumer segment between the mid-1990s and the mid-2010s. By this time the Japanese economy had entered into a lengthy recession. The 20s age group will enter into the major consumer segment around the mid-2010s to the mid-2020s.

The survey revealed that Japanese consumer awareness of wildlife consumption and its impact on wild populations was highest in the 60s and above age group and decreased as the age group lowered. Over

64% of the 60s and above age group was aware that wild animals and plants were used in Japanese traditional medicine (*kampo* medicine), whereas only 29% in the 20s age group was aware (Figure 4:top). Similarly, over 80% of the 60s and above age group was aware of the threatened status of iconic wildlife such as elephants, rhinos and tigers, while the proportion went down with every age group, to only 35% in the 20s age group (Figure 4:bottom).

The survey also revealed age discrepancies in what respondents conceived as the biggest threats to wildlife (Figure 5). Among the range of common conservation threats, half of the 60s and above age

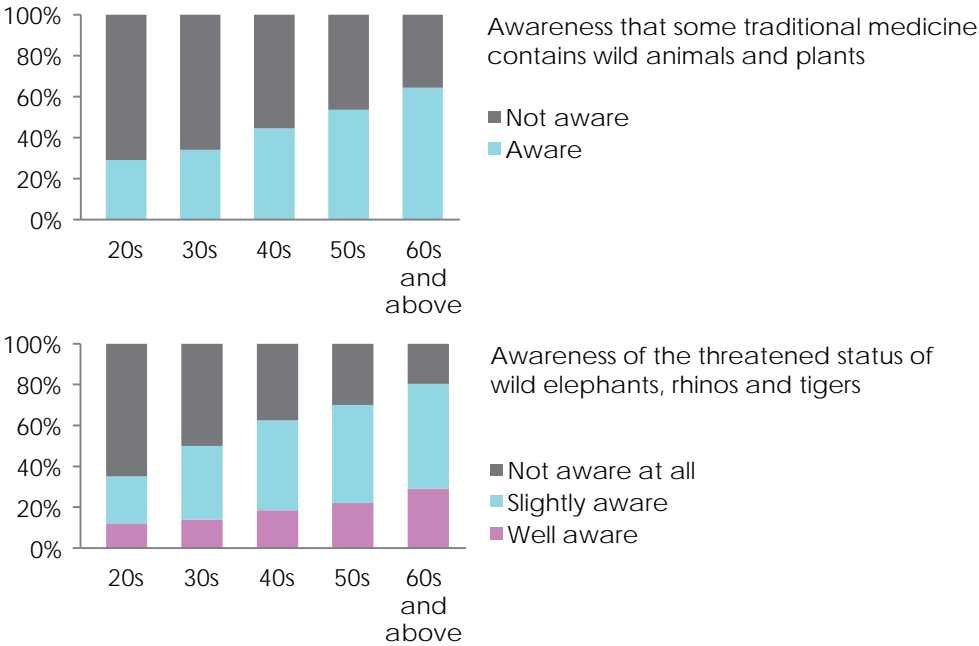


Figure 4. Generational trends in current consumer awareness (N=1000)
 TOP: awareness of the use of wild animals and plants in traditional medicine (*kampo*); BOTTOM: awareness on the threatened status of wild elephants, rhinos and tigers
 Source: TRAFFIC, consumer survey, 2014

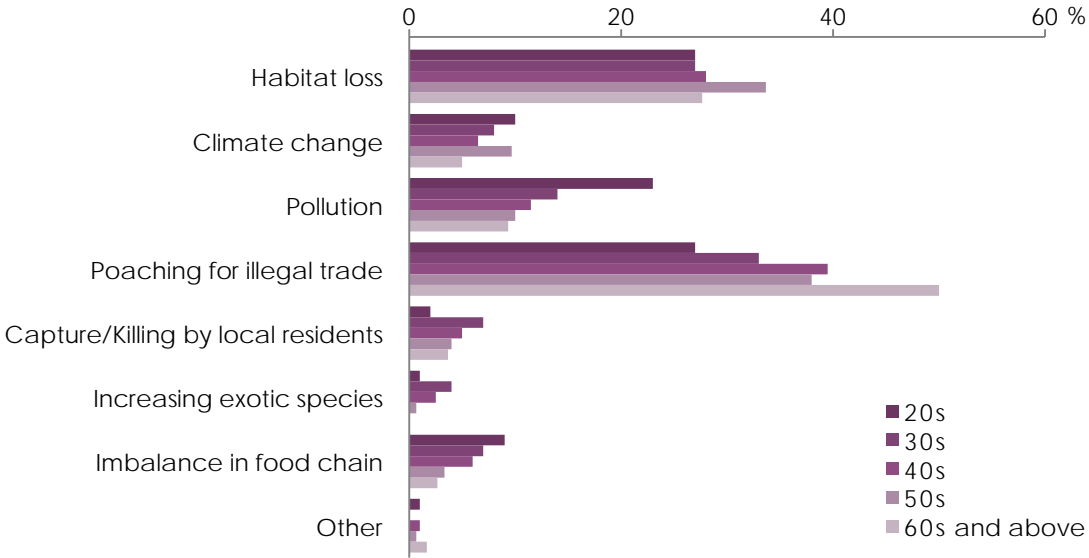


Figure 5. Generational trends in current consumer awareness about factors threatening elephants, rhinos and tigers in the wild (N=1000)
 Respondents selected a single factor that they thought presented the biggest threat to wild elephants, rhinos and tigers. Results are shown as the percentage of each age group.
 Source: TRAFFIC, consumer survey, 2014

group considered “poaching for illegal trade” as the biggest threat to elephants, rhinos and tigers, while the proportion selecting this option declined as the age went down, to only 27% in the 20s age group. “Habitat loss” was perceived as a common threat to a similar extent by most age groups, other factors like “pollution”, “climate change”, and “imbalance in food chain” showed the pattern in reverse, being more popular amongst the younger than the older age groups.

These combined results appear to lend support for the domestic awareness toward illegal wildlife trade issues discussed in **Section 3.1.2** that was likely fostered during the 80s to early 90s, considering the higher levels of awareness in the older generation. However, overall awareness of wildlife use and the impact of illegal trade gradually reduces in subsequent generations. Further research to characterise factors behind and implications of these generational differences is warranted for understanding the current Japanese consumer attitudes, where the observed low level awareness in the younger generation requires particular attention.

3.3. Conclusion

Overall, it took Japan nearly two decades after signing CITES in 1973 to develop a sound legal framework to buttress compliance with the Convention’s requirements, and this simultaneously coincided with the country’s golden years of economic boom (**Time Chart 1**). The review above elucidated some of the key drivers behind this progress, of which the first tipping point was likely triggered in 1984 by accumulated international pressure. From the domestic side, attention to illegal wildlife trade issues also grew, propelled by internal forces such as monitoring and awareness-raising activities by NGOs with the media also playing a role in communicating the seriousness of the issue and critical opinions. Even though the general public at this time was still presumably attuned to more luxury and more consumption, evidence suggests that the illegal wildlife trade issue had penetrated the public consciousness by the late 1980s. This supposition is corroborated by the higher-level awareness in older consumers who experienced this era.

Aligning the above series of events and drivers with the history of rhino horn and ivory import reveals that declines in the market likely took different courses (**Time Chart 1**). Despite being one of the major importers of rhino horn in the 1970s, Japan did not enter a Reservation for any Rhinocerotidae species upon joining CITES in 1980 and thereby accepted the immediate cut off of all rhino horn supply (**Time Chart 1**). This decision by the government appears puzzling, given the economic and political context at the time and that a Reservation was entered for the Appendix I listed Musk Deer (the Himalayan populations), another important ingredient for the same traditional medicine industry, that was not withdrawn until 1989. On the other hand, there is no mention of illegal trade in rhino horn appearing in the National Diet records, major newspaper articles, or relevant CITES meeting documents, which stands in stark contrast to the ongoing illegal trade in musk. It can therefore be inferred that rhino horn was not in strong demand from the traditional medicine industry and that this domestic environment facilitated a smooth phase out of large-scale usage. The nature of these factors is explained in **Chapter 4**.

The history concerning ivory is very different and ran concurrently with the overall socio-political change around CITES in the 1980s through to the early 1990s (**Time Chart 1**). Japan imported a record volume of ivory, nearly 950 tonnes in 1983 and 1984 collectively, and under circumstances in which the origin of the majority of trade was suspected to be illegal. This predictably gave rise to intense criticisms from the international community. Illegal import continued even after the international trade ban was adopted in 1989, indicating that, unlike rhino horn, strong demand for ivory persisted. Indeed, various efforts were made to curb the amount of ivory imported between 1985 and the 1989 CITES trade ban. Demand for ivory persisted, however, and in both 1999 and 2009 Japan was allowed to receive legal one-off imports of ivory through a mandated CITES process. An overview of the historical drivers and the current status of Japan’s domestic ivory market is presented in **Chapter 5**.

Divers of socio-political change around CITES

Import	International Events	Domestic Law/Policy	Drivers
	<ul style="list-style-type: none"> * 1963 IUCN resolution calls for international framework * 1973 CITES adopted * 1975 CITES entered into force * 1984 CITES Asia Oceania Seminar adopts resolution "Japan" * 1985 CoP5 * 1987 CoP6 * 1989 CoP7 African Elephant Appendix-I listing 	<ul style="list-style-type: none"> * 1973 Japan signs CITES * 1980 Japan accedes to CITES with nine reservations, poor compliance continued * 1984 Prime Minister calls for immediate measures to improve compliance * 1985 Improved trade regulations etc. for CoP5 * 1987 First domestic trade regulation enacted * Initial reservations withdrawn (1987-1994) * 1992 LCES enacted * 1992 Japan hosts CoP8 	<ul style="list-style-type: none"> * International and domestic calls for Japan to join CITES * 1982 TRAFFIC Japan based in Tokyo starts monitoring wildlife trade * 1984 Prince Philip meets with Prime Minister Nakasone -damaged international reputation raises the stake for Japan * Increased domestic media coverage on Japan's illegal wildlife trade * 1987 Government opinion-poll on topic of "illegal wildlife trade" issues shows high public awareness * 1990 Media coverage on ivory issues, major department stores ending sales of ivory accessories * 1991 US sanction threat for beko trade
1960			
1970			
1980			
1990			
2000			
2010			

Time Chart 1. Summary of key events and potential drivers surrounding the development of a legal framework for CITES implementation in Japan (from the 1970s to early 1990s)
 Source: authors' work

4. HISTORY AND DRIVERS OF DECLINE IN THE MARKET FOR RHINO HORN

4.1. History of rhino horn use in Japanese traditional medicine

4.1.1. Patterns of change in rhino horn use

Overview of Japanese traditional medicine

Traditional medicine in Japan is derived from traditional Chinese medicine, which is believed to have been introduced through Korea around the 6th century AD (Namba, 1994). It evolved as a practiced medical system called *kampo* in the Edo period (1603–1868), when Japan was a closed, stable society. *Kampo* is distinguished from other forms of traditional medicine found in Japan by the following characteristics: it follows the classical theory of traditional Chinese medicine for making diagnoses and its medicines called *kampoyaku* (*yaku* denoting “medicine” or “drugs” in Japanese) are prepared according to formulations described in classical literature. These formulations specify what proportions are needed for each of the natural ingredients in them and each formulation is tailored to treat the symptoms exhibited by patients. There are several hundred commonly used *kampoyaku* formulations. Although Japan adopted Western medicine as the primary medical system in the Meiji period (1868–1912), *kampo* remains a part of Japan’s medical system. Today *kampoyaku* are available as over-the-counter drugs and prescription medicines.

There have been many other traditional medicines which are not considered to be part of *kampoyaku* but still have roots in *kampo* or traditional Chinese medicine. The difference is that formulations of such drugs are often unique and developed based on experiences, thus they are sometimes called folk medicine or *wakanyaku* (which translates as “Japanese Chinese medicine”) (JKMA, 2015). A large variety of such original medicines was invented and flourished in different locales, including some that became widely distributed as household medicines in the Edo period. The production of such medicines was concentrated in several regions with a long history of traditional medicinal use. Amongst them, *Toyama* prefecture was well known for using animal-based ingredients and for establishing a nation-wide distribution scheme of travelling “medicine peddlers”. This was a “value first, money later” distribution system⁴ that enabled even poor households to receive the benefit of medicines. This system lasted for over 300 years (Kamata, 1986). Although the traditional medicine industry has experienced a significant decline over recent decades, this unique distribution system still exists as an official pharmaceutical operation called *haichiyaku*, or household distribution. Certain brands of long-standing traditional medicine also persist, and they are manufactured and sold as well-known non-prescription household medicines, and are especially well-known by older generations.

Rhino horn was used in both *kampo* and a variety of other traditional medicines. It should be noted that because *kampo* and other traditional medicines are not completely independent in their origins and sometimes overlap in their formulations, the distinction in the terminology is generally not well recognized. Consequently, the term *kampo* is commonly used as a general term for any traditional medicine, or as an antonym to chemical-based medicine. In this report, “Japanese traditional medicine” or simply “traditional medicine” is used in this inclusive sense and “*kampo*” in its specific sense.

History of rhino horn imports and CITES

The practice of using rhino horn in traditional medicine in China is centuries old and is described in the earliest written record “Divine Peasants Herbal” from the Han Dynasty (206 BC to AD 220). Although Japan was never a rhinoceros range State, rhino horn has been used for its medicinal properties over many centuries since its introduction from China where historically two Asian

⁴ A medicine kit is leased by a household for use in treating day to day maladies, while medicine peddlers make regular visits to each household to refill and collect payments for the amount used in the interim.

rhino species once existed. The earliest evidence of rhino horn items in Japan dates back to the 8th Century AD in the Shosoin Collection of the Emperor, which includes rhino horn cups categorized as “Medicine” treasures (Imperial Household Agency, 2015). Tradition says that the first ruler of the Edo period, Tokugawa Ieyasu, himself used to prepare a medicine called *Usaien*, with “sai” denoting the rhinoceros in Japanese, using a formula listed in a classic Chinese text (Shimomura *et al.*, 1999). *Usaien* and another medicine called *Shisetsu* were both believed to contain traces of rhino horn and were produced in this period as (already famous) folk medicines from *Ishikawa* prefecture (Suzuki, 2005).

Although Japan has imported rhino horn for many centuries, official trade records are only available from the end of the 19th Century in the Meiji period (1868–1912) when the country rapidly underwent



Rhino horn dish from the Shosoin Collection dating from the 8th century (The Shosoin Shoso, photo courtesy of the Imperial Household Agency), The object is categorized under “Medicine”, The centre hole in the right photo is made by grinding the dish to be used as medicine



Examples of descriptions of rhino horn found in Japanese traditional medicine literature (Namba, 2010; Nankodo, 1959)

modernization. Statistics reveal a large demand for rhino horn during this period. According to Martin (1983), rhino horn imports between 1882 and 1889 amounted to over 1200 kg annually, most of which originated from the three Asian species of rhinos. As the populations of Asian rhinos dwindled, Japan began importing horns from Africa, with the average volume reaching a record high of 2200 kg annually in 1897 and 1898 (Martin, 1983).

The official trade records were disrupted for the first half of the 20th Century during the disorder of major wars in the Taisho (1912–1926) and the early Showa (1926–1989) periods. However, available records from 1951 to 1980 reveal expanding domestic demand (Figure 6). During this period, Japan, along with Yemen, was said to be the world's largest importers of rhino horn (TRAFFIC Japan, 1983). Imports in the 1950s were a mere 10% of the peak years at the end of 19th Century, but importation began to increase in the 1960s. In the early 1970s (1970–1974), imports had climbed to an average of nearly 1100 kg per year, reaching a peak of nearly 1800 kg in 1973, the year CITES was finalized. Following the entry into force of CITES in 1975, import levels dropped sharply while the unit price of rhino horn skyrocketed. In 1980, the final year of Japan's legal rhino horn imports, the average price reached a record high of USD383 per kg, over 10 times the average price in the 1960s. This suggests there was a last minute surge by traders to secure as much supply as possible before the 1980 ban.

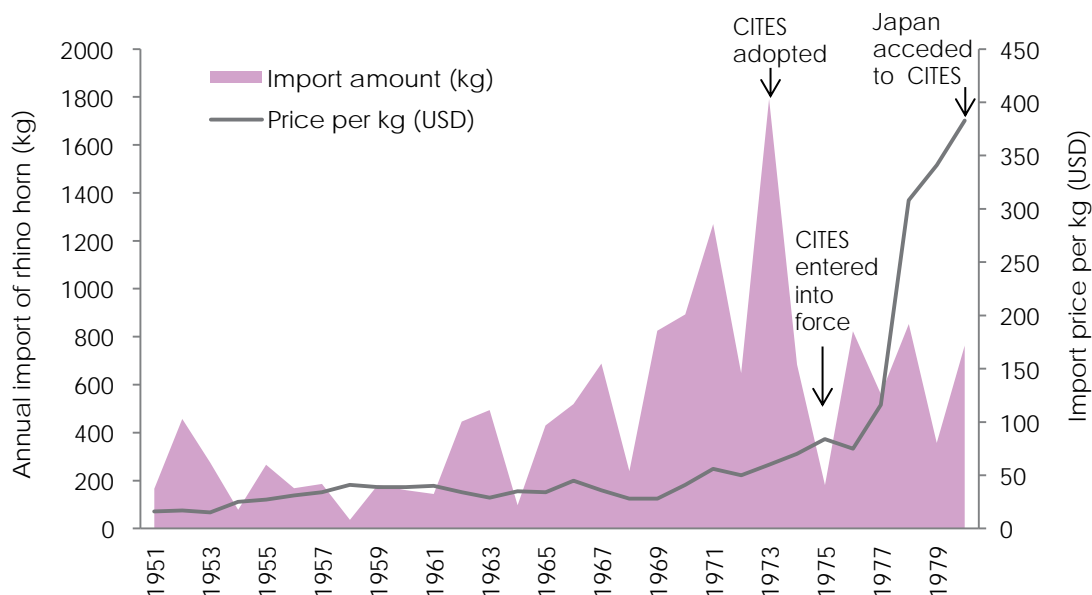


Figure 6. Annual imports of rhino horn by Japan between 1951 and 1980

Source: Trade Statistics of Japan (Ministry of Finance) as summarized by Martin (1983)

These records suggest that there was substantial use of rhino horn in Japan right up to the 1980 import ban that took effect after Japan finally became a Party to CITES. As Japan did not enter any Reservations for rhinoceroses, no commercial importation occurred after 1980, except for a limited number of transactions exempted under CITES (see Section 4.1.4). Furthermore, and significantly, no sizable illegal trade was documented post-ban, and by the late 1980s Japan was considered by CITES to have reduced its domestic market for rhino horn significantly (Martin, 1987).

This success in securing a reduction in the market for rhino horn in Japan after 1980 is in stark contrast to other CITES-listed species for which Japan required significant time to accommodate the needs of various wildlife industries while dealing with continued illegal import. The musk deer, also used in traditional medicines, was one such example (Chapter 3). This suggests that the relatively smooth decline in the market for rhino horn was likely facilitated by distinct underlying domestic factors. The following sections examine the nature of the domestic use and market for rhino horn in order to disentangle these drivers.

Types of rhino horn-containing medicines and their decline

In terms of medicinal properties, rhino horn is classified as a “heat-clearing” drug with detoxifying properties in traditional Chinese medicine, and the use of rhino horn in Japan follows this tradition (Nowell, 2012). The Japanese traditional medicine literature commonly defines the properties of rhino horn as an antipyretic, detoxicant, sedative, cardiostimulant and haemostatic, while its applications are for treating fever and exanthema, especially measles in children (Koizumi, 1977; Namba, 1980; Nankodo, 1959). A range of *kampo* formulations using rhino horn are given in the literature. For example, the Commentary of the National Formulary Ed. II (Nankodo, 1959) describes four representative *kampo* formulae for their antipyretic, cardiostimulant, analgesic, sedative and haemostatic effects and provides recommended daily dosages. Rhino horn was also listed in the Japanese pharmacopoeia between 1962 and 1980, prior to which it was listed in the National Formulary (Kimura, 1955). Rhino horn was removed from the pharmacopoeia in 1981 following the CITES trade ban.

In the consumer market, a wide range of rhino horn-containing medicines was available as manufactured household medicine, which were available via the household distribution system or for purchase at local pharmacies. These rhino horn-containing household medicines may be divided into two categories based on the importance of rhino horn as a component: 1) rhino horn-based medicines in which rhino horn was the main or the only ingredient; and 2) well-known groups of household medicines in which rhino horn was one of multiple ingredients. These two groups were also distinct in terms of the visibility of “rhinoceros” content to the consumers: the former depicted rhinoceroses on their packaging or as part of the product names, while the latter did not.

A typical rhino horn-based medicine came as a package of rhino horn slices and was available at traditional pharmacies. These slices were administered for treating colds, fevers and measles, usually taken as a decoction (i.e. the extract obtained by boiling the rhino horn slices in water). A brand name medicine containing rhino horn as the main ingredient called *Usaikakusan* (including “*saikaku*”, or “rhino horn”, in its name) was also available for the same set of symptoms (Martin, 1983). According to a pharmacist running a 100 year-old *kampo* pharmacy in Tokyo (B, interview), these types of rhino horn-based medicines were affordable and could be purchased for today’s equivalent of around JPY500 (USD5). The pharmacist also mentioned that the main users of such medicine were those who could not take chemical antipyretics, such as pregnant women, infants and small children.

A National Formulary for over-the-counter drugs in Japan published in 1978 by JAPIC (JAPIC, 1978) listed 16 different companies manufacturing “rhino horn” (*Saikaku*, likely slices), one company manufacturing “rhino horn powder”, and two companies manufacturing drugs named *Usaikakusan*. All of these drugs were identified as “antipyretic-analgesic-antiphlogistic drugs”. Editions of this publication after 1980 (JAPIC, 1991) listed only one company manufacturing “rhino horn” as a crude drug⁵ product and *Usaikakusan* was no longer listed. Later editions from the 2000s onwards did not have any listing of rhino horn-based medicine (JAPIC, 1999, 2014).

The other group of rhino horn-containing medicines included a much wider range of products manufactured by hundreds of companies. Regarded as effective for a variety of conditions ranging from convulsion in children, fever and stomach and heart weaknesses, these medicines were widely available through the household distribution system. In terms of ingredients, these medicines roughly followed a standard recipe of selected animal and plant materials, usually consisting of Oriental bezoar, musk, bile, borneol, ginseng, agarwood, horn, and sometimes toad secretion (Nakamura *et al.*, 2004). This group of medicines was further divided into two types: the *Kyumeigan* (denoted “life-saving pill”) and *Kiogan* type categorized as children’s sedative; and the *Rokushingan* type categorized as cardiostimulants for adults. Records show that there were 123 kinds of *Kyumeigan* and 68 kinds of *Kiogan* in 1981 (Anon., 1982)

5 “Crude drug” refers to a single material preparation, usually an ingredient for producing *kampoyaku* and other traditional medicines, although sometimes taken on its own (JKMA, 2015).



Credits: H. SHIRAIISHI / TRAFFIC

Rhino horn medicine (slices) for treating colds, fevers and measles, its package and package insert, The package contains 3 g of thinly sliced Black Rhino horn, The reverse side of the package provides instructions on dosage and administration as follows: For a one day dosage of 3 g for an adult, add 100 ml of water and boil for 5 to 10 minutes, Take three times a day between meals, Dosage for children at various ages is also provided



Credits: T. KITADE / TRAFFIC



Credits: UZUKYUMEIGAN CORPORATION

Uzukyumeigan packages, LEFT: Old package from early 20th century (Taisho Period) preserved in the company's archives located in Tochigi; RIGHT: Current package used in 2015
Photo courtesy of Uzukyumeigan Corporation



Credits: KYUSHIN PHARMACEUTICAL CO., LTD



Credits: KYUSHIN PHARMACEUTICAL CO., LTD

Kyushin packages, LEFT: Package from early 20th century (prior to 1933); RIGHT: Current package used in 2015
Photos courtesy of Kyushin Pharmaceutical, Co., Ltd.

and that around 100 companies manufactured derivatives of *Rokushingan* (Kyushin, 2013). Note that not all these brands used rhino horn as the “horn” ingredient, but the majority did before the import ban, according to the FPMAJ (C, interview).

Uzukyumeigan for children and *Kyushin* (derived from *Rokushingan*) for adults were by far the most nationally famous traditional brands with the largest shares in their respective markets, both of them using rhino horn as an ingredient. Both these brands were produced by long-standing manufacturers whose company names were identical to their most famous products: *Uzukyumeigan* was founded in 1597 and *Kyushin* in 1913. In terms of prices, *Kyushin*, known as panacea for a variety of adult conditions including cardiotoxic conditions, was more expensive than *Uzukyumeigan* for the child illnesses, perhaps reflecting the difference in the types of usage. According to a traditional medicine trader (D, interview), approximately 50% of rhino horn use prior to 1980 (he estimated 600 kg annually) was in *Kyushin*, another 20 to 30% went into rhino horn medicines sold by pharmacies and the rest was *Uzukyumeigan*. Little rhino horn was used in other brand named medicines.

Reviewing the listing of rhino-horn containing medicines in the National Formulary implied a major reduction in the market in the 1980s (Figure 7). In 1978, shortly before the end of legal import in 1980, at least 97 rhino-horn containing medicines and 95 companies producing them were listed, most of which were producing derivatives of *Kyumeigan*, *Kiogan* or *Rokushingan*. These numbers dropped dramatically over the next decade, down to only 15 medicines produced by eight companies in 1991. By 2014, there were only six medicines from five manufacturers listed, all of them small companies in the traditional medicine industry, capitalizing on their remaining stocks of rhino horn. The domestic production and sale of rhino-horn containing medicines remains legal. Both *Uzukyumeigan* and *Kyushin*, the two major users of rhino horn, switched to alternative ingredients in the 1980s (1982 and 1986, respectively, see Section 4.1.2), and still retain their brand name products in the market today using substitutes for rhino horn.

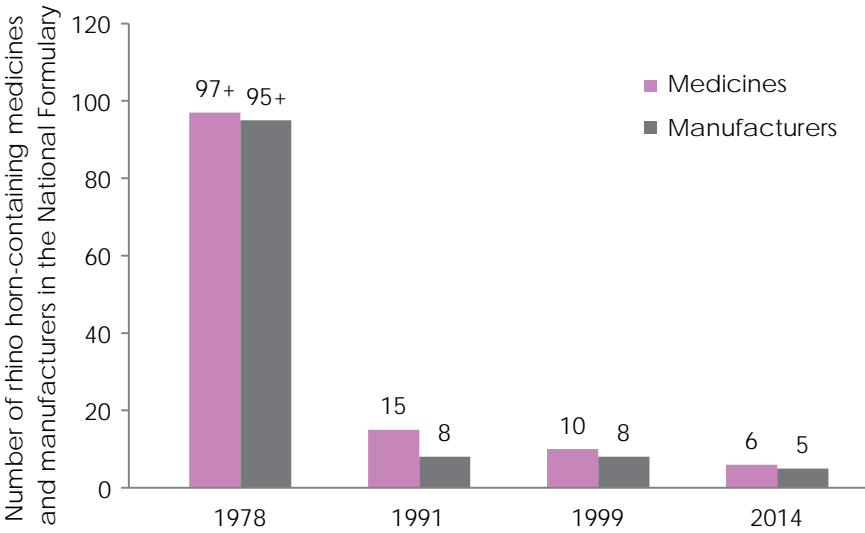


Figure 7. The numbers of rhino horn-containing medicines and companies producing them listed in the National Formulary in Japan over time for over-the-counter drugs
 Source: Japan Pharmaceutical Information Centre, OCT Drugs in Japan (1978, 1991, 1999, 2014)

As noted above, there were distinct types of rhino horn-containing medicines available in the Japanese market prior to the 1980 import ban, and the number of these medicines and manufacturers declined sharply in the decade following the ban. In addition, records document the drop in sales of rhino horn medicine at *kampo* pharmacies. According to market surveys conducted in 1980 and 1986 (Martin, 1987), the proportion of major pharmacies selling rhino horn dropped from 44% to 17% in Tokyo and 90% to 76% in Osaka (Japan's second largest metropolis where the use of traditional medicine was more prevalent). Furthermore, by 1995, all surveyed pharmacies found with rhino horns displays claimed that the horns were no longer for sale (TRAFFIC, 1995).

4.1.2. Driver: response to CITES and social pressure

Saiga Antelope horn as a recommended substitute

The largest driver for the reduction in rhino horn usage was found to be the decision by the major manufacturers using rhino horn as one of the ingredients in household medicines to switch to an alternative ingredient. As the Japanese government prepared to become a Party to CITES in the late 1970s, it became clear that rhino horn would no longer be available for import. In preparation for this development, the government reached agreement with the manufacturing industry association on the use of an alternative ingredient, the horn of the Saiga Antelope *Saiga tatarica* (*Reiyoukaku* in Japanese). An internal announcement was made to the industry about the recommended substitute, according to information received from a series of interviews with manufacturers (D, E, F, interviews) and FPMAJ (C, interview). The government did not ban the domestic use of rhino horn but actively facilitated the transition through a smooth approval process with manufacturers to alter the content of their medicinal products and remove rhino horn as an ingredient. Thus, the major manufacturers made the recommended switch, others switched to using the horns of other animals such as cattle or water buffalo while a few continued using the rhino horn stocks they possessed.

The underlying reason for the smooth transition to using alternatives, according to *Kyushin* and *Uzukyumeigan*, the two major users of rhino horn at the time of the import ban, was because rhino horn was not the most important active ingredient and could be replaced without affecting the overall efficacy of their medicines. Their most critical ingredients were a toad secretion⁶ acting as a heart stimulant for *Kyushin* and musk acting as a sedative and anti-inflammatory agent for *Uzukyumeigan*. Surprisingly, rhino horn was a relatively new ingredient for *Uzukyumeigan*, adopted in 1967 as an antipyretic substitute for chemical drugs, although the company likely previously used rhino horn in the 19th Century when the import supply was plentiful. *Uzukyumeigan* made the switch to Saiga Antelope horn in 1982, followed by *Kyushin* in 1986.

It is interesting to note that all the industry interviewees recalled that the industry had first suggested "cattle horn" as a recommended rhino horn substitute in their correspondence with the Ministry of Health and Welfare (now the Ministry of Health, Labour and Welfare, MHLW), because it could easily be supplied from domestic livestock. However, the Ministry purportedly suggested a usage of "Saiga Antelope horn". The industry agreed to this because Saiga horn was indeed known in the literature and from experiments to have a similar antipyretic effect, according to the major manufacturers (E, F, interview). Many manufacturers swiftly switched to Saiga horn to avoid supply disruption of the supply. One manufacturer recalled that the reason for the rejection of cattle horn was because it required 10 times the volume of rhino horn to achieve the same effect (E, interview). Another mentioned that the government cited, as one of the reasons, a concern that cattle horn would appear "less valuable" (D, interview). The literature suggests that Saiga Antelope horn usage was rather uncommon in traditional Japanese medicine before 1980 (Nagasawa, 1977), neither was it used in the manufacturing industry before it was adopted as a rhino horn alternative, according to FPMAJ (C, interview).

6 *Kyushin* uses species of Bufonidae, specifically *Bufo gargarizans* and *B. melanostictus*
<http://www.kyushin.co.jp/herb/herb05.htm>



Credits: YURY ARYLOV

A male Saiga Antelope *Saiga tatarica*

Saiga Antelope populations in Central Asia were considered abundant in the 1970s owing to the effectiveness of hunting regulations. However, following the collapse of the Soviet Union in the early 1990s, poaching caused massive population declines (von Meibom *et al.*, 2010). The species has been listed in CITES Appendix II since 1995 and is categorized as Critically Endangered under the IUCN Red List (Mallon, 2008). CITES trade data between 1995 to 2004 show that Japan imported a total of 13 312 kg of Saiga Antelope horn, comprising 15% of the total global trade (von Meibom *et al.*, 2010). This is roughly equivalent to the volume of rhino horn Japan imported over the 24 years between 1957 and 1980. According to FPMAJ, the annual usage of Saiga Antelope horn in the pharmaceutical industry over the past decade (2004–2013) has remained steady at about 300 kg on average, while the import volume and the number of companies producing medicines with this ingredient decreased during this period (FPMAJ, *in litt.* to TRAFFIC, June 2015). Although the demand for Saiga Antelope horns in Japan is unlikely to increase given the decline in the traditional medicine market, whether or not the current consumption is within sustainable limits for the species needs to be assessed urgently in the light of the global trade. This is particularly critical considering not only the occurrence of poaching in Saiga range States and substantial illegal trade taking place in countries such as China, the major exporter of Saiga horn to Japan (von Meibom *et al.*, 2010) but also other imminent conservation threats such as destruction of habitat and migration routes that have rendered the species Critically Endangered (Mallon, 2008).

Social pressure

In terms of other potential drivers of the market decline, social pressure turned out *not* to be a factor for rhino horn. Both *Kyushin* and *Uzukyumeigan* stated that their consumers were unlikely to be aware of the precise ingredients but rather trusted the brands for their efficacy and long-standing reputation. They explained that consumers did not have any influence on the decision making process for substituting rhino horn with Saiga horn (E, F, interview). The results of TRAFFIC's 2014 consumer attitude survey further support this, with the vast majority of the users of these medicines unaware of their rhino horn content (see **Section 4.2**).

Evidence of domestic public awareness that may have stimulated some degree of social pressure was not found for rhino horn either before or after the 1980 import ban. Searching major newspaper archives did not reveal any articles featuring a critical assessment of rhino horn import or its usage in traditional medicine. Although in the late 1970s to early 1980s WWF Japan and TRAFFIC Japan reported on Japan's rhino horn use in their publications (TRAFFIC Japan, 1983; WWF Japan, 1979, 1980), there was no major public awareness campaign by any NGOs or other bodies targeting the use of rhino horn in Japan during this period, according to WWF staff (A, G, interview).

Internationally, however, there was a strong movement in the 1990s to stop the rampant commercial trade in rhino horn to several markets. Hong Kong became the first government successfully to introduce a series of regulations in the late 1980s (Milliken, 1991), while Yemen, South Korea, mainland China and Taiwan were all named at CITES meetings as in need of improving their rhino horn trade regulation (TRAFFIC, 1993, 1994b). Mainland China, South Korea, Taiwan and Thailand all became targets for international NGOs campaigns around 1991 (WWF Japan, 1991), and all except Thailand were placed under trade sanctions by the US government pursuant to the Pelly Amendment (TRAFFIC, 1994a). Japan, however, was not included among the other East Asian targets as by this time the domestic market had declined substantially with no evidence of illegal imports (CITES, 1987). Pressure from these CITES developments still led to the establishment of an industry standard (*A Standard for Self-management System on Home Trade of Pharmaceuticals Relevant to CITES*) by FPMAJ in 1995, which mandated all manufacturers continuing to hold stock or use rhino horn to report their inventories annually (see **Section 4.1.4**) (C, interview). TRAFFIC Japan also encouraged the Japanese government to tighten its regulation of domestic rhino horn medicine sales (along with those containing Tiger parts) that were still available at traditional *kampo* pharmacies in 1995, although the government did not take any remedial action (TRAFFIC Japan, 1995; WWF Japan, 1995).

4.1.3. Driver: decline of the traditional medicine sector

While the 1980 CITES-related import ban triggered the cessation of rhino horn use by the major manufactures, there were other domestic factors that exerted an influence on the traditional medicine industry in Japan, thereby indirectly reinforcing the reduction in rhino horn use. These were: 1) the modernization of Japan's medical system; 2) changes in the distribution and sales patterns for traditional medicine; and 3) interruption of traditions through changes in the family structure.

Modernization of Japan's medical systems

The modernization of Japan's medical systems took off in the Meiji period. At the beginning of the 1870s, as part of its efforts to raise the general health standard and shift the weight away from traditional medicine, the government introduced regulations governing the sale of drugs and licensing systems for practicing medicine and operating pharmacies. A regulation introduced for non-prescription drugs in 1914 impacted the traditional medicine industry by introducing measures to control quality, proof of efficacy and advertising. However, for the majority of the Japanese public, cheaper and familiar traditional medicine remained the treatment of choice for day-to-day maladies. One study documents how, during a 1939 measles outbreak in Tokyo, the majority of children from low income families were treated with rhino horn-containing household medicines such as *Usaikakusan* and *Kyumeigan* because few of them were able to access a doctor (Suzuki, 2008).

Further establishment of Japan's modern health care system progressed in the post-World War II period, marked by the introduction of a nation-wide health insurance scheme in 1961. This substantially lowered the cost for the public to access doctors and prescription medicines and led to further declines in the traditional medicine industry. Regarding measles, for example, the need for rhino horn-based medicine was likely eliminated by the access to the nation-wide health insurance scheme, followed by the introduction of a measles vaccine in 1966 and the start of a routine vaccination programme in 1978 (National Institute of Infectious Diseases Japan, 2002). Thanks also to improved

childhood nutrition, the number of measles-infected patients and death toll in Japan has steadily diminished since the 1950s (National Institute of Infectious Diseases Japan, 2002).

Changes in the distribution and sales pattern of traditional medicine

People used to obtain traditional medicines through the household distribution system (see Section 4.1.1; Overview of Japanese Traditional Medicine) and at *kampo* pharmacies. However, this situation was affected by the proliferation of modern pharmacies that made non-prescription drugs readily available for quick self-medication and gradually encroached upon the consumer demand for traditional medicines. Statistics show that the number of pharmacies in Japan more than doubled between 1961 and 2000, while the number of household distribution businesses has slowly declined since 1980 (Figure 8). In the traditional medicine industry, some brands survived by going mainstream in their marketing to secure retail outlets in modern pharmacies, while others dwindled or disappeared.

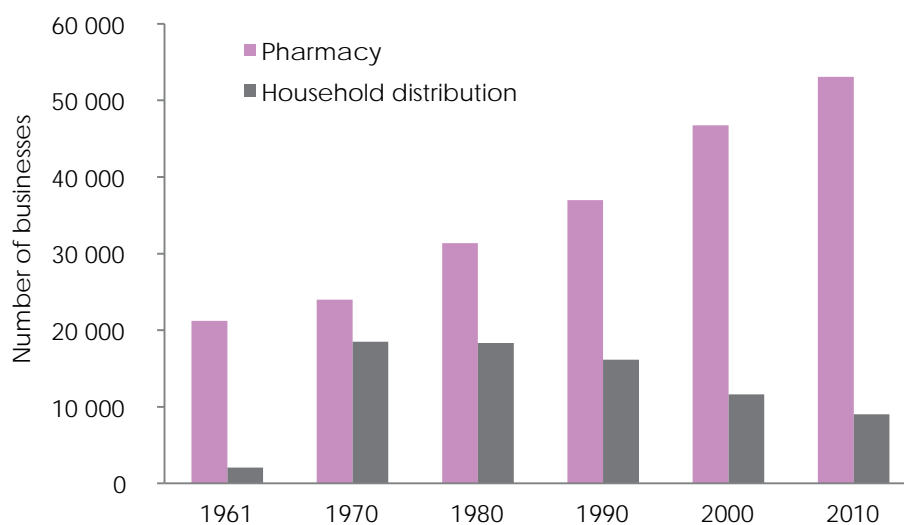


Figure 8. Comparison between number of pharmacies and household distribution businesses in Japan (1961–2010)

The pharmacies include only those with registered pharmacists. Numbers reported at the end of each calendar year used up to 1990, while that of the fiscal year (end of March) used thereafter.

Source: MHLW (Ministry of Health and Welfare, prior to 2001) Report on Public Health Administration and Services (1961, 1970, 1980, 1990, 2000) as summarized in (Sawano, 2007), MHLW Report on Public Health Administration and Services (2011)

Kyushin exemplifies a successful adaptation. Established in 1913, *Kyushin* initially employed household distribution but later launched extensive marketing through newspapers, magazines and TV and opened up new retailing outlets through mail-order and modern pharmacies (*Kyushin*, 2013). Today both *Kyushin* and *Uzukyumeigan* sell their original medicines at major modern pharmacies in Tokyo. One traditional medicine manufacturer interviewed (H, interview) noted the lack of retail outlets as a major setback for most traditional medicine manufacturers who lack sufficient customer demand to be stocked in modern pharmacies. Currently most of this manufacturer's sales occur in local pharmacies in remote areas where hospitals are not readily accessible.

Changes in traditional family structure

Changes in the traditional family structure were raised by manufacturers as an important cause of the decline in the market for rhino horn-related medicines, especially those for children (F, H, interview). Traditionally the buyers of rhino horn-containing medicines for treating child illnesses were mothers and grandmothers, but with the dissolution of the multi-generational traditional family lifestyle, numbers of those within the household with the knowledge and reliance on household traditional medicines declined.

This change in household structure occurred as part of the overall transition in Japan's socio-economic conditions from the 1960s onwards, which brought increasingly more disposable income to the middle class and escalated urbanization. According to the national census, the average number of family members living in the same household shrunk from 4 to 2.5 people between 1960 and 2010, while the total number of households doubled (Figure 9). Increasingly fewer parents today use traditional household medicines available at pharmacies or through household distribution to treat their children, instead the use of hospitals and Western drugs have become the norm. *Uzukyumeigan* stated that this change had a huge impact on their traditional customer base of mothers and grandmothers in traditional households (F, interview).

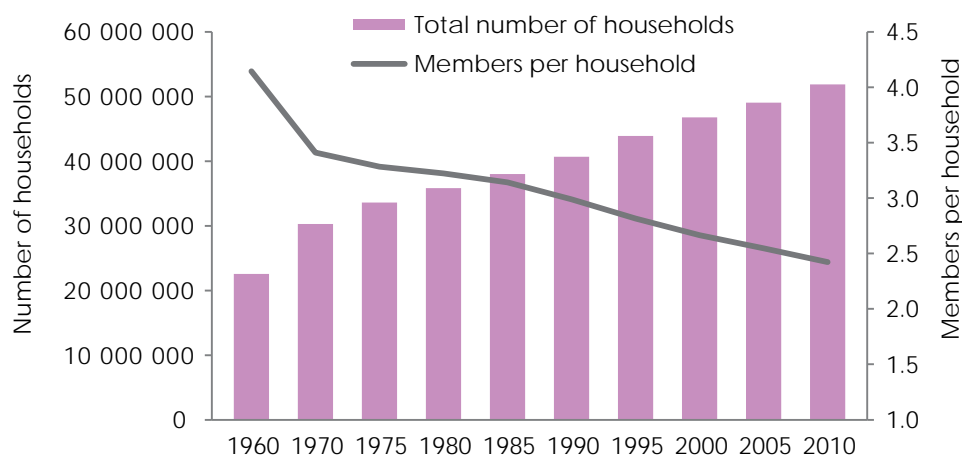


Figure 9. Change in family living structure in private households in Japan between 1960 and 2010

Source: Ministry of Internal Affairs and Communications, Statistic Bureau, Census (2014)

4.1.4. Domestic market since the trade ban

Manufacturing

Although the majority of industry players switched to using Saiga Antelope and other animal horns, a handful of manufacturers have continued to retain and/or utilize their old rhino horn stocks. The domestic production and sale of rhino horn-containing medicine is legal in Japan (for domestic regulations see Section 4.3) although in 2014, there were only five such manufacturers listed in the JAPIC National Formulary (Figure 7), one of whom has since ceased operations (FPMAJ, *in litt.* to TRAFFIC, November 2015). FPMAJ describes them as small companies who put an irreplaceable medicinal value on the use of rhino horn as an ingredient and/or consider the continued use of valuable rhino horn stocks as necessary for maintaining their businesses (C, interview). One such manufacturer of *Rokushingan* (H, interview) emphasized that maintaining the business was the primary motivation although the antipyretic effect of rhino horn in children was also important. This manufacturer has kept the same medicinal formula since the company's foundation 120 years ago, but lamented that sales have become increasingly more difficult in modern times due to the declining number of traditional medicine users.

In 1995, the FPMAJ established an industry self-management standard for the remaining traditional medicine manufactures that were stocking or dealing in rhino horn and/or products thereof⁷. This was

⁷ The industry standard introduced in 1995 also applied to Tiger bone and products thereof, which was in response to *Resolution Conf. 9.13 Conservation of and Trade in Tigers*. Unlike rhino horn there was no industry manufacturing Tiger bone-containing medicines in Japan. Although a few companies imported finished products from China, they were destined to terminate these sales once their stocks had been depleted because China had already banned their production and export in 1993.

in response to CITES *Resolution Conf. 9.14 Conservation of and trade in African and Asian rhinoceroses* adopted in 1994, which called for strengthening the regulation of domestic trade in medicinal animal products and urging Parties to mark, register and secure their legal rhino horn stocks (Mainka, 1997). Under the voluntary regulation, manufacturers file an annual report on the amount of rhino horn materials they have in stock or have used in production and traded, and the compiled data are reported to the government (MHWL). This regulation was also later applied to other animal products under CITES, including musk, Saiga horn and bear bile.

According to reports made to the FPMAJ, the total stock of rhino horn held by a total of 18 manufacturers in recent years is about 136 kg and the annual usage is below 1 kg (**Table 3**). Based upon these figures, production would likely last over a century.

Table 3. Amount of rhino horn stocks and usage reported to FPMAJ in 2013 and 2014

Year	Total stock (kg)	Usage by manufacturers (kg)	Manufacturers possessing stocks (those possessing whole horns)
2013	135.846	0.569	21 (18)
2014	135.293	0.328	18 (18)

Source: FPMAJ, *in litt.* to TRAFFIC, November 2015

Japan does not have oversight on the inventory of rhino horn stocks owned by anyone other than manufacturers reporting to FPMAJ, although all trade in individual horns has been regulated by LCES since 1995 (see **Section 4.3**). According to a survey carried out by TRAFFIC between 1994 and 1995, at least 25 *kampo* pharmacies in five major cities displayed rhino horns although owners claimed they were not for sale (TRAFFIC, 1995). Currently there appears to be hardly any market for rhino horn-based medicines. The traditional *kampo* pharmacist in Tokyo (B, interview) stated that there have been few customers asking for rhino horn medicine since the import ban, although recently there had been visits by Chinese nationals asking for rhino horns (certain pharmacies have whole rhino horns on display but it is illegal to sell them without registration and export is prohibited, see **Section 4.3**).

CITES trade and illegal import

Japan imported a limited amount of rhinoceros products under CITES after 1980 (**Table 4**). As many as 31 live rhinos were imported mainly for zoos, while the number of rhino products imported over the past 35 years totalled 16 carvings, one trophy, and one body. In terms of illegal import, no record was found in TRAFFIC's seizure records or databases or major newspaper archives. Furthermore, by the late 1980s, no concerns about illegal trade were expressed with respect to Japan during a CITES review of countries that previously had significant domestic rhino horn markets (CITES, 1987), nor have any been made subsequently.

Table 4. Import of Rhinocerotidae spp. by Japan, 1980 to 2014

Term	Total import quantity	Species (quantity)	Exporting country / territory (quantity)
Live	31	White Rhino (11), Southern White Rhino (11), Black Rhino (2), Indian Rhino (7)	Switzerland (3), India (1), Nepal (2), US (5), South Africa (20)
Carvings	16	White Rhino (2), Javan Rhino (3), Indian Rhino (3), unspecified (8)	China (3), Germany (2), Hong Kong (3), Italy (1), Turkey (2), US (5)
Trophy	1	White Rhino (1)	South Africa (1)
Body	1	Black Rhino (1)	US (1)

Source: CITES Trade Database (CITES, 2015a), Units are in numbers, Importer reported quantities were used

4.2. Consumer attitudes towards the use of rhino horn and traditional medicine

4.2.1. Experience and attitude towards rhino horn-related medicine

Types of rhino horn-related medicines and awareness of contents

The TRAFFIC consumer attitudes survey conducted in 2014 characterized the experiences and attitudes towards rhino horn-related medicine by different age groups. As previously described (Section 4.1.1), rhino horn in Japanese traditional medicine was utilized in several ways, which suggests that from a consumer's perspective there were difference in terms of the purpose and occasions for usage. The survey therefore segregated: 1) rhino horn-based medicine such as horn slices or *Usaikakusan*; 2) *Kyumeigan* or *Kiogan* for children (e.g. *Uzukyumeigan*); 3) *Rokushingan* for adults (e.g. *Kyushin*) (Table 5).

Rhino horn in the latter two categories was one of multiple ingredients used in the medicine, and as revealed from major manufacturers' interviews, the use of rhino horn in these medicines was most likely inconspicuous to consumers. It should also be noted that for these two types of medicines, the actual use of rhino horn and time period in which it was used as ingredient varied depending on the brand (see Section 4.1.1). For example, both *Uzukyumeigan* and *Kyushin*, the major users of rhino horn, removed it from their ingredients in the 1980s.

Table 5. Three types of rhino horn medicine investigated in the consumer attitude survey (produced by authors)

General information about each type of medicine, descriptions of major examples and main usages were included as below in the questionnaire form.

Types of rhino horn medicine	Main usage
Rhino horn-based medicine (e.g. <i>Saikaku</i> slices, <i>Usaikakusan</i>)	Fever, cold, measles (especially for small children)
<i>Kyumeigan</i> (e.g. <i>Uzukyumeigan</i>), <i>Kiogan</i> (e.g. <i>Hiyakiogan</i>)	Child sedative
<i>Rokushingan</i> (e.g. <i>Kyushin</i>)	Cardiotonic

In the survey sample, awareness about the possibility of rhino horn as an ingredient amongst those who purchased, received or used *Kyumeigan/Kiogan* and *Rokushingan/Kyushin* was only about 7% and 6%, respectively (Figure 10). These results corroborate the notion that rhino horn *per se* was not demanded directly by consumers purchasing these medicines, despite Japan being a major destinations for rhino horn right up to the 1980 trade ban when CITES came in to effect. On the other hand, among the nine people who had experience in rhino horn-based medicines such as rhino horn slices or *Usaikakusan*, nearly half were aware of rhino horn content. That not all respondents were aware may be explained by how consumers perceived them simply as an effective or popular medicine without particular attachment to the appeal of rhino horn.

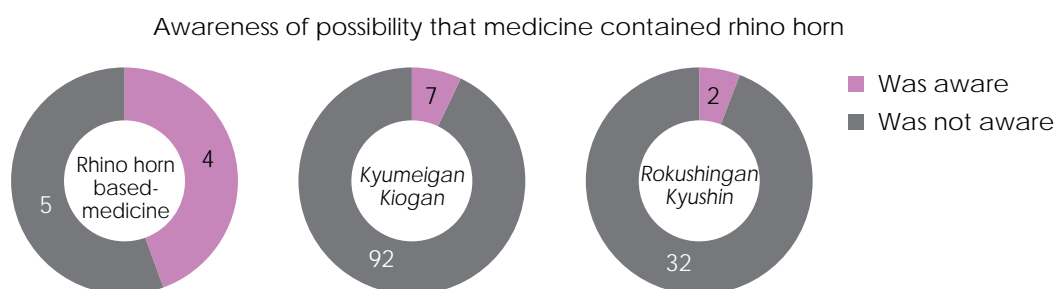


Figure 10. Awareness of possibility that medicine contained rhino horn amongst those who purchased, received, or used: rhino horn-based medicine (N=9), *Kyumeigan/Kiogan* (N=99), *Rokushingan/Kyushin* (N=34)

Numbers represent the count of individual respondents.

Source: TRAFFIC, consumer survey, 2014

Awareness, experiences and interest in purchasing

The level of awareness, experiences and interest in purchasing rhino horn-related medicines by Japanese consumers is shown in **Figure 11**. For all categories of medicines, the current awareness level was less than 50%, while the proportions with experience of purchasing, receiving, or using such medicine was much lower, all less than 10%. The interest in purchasing such medicine was also low across all categories, at no more than 2% (out of 1000 respondents, 20 indicated an interest in *Kyumeigan/Kiogan*, followed by 18 in *Rokushingan/Kyushin*, 11 in rhino horn-based medicine). Across types, *Kyumeigan/Kiogan* had the highest proportion of awareness and experiences, followed by *Rokushingan/Kyushin*. Respondents had least familiarity with rhino horn-based medicine. This may be an indication of the relative rarity of rhino horn-based medicines, its more limited marketing and availability (primarily at *kampo* pharmacies), or the lack of knowledge about it among younger generations. In this respect, the oldest period to which actual experience was noted in the survey sample was the 1960s to 1970s, when respondents now in their 60s today first became a major consumer segment in the population (see **Figure 3**). Indeed, by this time, the demand for rhino horn based-medicine for measles was likely to have already been curbed substantially, whereas the other two types of household medicines remained common into the 1980s (and some even thrive today, but now without rhino horn).

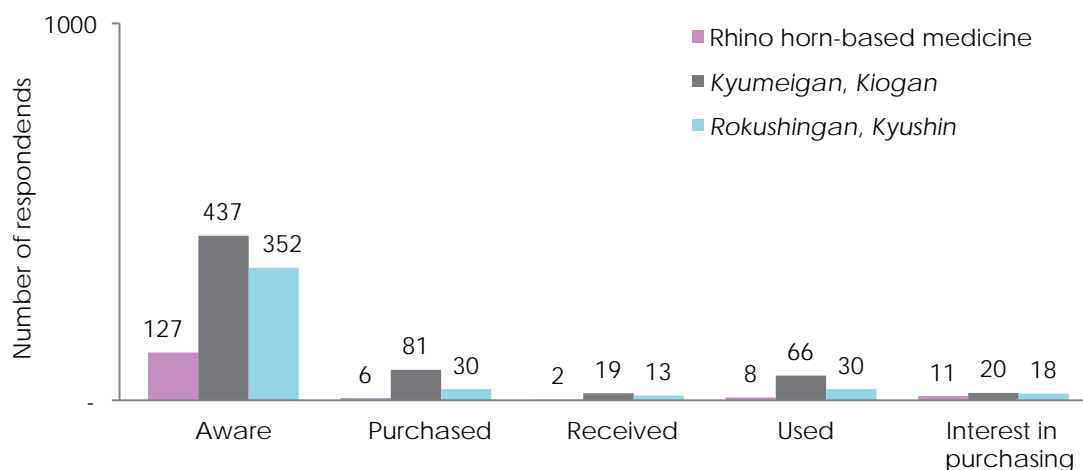


Figure 11. Awareness, experience in purchasing, receiving, using and interest in purchasing three types of traditional medicines: 1) rhino horn-based medicine (rhino horn slices, *Usaikakusan*); 2) *Kyumeigan, Kiogan*; 3) *Rokushingan, Kyushin* (N=1000)

Source: TRAFFIC, consumer survey, 2014

The levels of awareness and experiences in purchasing, receiving and using the three types of medicine tended to increase as the age group increased. In both the 50s and 60s and above age groups more than half the respondents knew of *Kyumeigan/Kiogan*, two in five people knew of *Rokushingan/Kyushin*, and one in five knew of rhino horn-based medicine. Actual experiences were much rarer, although 14% of people in 60s and above age group had purchased *Kyumeigan/Kiogan* and 5% purchased *Rokushingan/Kyushin*. Although the proportions of respondents expressing an interest to purchase were very small overall, the younger age groups seem to have no less interest than those in the older age groups, in spite of the differences in awareness and prior experiences.

Reasons for purchase in the past, reasons for interest now

The two most common reasons for purchasing were “effectiveness” and “recommendation by family/friend/acquaintance” (**Figure 12**), indicating that these medicines were regarded as effective traditional medicine. Acknowledgement of a medicine’s “reputation on TV/in a magazine” for *Kyumeigan/Kiogan* and *Rokushingan/Kyushin* is consistent with the mass-marketing undertaken by major brands like *Uzukyumeigan* and *Kyushin*. “Safer than chemical medicine” was given as a reason for using all three

medicine types and was particularly high amongst those who purchased *Rokushingan/Kyushin*. It is interesting that “rarity” was also selected by some, roughly to the same extent as “reputation on TV/in a magazine”, “recommendation by shop staff”, and “safer than chemical medicines”, although it is unclear if this refers to the rarity of rhino horn as an ingredient or of the specific products in the market.

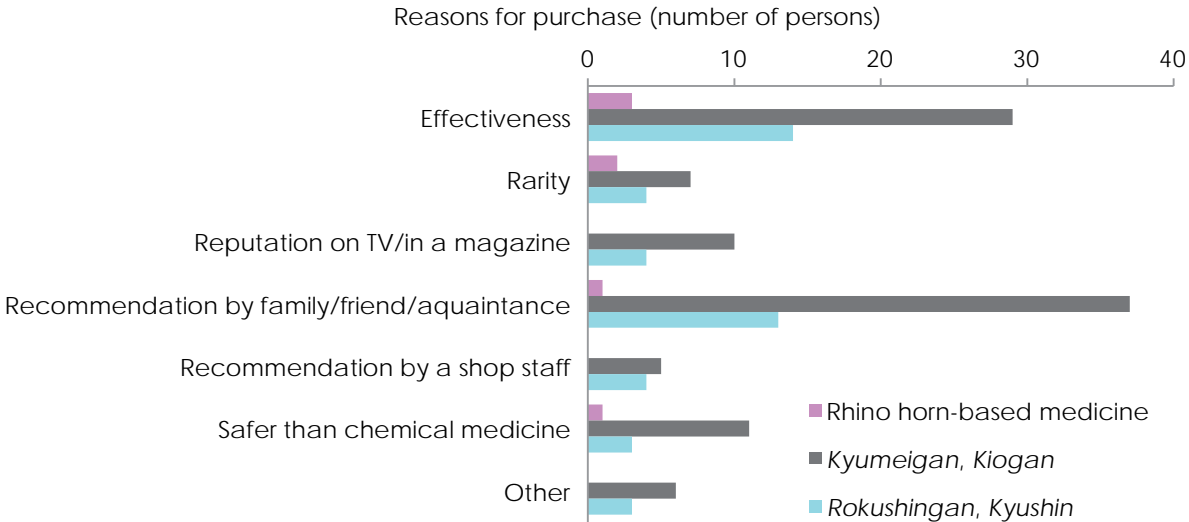


Figure 12. Reasons for purchasing the three types of rhino horn-related medicines by those who with actual experience in purchasing: rhino horn-based medicine (N=6), *Kyumeigan/Kiogan* (N=81), *Rokushingan/Kyushin* (N=30)
Multiple selection was allowed.

Source: TRAFFIC, consumer survey, 2014

Common reasons for wishing to purchase these medicines in the future are summarized in **Table 6**. The commonest response given for all categories was the expectation of efficacy. Other reasons given for *Kyumeigan/Kiogan* and *Rokushingan/Kyushin* types were largely based on them being long-standing medicines that are familiar, reliable, and provide security. In contrast, two respondents were interested in rhino horn-based medicine, the least familiar type, for reasons of curiosity and experimentation. One person even said it might make a good gift due to its beauty, clearly deviating from the traditional usage of rhino horn medicine in Japan. Although there were few respondents interested in purchasing rhino horn-based medicine, they occurred across all age groups.

Table 6. Top reasons for interest in purchasing the three type of rhino horn-related medicines

Numbers in brackets indicate numbers of respondents giving the reasons in free answers.

Rhino horn-based medicine (11)	<i>Kyumeigan, Kiogan</i> (20)	<i>Rokushingan, Kyushin</i> (18)
Likely to be effective/highly effective (6)	Likely to be effective/highly effective (6)	Effective for palpitations and heart problems (4)
Simply interested and fascinated by the unknown (1)	Feel secure (3)	Likely to be effective/highly effective (3)
Try some and see if there is any difference from usual cold medicine (1)	Medicine from long time ago (2)	Maybe useful in the future (3)
Valuable (1)	May be useful in the future (2)	Feel secure because the medicine existed from long time ago (2)
Seems to be good for health (1)	Reliable (2)	Familiar (2)
Beautiful (good for gift) (1)	Have purchased and used before (2)	Reliable (2)

Source: TRAFFIC, consumer survey, 2014

Current status of use and reasons for discontinuing

The majority of those who have previously used rhino horn-related medicines no longer possess or use them (Figure 13). This was particularly notable for *Kyumeigan/Kiogan* where over 95% answered either they no longer possessed or used them or that they still possess but no longer use them. This finding corroborates the view expressed by the manufacturer of *Uzukyumeigan* (Section 4.1.3) that with the passing generations, increasingly fewer parents have come to use traditional medicine to treat their children at home. *Rokushingan/Kyushin* had a marginally higher proportion of continued usage but still over 83% had stopped use.

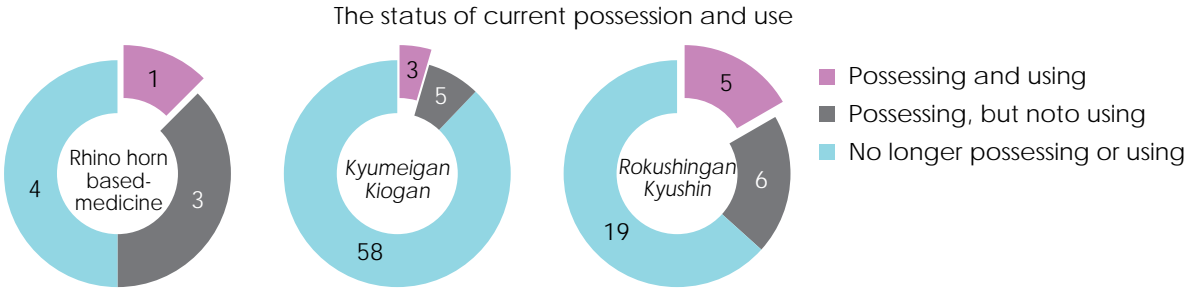


Figure 13. The status of current possession and use amongst those who previously used: rhino horn-based medicine (N=8), *Kyumeigan/Kiogan* (N=66) and *Rokushingan/Kyushin* (N=30)
 Source: TRAFFIC, consumer survey, 2014

Common reasons for discontinuing use are listed in Table 7. The disappearance of the need or symptoms, along with a lack of efficacy, were found to be common responses across all types of rhino horn-related medicines, although there were other reasons unique to each type. For example, the most common reason for discontinuing to use *Kyumeigan/Kiogan* was “children have grown up” followed by “no longer needed”, with nearly half the respondents giving this response. “Costly” was unique to *Rokushingan/Kyushin* where it ranked as the second most common reason. Other reasons included: “peddlers from *Toyama* no longer visit and the *kampo* store is far”, given for both *Kyumeigan/Kiogan* and *Rokushingan/Kyushin*, indicating that the change in the distribution patterns and resulting availability of these medicines have had an impact.

Table 7. Common reasons for discontinuing the use of medicines

Numbers in brackets indicate numbers of respondents giving those reasons in free answers.

Rhino horn-based medicine (7)	<i>Kyumeigan, Kiogan</i> (63)	<i>Rokushingan, Kyushin</i> (25)
Was not effective (2)	Children have grown up (21)	No longer needed (8)
No longer needed (2)	No longer needed (11)	Costly (3)
Feel secure by possessing (1)	Was not effective (4)	Was not effective (2)
Have no symptoms (1)	Use other medicine (4)	Symptoms disappeared (2)
-	No more occasion to use (4)	No more occasion to use (2)

Source: TRAFFIC, consumer survey, 2014

Notably, none of the respondents mentioned any ethical aspect regarding the conservation or welfare of rhinoceroses as reasons for ending their use. This was not unexpected because, as noted previously, rhino horn is largely inconspicuous as an ingredient in these traditional medicines. This finding also corroborates one manufacturer’s recollection that consumer pressure was not a driver in the phasing out of the use of rhino horn in these products.

4.2.2. Current attitudes towards traditional medicine

Although the use of rhino horn has almost ceased and the market for animal-based traditional medicines has declined significantly, traditional medicine, especially plant-based medicines, still remains an appreciable part of Japanese healthcare. There has been a steady growth in the (largely plants-based) *kampo* sector since the national health insurance assimilated a range of *kampoyaku* as prescription medicines in 1976 (Figure 14). According to the Japan Kampo Medicine Manufacturer Association (JKMA), the total production of traditional medicine in 2013 was USD1.5 billion (JPY 160 billion), which consisted of 84.2% prescription drugs, 15.2% over-the-counter drugs and 0.6% household distributed medicine (Japan Kampo Medicines Manufacturers Association, 2015). The proportion of traditional medicine in overall medicine production in Japan remains small, comprising 2.3% by value (Japan Kampo Medicines Manufacturers Association, 2015). In terms of animal-based traditional medicine, musk and bear bile as well as Saiga Antelope horn still remain crucial ingredients in groups of products including *Kyumeigan/Kiogan* and *Rokushingan/Kyushin*, although these are not part of *kampo*.

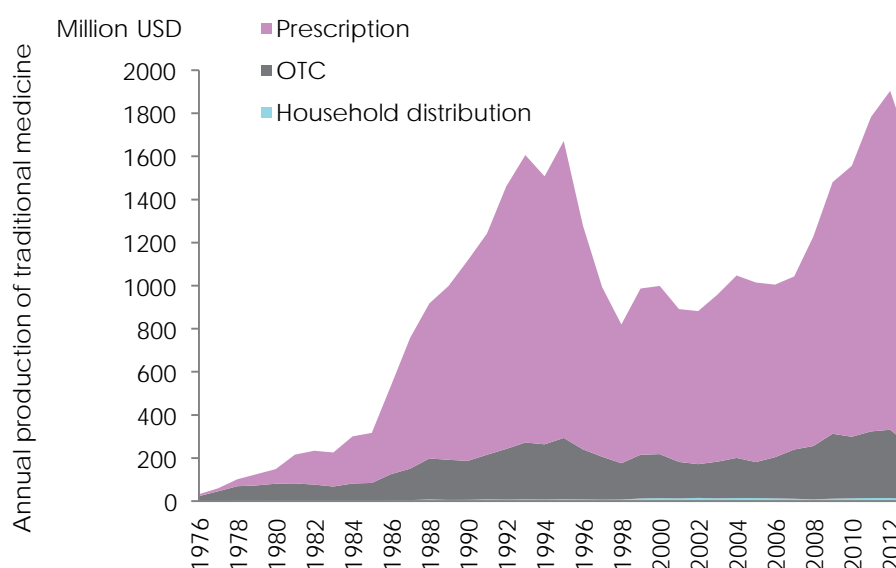


Figure 14. Stacked area plot of the production value of traditional medicine in Japan by types: prescription, over-the-counter (OTC) and household distribution (1976–2013)

Source: MHLW, Statistics of Production by Pharmaceutical Industry, summarized by Japan Kampo Medicines Manufacturers Association (2015)

TRAFFIC's 2014 consumer survey also examined attitudes towards traditional medicine in general. Although the term *kampo* was used in the questionnaire, it is likely that respondents may have answered whilst thinking of other traditional medicines that are not strictly *kampo* since the differences between the two are not usually well understood (see Section 4.1.1).

Approximately 9% of consumers surveyed currently use *kampo* (traditional medicine) (Figure 15). This includes regular users as well as short-term users treating current symptoms or promoting well-being. Just over half of the consumers had experience of using *kampo* at least once, and this pattern was similar across all age groups. As noted earlier (Section 2.3 (Figure 4)), when the respondents were asked whether they were aware that some *kampo* medicines use wild animals and plants as ingredients, on average a small majority (54%) answered that they were not aware, although this proportion varied with age, with two-thirds of people in their 60s being aware compared to only one-third in the 20s being aware.

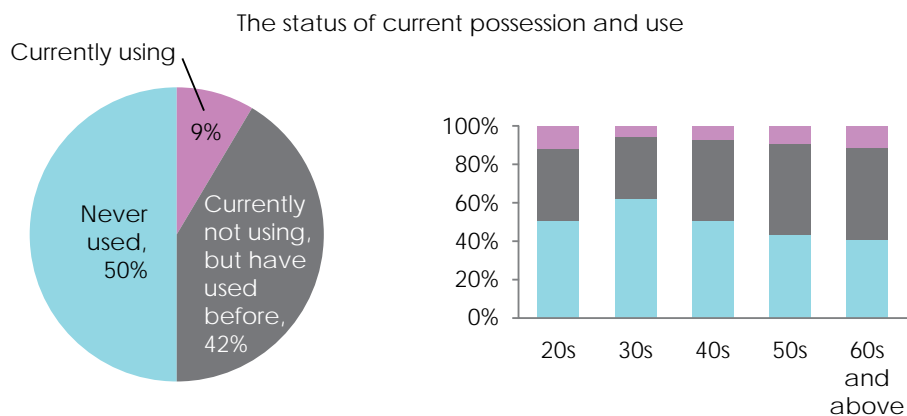


Figure 15. Current status of *kampo* use (N=1000)

LEFT: proportions in whole sample (weight adjusted for national population composition); RIGHT: proportions by age groups
 *Definition of *kampo* was not strictly applied, thus some respondents' answers may refer to other traditional medicines.
 Source: TRAFFIC, consumer survey, 2014

Finally, those who had used *kampo* medicine at least once were asked about their response to a hypothetical situation if they found out the medicine had been derived from either “wild” or “endangered” animals and plants (Figure 16). The result demonstrated that for “wild” animals and plants, almost 60% of Japanese consumers would either find an alternative or stop the use altogether, while 40% would continue using. The ratio tipped much further when “endangered” animals and plants were on the table, with 90% reporting that they would either find an alternative or stop using, whilst only 10% would continue using. Common reasons given for continuing the use of *kampo* medicines included that they were “effective”, “necessary”, “do not mind as long as they are legal”, and “prescribed by doctors”. Overall, it appeared that a clear knowledge of a threat to species’ survival might dissuade most Japanese consumers from using medicine, although an extent to which such attitude would translate into real actions is unknown. Furthermore, there were also an appreciable segment who will continue the usage as long as the medicines remain legally available and necessary for them.

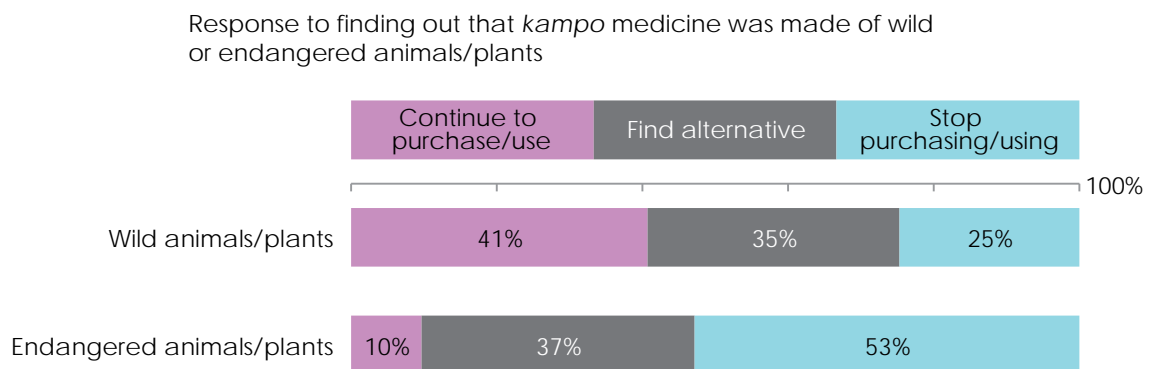


Figure 16. *Kampo* users’ (used at least once) responses to finding out the medicine was made of wild animals/plants or endangered animals/plants (N= 502; weight-adjusted for population composition)

*Definition of *kampo* was not strictly applied, thus some respondents' answers may refer to other traditional medicines.
 Source: TRAFFIC, consumer survey, 2014

4.3. Current regulations and issues

Domestic trade of CITES-listed species is partially regulated by Japan's LCES. In terms of coverage, LCES applies to Appendix I species and only parts and derivatives thereof that are specifically listed. Under this provision, the LCES coverage for rhino horn medicine is limited to those items retaining the horn shape and exempts any other products that do not retain the recognizable contour of a rhino horn, for example any traditional medicine products. Therefore, possession, production and sales of rhino horn-containing medicines remains legal without any LCES provisions. While trade in whole rhino horns is prohibited in principle, special provisions exist for specimens with proof of legal origin (i.e. imported before the trade ban or afterwards with legitimate CITES permits). For such exceptions, registration with MOE is required prior to trading. A registration card issued by MOE must accompany the specimen when traded that must be updated to ensure the government maintains oversight. Simple possession of rhino horn specimens is not regulated, although the same regulations that apply to trading regulate the display of specimens intended for sale and trade. Thus, a registration card must be displayed together with the item.

While no other government regulations exist for domestic rhino horn trade and use in Japan, the industry standard (*A Standard for Self-management System on Home Trade of Pharmaceuticals Relevant to CITES*) established in 1995 by FPMAJ (see **Section 4.1.4**) provides a scheme for pharmaceutical manufacturers possessing rhino horn annually to report on their stocks, production usage and trade. In 2014, there were 18 companies possessing stocks of rhino horn; currently only four companies continue rhino-horn medicine production. However, the scheme does not apply to retail sales of manufactured products or rhino horn stocks held at *kampo* pharmacies or those privately owned. No authoritative information exists for these types of possession and trade.

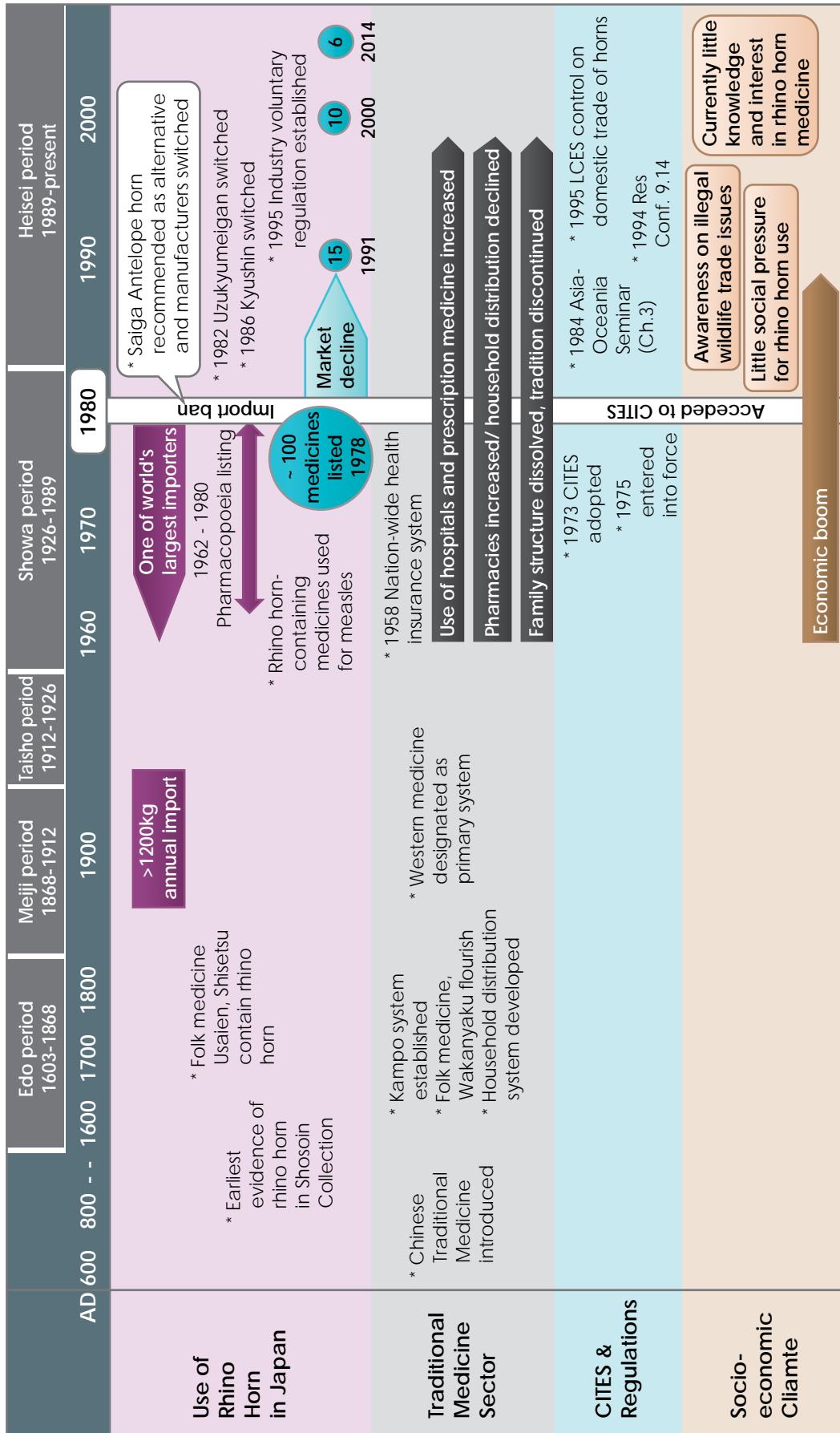
To summarize, Japan's legal system for rhino horn medicine covers only the trade of whole rhino horns but excludes any possession or trade in rhino horn materials other than horns with their recognizable shape. This seems to fall short of the recommendation of CITES *Resolution Conf. 9.14 (Rev. CoP15)*, which urges all Parties with stocks of rhinoceros horn to *identify, mark, register and secure such stock; and adopt and implement comprehensive legislation and enforcement controls, including internal trade restrictions and penalties, aimed at reducing illegal trade in rhinoceros parts and derivatives* (CITES, 2007b).

4.4. Conclusion

In trying to understand the drivers behind the decline in the market for rhino horn in Japan, this chapter investigated the specific nature of the usage, the underlining domestic market, industry and consumers, as well as critical events that exerted influence. The results are synthesized into the chronological table presented below (**Time Chart 2**).

The primary factor for the decline in the market for rhino horn in Japan was the industry's switch to an alternative ingredient, Saiga Antelope horn. To this end, the smooth transition into using the substitute was attributed to the inconspicuous and replaceable nature of rhino horn in the majority of medicines for which it was used, coupled by the lack of direct consumer demand for the rhino horn content. A secondary factor was the general waning of the traditional medicine industry that was induced by modernization of the medical system, changes in distribution and sales patterns of traditional medicines, and profound change in the family structure of Japanese society in the wake of the country's socio-economic shift that took off in the 1960s and the 1970s. Another important conclusion is that, unlike many other wildlife products in demand from Japan at the time, social pressure against the use of rhino horn in traditional medicine was not a factor in a reduction of the rhino horn market in Japan.

History and drivers of decline in the market for rhino horn



Time Chart 2. History of rhino horn use and various factors in its market reduction in Japan

Source: authors' work

The fact that rhino horn market reduction did not originate from consumers' awareness of the consequences of their purchasing behaviour may have implications for the current Japanese traditional medicine market. Although Japanese consumers currently have little interest in purchasing rhino horn-related medicines, the production of *kampo* (based mainly on plant materials), particularly prescription medicines, is growing. Over half of current *kampo* users surveyed were unaware that some ingredients are derived from wild animals or plants. Furthermore, a small minority of consumers expressed an interest in rhino horn owing to its rarity, value, or simply out of curiosity. These findings collectively indicate that caution is needed to monitor carefully the pattern of traditional medicine consumption in Japan.

Finally, although many traditional medicine manufacturers removed rhino horn, other CITES-listed species continue to be used as ingredients, including musk, Saiga Antelope horn and bear bile. While domestic use of these materials is unlikely to increase, based on current trends in the traditional medicine sector, vigilance is needed in order to prevent domestic demand from stimulating illegal or unsustainable trade. An urgent assessment is particularly needed for the Critically Endangered Saiga Antelope and it may become necessary for the government and industry to consider ending the use of and/or finding suitable substitutes which do not put other wild species at risk from unsustainable trade.

Additionally, the current global and apparently growing demand for rhino horn in other Asian countries, including Viet Nam and China, is a concern not only for the remaining *in situ* rhino populations but also for rhino horn stocks held in Japan. Care needs to be taken that none of the domestic stocks of rhino horn are illegally re-exported to these countries to support resurgent trade. In this regard, Japan's legal system does not provide strict control for all types of domestic stocks and trade as recommended by *Resolution Conf. 9.14 (Rev. CoP15)* (see **Section 4.3**). Awareness-raising amongst the industry as well as pharmacies and personal owners in possession of rhino horn is warranted.

5. HISTORY AND DRIVERS OF DECLINE IN THE MARKET FOR ELEPHANT IVORY

5.1. History of ivory use in Japan

5.1.1. Patterns of change in ivory use

Overview of the Japanese ivory carving industry

Although it is not certain when ivory was first brought to Japan, records suggest that ivory objects were prized as ornaments amongst aristocrats by the late 7th Century (Martin, 1985). The earliest ivory objects from the 8th Century are found amongst the Shosoin Collection of the Emperor and include a beautifully painted *bachi* (a plectrum for traditional musical instruments) and measurement sticks that are believed to have been made in China (Martin, 1985). It is assumed from the raw pieces of ivory conserved in the Shosoin Collection that ivory was also being carved domestically with skills acquired from China (JIA Tokyo, 1986). Although few records are available until the Edo Period (1603–1868), a small amount of ivory was likely being imported from China by the 16th Century for domestic carving (Martin, 1985).



Ivory objects from the Shosoin Collection, dating back to the 8th century. LEFT: *bachi*; RIGHT: measurement sticks (The Shosoin Shoso)

Photo courtesy of the Imperial Household Agency

Ivory carving first flourished in the Edo period and became the root for the traditional ivory carving industry in Japan. During this period, craftsmen mostly carved small practical items such as *netsuke* (traditional toggles on a *kimono*, the Japanese traditional garment), hair accessories, combs, and parts for traditional musical instruments including *bachi* (a large plectrum) for the *shamisen* (the Japanese three-stringed musical instrument). Many of these items became available not only for the wealthy but also for people from social classes of *samurais* and merchants (Tokyo Metropolitan Government, 1990). However, as the Edo period ended and Japan's international trade pathways re-opened, Western elements penetrated traditional Japanese culture at various levels. This also affected the pattern of ivory use drastically; in particular, items like *netsuke* and hair accessories disappeared from daily outfits as more and more Japanese gradually switched from *kimonos* to Western clothing.

The new age for Japanese ivory carving started in the following Meiji Period (1868–1912), as characterized by the emergence of export businesses targeted at Western markets where the carvings' art value became well known (JIA Tokyo, 1986). *Netsuke* gained popularity in the West as a unique

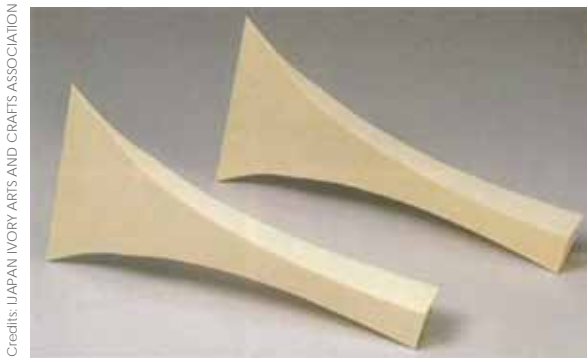


Credits: IJAPAN IVORY ARTS AND CRAFTS ASSOCIATION



Credits: IJAPAN IVORY ARTS AND CRAFTS ASSOCIATION

Netsuke, small toggles used with the *kimono*, the Japanese traditional garment
Photo courtesy of Japan Ivory Arts and Crafts Association



Credits: IJAPAN IVORY ARTS AND CRAFTS ASSOCIATION



Credits: IJAPAN IVORY ARTS AND CRAFTS ASSOCIATION

LEFT: *Bachi* (plectra) for the *shamisen*, a Japanese three-stringed musical instrument; RIGHT: bridges for the *koto*, a Japanese musical instrument
Photo courtesy of Japan Ivory Arts and Crafts Association

form of art merging practicality and humour (Sunamoto, 1987). In addition to *netsuke*, which are only 10–15 cm in size (often produced from leftover ivory fragments from *bachi* making), craftsmen started producing bigger ivory carvings using larger tusk pieces. These objects received attention at the World Expos, Paris 1867 and Vienna 1873, and led to growth in the carving industry propelled by exports (JIA Tokyo, 1986). The average annual import of ivory grew from 8.3 t in the 1880s to 50.8 t in the 1910s and 78 t in the 1920s (Martin, 1985). In the early 20th Century, Japan began importing ivory from Africa in addition to the Asian elephant ivory it used to buy preferentially (Martin, 1985).

Tokyo and Osaka were the two centres of ivory carving, of which carving for export grew mainly in Tokyo. In 1926 during the Taisho Period (1912–1926), ivory carving associations in Tokyo held the first service for the repose of elephants (an event to give thanks for elephants and ivory), which is a tradition that still lasts today (JIA Tokyo, 1986). In contrast to the prosperous export market, the domestic market during this period remained rather small consisting of mostly daily items and small crafts such as pipes, chopsticks, as well as items associated with traditional culture like accessories for *kimono* outfits and musical instruments (JIA Osaka, 1988; JIA Tokyo, 1986).

The carving industry came to a virtual halt during the continuous wars in the early to mid-Showa Period (1926–1989) when imports became restricted and the entire nation was forced into austerity. In 1940 the government banned the manufacturing and sales of non-essential goods including ivory products (JIA Tokyo, 1986). As Japan recovered from the Second World War in the 1950s, the ivory carving industry experienced a strong resurgence through a growing export trade mainly to Europe and the United States. At the same time the domestic market was also revived as the country's growing economy reached unprecedented heights in the 1970s and 1980s.

New trendy products attracted more mainstream consumers' recognition for ivory, including Western style fashion items like necklaces, bracelets, broaches and earrings (JIA Tokyo, 1986). Conversely, many daily items that were once popular on the domestic market in the early to mid-20th Century virtually disappeared or had a very limited market niche by the 1970s. For example, ivory pipes were replaced by cigarettes and amusement items such as mah-jong tiles and billiard balls replaced by items made from cheaper, durable plastic (JIA Osaka, 1988).



LEFT: ivory necklace; RIGHT: ivory *hanko* (a personal signature stamp)

The luxury and high-status image of ivory was gradually cultivated; for example, newspaper records of the 1959 Japanese imperial wedding reported that a few foreign governments sent decorative ivory objects as gifts to the then Crown Prince (now Emperor) and his Princess (Anon., 1958, 1959a, 1959b). By the 1970s, markets were expanded for more mainstream, practical products like *hanko*, personal signature seals (also used by companies) for the purpose of signing documents and contracts. Ivory-made *hanko* were, and continue to be, considered to have the highest quality and status amongst all *hanko* materials. Even whole polished tusks (some were carved on the surface) were marketed in the early 1970s by traders as home decorations and for investment purposes (Sunada, 1976). These products were produced and sold en masse as household disposable income grew rapidly throughout the 1970s and 1980s (see **Figure 1** from **Chapter 3**). Details of the nature of demand for these products is reviewed in the following sections.



Whole polished ivory tusk for home decoration

Ivory carving is traditionally undertaken by craftsmen whose skills are passed down over generations. As reviewed above, over the course of time these craftsmen adapted their work according to changing needs and opportunities in the market. The expansive domestic market in the 1970s and 1980s provided an environment for lucrative business, which consequentially turned into a consumer-side driver that ultimately led to an acceleration in the decimation of African Elephant populations, poached for their ivory.

The international trade ban on ivory in 1989 marked a turning point for the carving industry as it closed down both the export market and the import of ivory to supply the industry and the domestic market. This happened while Japan was still in the midst of an economic boom, which suddenly collapsed a few years later and trapped the country for over two decades in recession. Today, the carving industry has shrunk to a fraction of its former size, and the remaining market mostly exists for *hanko* and small specialized items for traditional musical instruments and artwork (Vigne *et al.*, 2010). The ivory carving industry strives to maintain its traditional craftsmanship.⁸

History of ivory import and CITES

Looking closely at Japanese ivory imports from the 1960s onwards gives an understanding of the pattern of increasing demand in the context of a booming economy as well as the impact of CITES-related events on import volumes and prices.

With expansion starting in the 1960s, Japan became the largest ivory consumer country in the 1970s and 1980s (**Figure 17**). In particular, the import of raw ivory suddenly jumped from 110 t in 1971 to over 315 t in 1973, the year CITES was adopted, while the import price also climbed nearly five-fold from USD11 per kg in 1970 to USD50 per kg in 1975 (almost a four-fold increase in Japanese yen), the year CITES entered into force. The import volume of raw ivory jumped again to 368 t in 1978, which is considered to be a sign of stockpiling ivory in the expectation of Japan's imminent accession to CITES. Equally, the price of ivory also increased to USD84 per kg by 1979.

Importation of worked ivory also expanded from the late 1960s onwards, particularly surging between 1972 and 1976. Although the exact reason for this is unknown, ivory fashion accessories were known to be imported from Hong Kong and mainland China where they were produced with much cheaper labour costs (Martin, 1985).

When Japan joined CITES in 1980, ivory imports increased even further, reaching a record high of over 450 t of raw ivory annually in 1983 and 1984 (**Figure 17**). Ivory was sourced almost entirely from African Elephants during this period, and the species was still listed in CITES Appendix II. Most ivory was imported into Japan indirectly, mainly obtained from dealers in Europe and Hong Kong who traded with African exporters (Milliken, 1989). Although the majority of these ivory imports were suspected to have illegal origins (i.e. laundered through transit points), they were continued to be imported for many years into the 1980s via a regulatory loophole. As reviewed in **Chapter 3**, Japan accepted certificates of origin instead of proper export permits as required under CITES (TRAFFIC Japan, 1989).

Imports finally started to fall after 1985, owing to a series of government and industry-led initiatives, including the introduction of proper CITES procedures to correct the aforementioned loophole regarding permits (see also **Chapter 3**). To stem the illicit imports further, the government established the Ivory Importer's Group within the Japan General Merchandise Importers' Association in 1984 (Milliken, 1985), and introduced a process for prior verification of export permits with the CITES Secretariat for any ivory imports arriving at Japanese ports (TRAFFIC Japan, 1989). As a result of these

⁸ Edo ivory carving has been designated an official traditional craft of Tokyo since 1983. Tokyo Ivory Arts and Crafts Association (1983). Tokyo Mayor Designated Traditional Crafts: Edo Ivory. Ito Publishing, Tokyo, Japan.

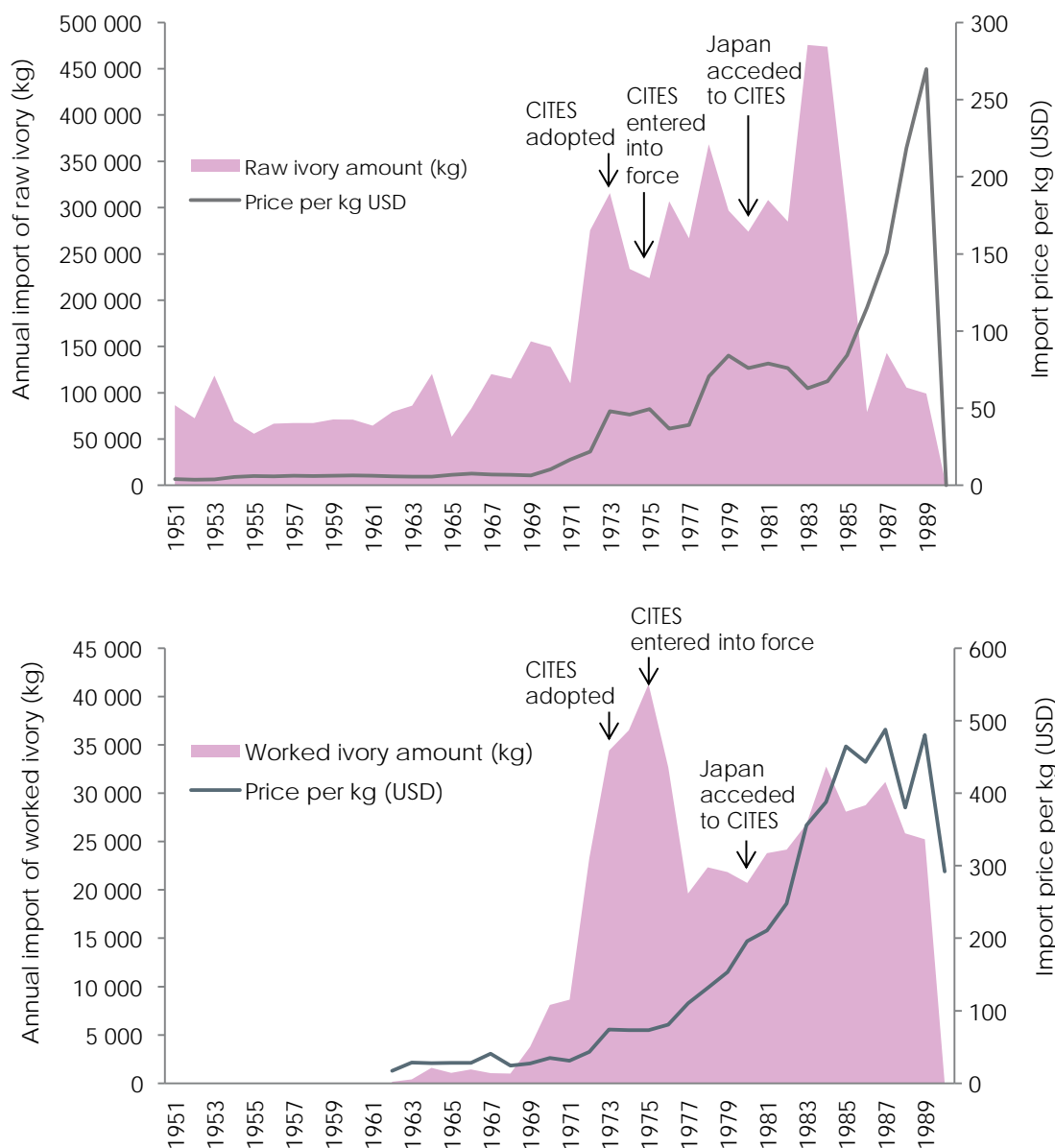


Figure 17. Japan's ivory import between 1951 and 1990

TOP: raw ivory; BOTTOM: worked ivory

Source: Ministry of Finance, Trade Statistics of Japan (2015) (1950–1979 compiled in Martin (1985))

Codes corresponding to raw and worked ivory as follows: (1951–1961) 291-0121 “elephant ivory”; (1962–1975) 291-131 “elephant ivory”/ 899-131 “worked ivory and articles thereof”; (1976–1978) 05.10-100 “elephants’ tusks”/ 95.03-100 “worked ivory and articles thereof of elephants’ tusks”; (1979–1987) 05.09-030 “elephants’ tusks, including waste and powder”/ 95.05-212 “worked ivory and articles thereof of elephants’ tusks”; (1988–1990) 0507.10-010 “elephants’ tusks, including powder and waste thereof”/ 9601.10-010 “worked ivory and articles of ivory of elephants’ tusks”.

* There was no tariff code for worked ivory between 1951 and 1961.

interventions, the average import volume of raw ivory between 1986 and 1989 dropped to 107 t, one quarter of the previous peak years. The import price, however, skyrocketed to USD270 per kg by 1989, a three-fold increase in just four years (Figure 17).

In summary, the gradual rise of ivory imports appeared to be associated with Japan's booming economy, which is further supported in the following section by industry accounts. Importation was presumably also exacerbated by stockpiling of ivory through the mid-1980s, in anticipation of forthcoming trade regulations through CITES. It has also been documented that traders outside the core ivory industry stockpiled ivory for purely speculation purposes in the 1970s (Martin, 1985). From

these observations, it seems likely that the import volume and price were not a direct reflection of consumer demand.

In 1986, CITES began implementing a quota system for the export of African Elephant ivory, but ultimately without global success as the species was finally listed in CITES Appendix I in 1989 which introduced a ban on commercial international trade in ivory. Ironically, however, the CITES export quota system was largely successful in curtailing ivory imports into Japan in the years immediately leading up to the trade ban because, from mid-1985, all ivory imports were subjected to pre-importation verification with the CITES Secretariat to ensure they conformed with CITES requirements (Milliken, 1989). Since banning all commercial ivory imports in accordance with the CITES trade ban agreed in 1989, Japan has imported approximately 90 t of new ivory stocks from southern African countries through two one-off sales conducted under the auspice of CITES in 1999 and 2008 (see Section 5.1.4).

Types of ivory products and nature of demand

As mentioned above, a diverse range of ivory products were manufactured and crafted in Japan in the 1970s and 1980s. Unlike rhino horn, demand for ivory in Japan was fairly diverse, ranging from artwork and jewellery to more practical and functional items such as *hanko* and musical instruments where ivory was considered the best and most expensive choice of material. However, common across all these different types of products was that they all had the distinct attributes of “luxury” and “status” items that was highly valued by consumers at the height of an unprecedented economic boom. According to the JIA (I, interview), even the most basic practical items attracted a wide range of consumers who sought these products for their status value, including, for example, young university graduates purchasing prestigious ivory *hanko* or beginners with the *shamisen* wanting ivory *bachi*.

Figure 18 illustrates changes in the proportion of different types of ivory products manufactured since 1980. Ivory jewellery comprised 20% of production in 1980 but went through a marked reduction between 1980 and 1988, dropping to mere 2% by 2001. While *hanko* consistently maintained the largest share, their proportion increased from 55% in 1980 to over 80% by 2001. Musical instruments and carvings such as statues and *netsuke* maintained relatively steady proportions. These trends suggest

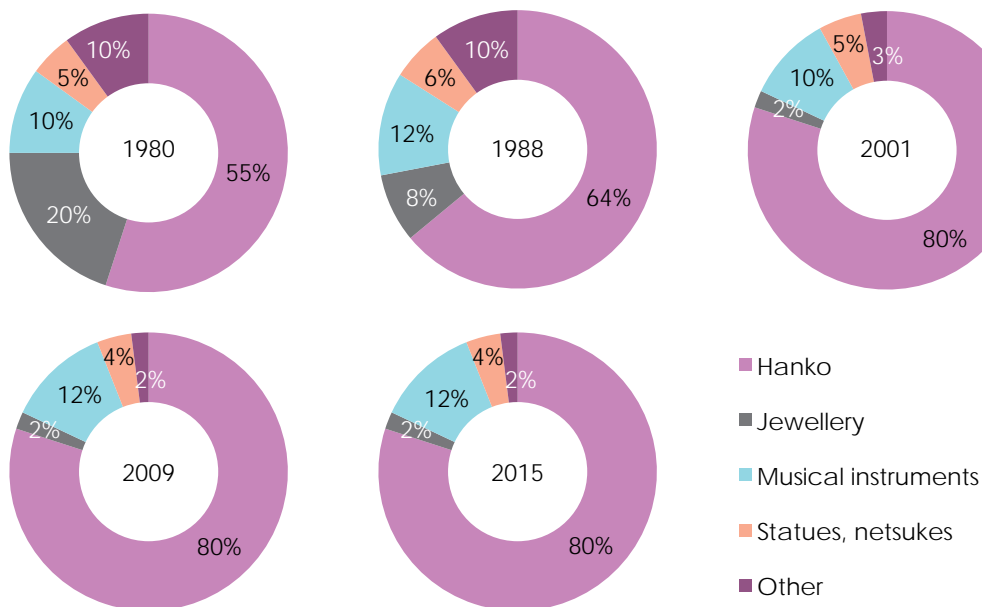


Figure 18. Change in the composition of manufactured ivory product types in Japan over time

Source: Martin and Vigne (2010) (for 2009), also citing Martin (1985) (for 1980), Martin and Stiles (2003), and Milliken (1989) (for 1988); and JIA, pers. comm. to TRAFFIC, September 2015

that fashion demand for ivory fell more drastically than demand for practical items, particularly *hanko*. Today production of *hanko* and musical instruments together comprises over 90% of production, indicating that the demand for such high quality, practical items persists in certain consumer segments.

Delving deeper into the difference in the nature of demand between ivory *hanko* and jewellery, the two most widely sold ivory items in the 1970s and 1980s, is helpful for discerning the different drivers of market decline and further understanding the characteristics of Japan's lasting ivory market. *Hanko* have both a practical and cultural importance in Japan, with a history dating back more than 100 years to the Meiji period. As a personal signature stamp, *hanko* are essential items for adults in Japanese society. There are different types of *hanko* depending on their use⁹. Official uses include signing for a home, a car loan, a marriage registration document, or general banking procedures. Each *hanko* hallmark used for such official purposes is carved with a unique signature¹⁰; thus, people do not replace their personal *hanko* unless absolutely necessary (e.g. broken or change of name). On average, a person uses four to five *hanko* in his/her lifetime (J, interview). Similarly, *hanko* are a necessity for Japanese companies in signing documents as well as for banking purposes. In terms of culture, it is common for family members to buy *hanko* for their children or grandchildren at special life events such as graduation, the coming-of-age ceremony, getting a first job, or marriage.

Regarding *hanko* materials, ivory is not the only material used but it is considered the best (**Figure 19**) (J, K, interview). Apart from ivory, boxwood, cattle and water buffalo horns have traditionally been used as materials that are long-lasting and therefore suitable for official *hanko* registered with municipalities or financial institutions (J, interview). Ivory *hanko* became widely available from around 1950 as the most prestigious material owing to their superior durability and stamping quality (JIA Osaka, 1988). Synthetic materials such as acrylics and plastics are also widely available but do not match the above natural materials in terms of durability. However, they are cheaper and popular for less official, day-to-day purposes (J, interview). There are also newer materials like titanium becoming popular as a high-end *hanko* material (see **Section 5.1.2**).

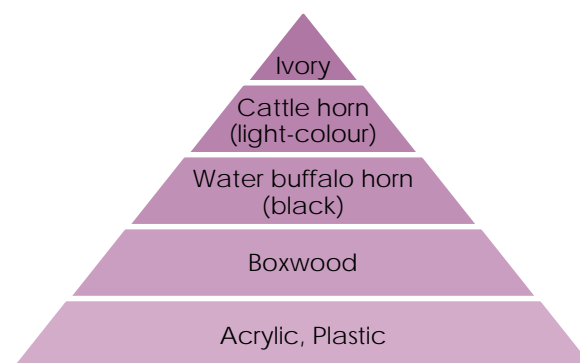


Figure 19. Types of *hanko* materials and their value hierarchy

Diagram produced by authors based on interviews with the Gendai Publishing (K, interview). Cattle horn is sometimes dark coloured too.

Aside from the quality aspect, ivory *hanko* are also prized for their association with good-luck. Behind a sales boom in ivory *hanko* from the 1960s through the 1980s was a sales technique based on fortune telling using *hanko* signature marks combined with unconventional door-to-door and mail order sales that dramatically expanded customer reach (I, interview) (JIA Osaka, 1988). Under this scheme some

⁹ There are different types of *hanko* depending on use; most people would have a *jitsuin* (registered with municipality), a *ginkoin* (registered with bank accounts), and a *mitomein* (for day-to-day signing).

¹⁰ Mass produced *hanko* often made with cheaper plastics are also available and used widely at home and work in more casual situations, including for example signing delivery records or administrative papers.

sellers sold *hanko* at extravagant prices and recommended the most expensive ivory as the material of choice (K, interview). Although this sales technique is far less prevalent today, fortune telling associated with *hanko* remains prevalent in the Tokai region of Japan (K, interview).

In contrast to the practical element of *hanko* use, the market for ivory jewellery was entirely driven by fashion. Ivory was promoted as a natural-material perfect for summer fashion accessories (I, interview). Although the original market was overseas, the domestic boom for ivory jewellery started in 1960s and the production grew so that the “ivory jewellery” category was well established in both the carving industry and the fashion accessory market by the 1970s (JIA Osaka, 1988). Jewellery was typically made with leftover pieces of ivory from production of *hanko* and other items. Targeting middle-aged to elderly women as the main consumers, department stores and individual boutiques sold ivory jewellery widely every summer, often alongside other luxury items made of gold, silver, pearl, amber, quartz and corals (Anon., 1981, 1986c).

While ivory jewellery remained popular until the late 1980s, the market quickly dissolved around the end of the 1980s as major department stores shut down sales in response to the growing public awareness about the elephant crisis in Africa and the 1989 CITES trade ban (see **Section 5.1.2**). Today, much ivory jewellery is seen as secondhand items in curio outlets, but none are sold in department stores even though they still ubiquitously sell ivory *hanko* (T. Kitade and A. Toko, pers. obs.). These observations further underline the difference in the nature of demand between ivory *hanko* and jewellery.

Finally, it is important to highlight the demand for whole elephant ivory tusks in Japan starting in the early 1970s. This demand was unique as it was created by ivory traders and sales departments of major department stores who emphasized the investment value of ivory, taking advantage of the rapidly increasing import price and growing speculation about future scarcity (**Figure 17**) (Sunada, 1976). Tusks were usually polished or lightly carved or painted on the surface and put on pedestals to be used as decoration in traditional Japanese style rooms with an alcove, called *tokonoma*. The element of “status” combined with the growing awareness of the declining ivory supply broadcast by the media helped attract demand from not only the rich but also ordinary households across the country. It is documented that certain traders even made door-to-door sales targeting newly built homes (Sunada, 1976). Furthermore, it was also possible for individuals outside the industry to buy raw tusks in bulk for speculation purposes (I, interview). Such demand for whole tusks continued until the 1989 import ban followed by the economic slump (I, interview). The distribution of these tusks during this period remains highly relevant today because it is these privately owned tusks that now provide a significant portion of the supply for the current domestic ivory carving industry (see **Section 5.3**).

Decline of market and industry

Although no official statistics are available to observe the shift in the overall scale of ivory product production in Japan, almost a ten-fold reduction in the market can be inferred since the 1980s. The annual production value of the ivory and related industries in 1989 was estimated to be around JPY20 billion (USD145 million) (TRAFFIC Japan, 1989). JIA estimates that it shifted from about JPY5 billion (USD41 million) in 2001 to about JPY3.5 billion (USD37 million) by 2009, and down to around JPY2 billion (USD19 million) by around 2014 (I, interview). Production of *hanko* was estimated to have dropped from 3 to 4 million pieces annually in 1980 to about 2 million pieces by 1988 and in recent years to a tenth the scale in the 1980s (I, interview). Although no figures are available, production of *bachi* has also declined since a peak in the 1980s (I, interview).

The decline of the industry is also reflected in the membership of relevant associations (**Figure 20**). The regional Tokyo Ivory Arts and Crafts Association and Osaka Ivory Arts and Crafts Association, whose roots date back to precursor organizations established in 1887, have played a central role in organizing and steering the ivory carving industry in Japan (and formed an umbrella organization

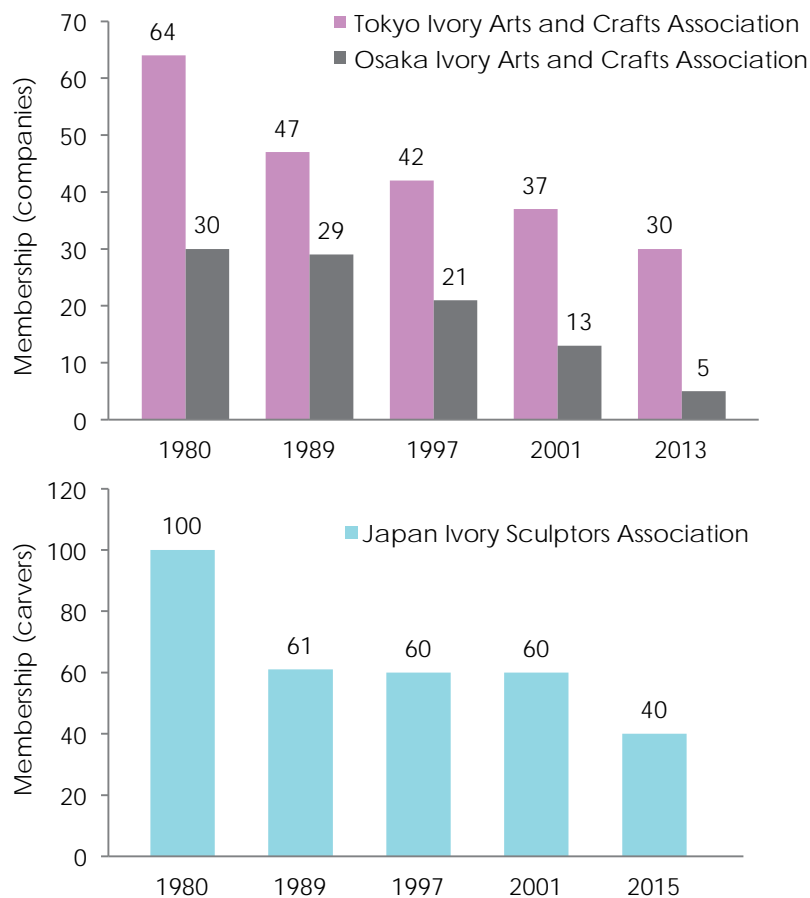


Figure 20. Change of membership in ivory carving related associations

TOP: Member companies for Tokyo Ivory Arts and Crafts Association and Osaka Ivory Arts and Crafts Association;
 BOTTOM: Number of carvers belonging to the Japan Ivory Sculptors Association.

Source: Tokyo Ivory Arts and Crafts Associations, Osaka Ivory Arts and Crafts Association, Japan Ivory Sculptors Association

called the Japan Federation of Ivory Arts and Crafts Associations (JIA in 1985). Between the 1980s and 2013, membership dropped by half in the Tokyo branch and to one sixth in the Osaka branch, with 30 and 5 members remaining, respectively (**Figure 20**). Another association called the Japan Ivory Sculptors Association, founded in 1965 with a mission of maintaining the standard of excellence, had a membership of approximately 100 master craftsmen in 1980, but this number dropped by nearly 40% in the 1980s, and by 2015 there were only 40 members remaining (**Figure 20**).

Clearly Japan's ivory industry has experienced a substantial decline over recent decades, the scale of decline varying between ivory *hanko* and jewellery. The following sections analyse both the common drivers that led to the overall decline and the product-specific drivers.

5.1.2. Driver: response to CITES and social pressure

Response to CITES

Certainly the pressure and regulations imposed by CITES acted as a critical factor that led to a reduction in overall usage of ivory in Japan, primarily through closing ivory imports to the industry. While a complete ivory trade ban was not adopted until 1989, the government introduced step-wise measures that progressively reduced the amount of ivory eligible for importation into Japan following the peak years of 1983 and 1984 (see **Section 5.1.1**). These domestic measures were largely a response to negative publicity and growing international pressure through CITES (see **Section 3.1**). Japanese traders actually purchased most of their ivory at the time from dealers in Europe and Hong Kong,

with evidence indicating large volumes had been laundered, sourced from poached elephants in Africa (Milliken, 1985). TRAFFIC Japan pursued a dialogue with the Ivory Importers Group to keep them apprised of illegal ivory developments outside of Japan that were undermining the CITES control and impacting the status of elephant populations in Africa (A, interview). As the world's largest ivory consumer at the time, it was necessary for Japan to demonstrate responsible action to curb the illegal ivory trade.

Substantial amounts of illegal ivory continued to flow out of Africa from the mid-1980s onwards, devastating elephant populations in certain regions. Finally, in May 1989, a Proposal to transfer the African Elephant to Appendix I was submitted to CoP7, held in Lausanne, Switzerland, in October that year. The Ivory Trade Review Group participated by IUCN, TRAFFIC, the Wildlife Trade Monitoring Unit of the World Conservation Monitoring Centre and the CITES Secretariat published a major report in May 1989, which found that the African Elephant had declined in numbers by at least 50% in the previous 10 years and that, if the 1985–1987 poaching rate persisted, the total population number would again be halved by the end of the Century and face virtual extinction within 50 years (Anon., 1989a). The Ivory Trade Review Group recommended the transfer of the African Elephant to Appendix I as well as an immediate, voluntary, suspension of international trade in ivory, imposed by all Parties where possible, pending the decision of CoP7. This was followed by a call for an immediate global ban on ivory trade by international environmental groups including WWF, IUCN and Wildlife Conservation International (now Wildlife Conservation Society: WCS), and echoed by many governments of Western countries who moved to ban all imports within days (TRAFFIC Japan, 1989).

In an attempt to keep an avenue open for legal trade, the Japanese government and ivory industry co-operated by introducing immediate measures to curb the trade drastically. TRAFFIC Japan played an important role in facilitating the introduction of these measures, using its well-established relationships with key domestic players and providing policy options to help them address the demands of the international community (Miyaoka, 1988). In June 1989, MITI¹¹ placed an immediate import ban on all worked ivory as well as any raw ivory that did not come directly from a source country interpreted to mean an African Elephant range State (TRAFFIC Japan, 1989). Simultaneously, industry associations pledged co-operation towards these regulations and adopted further measures to: reduce substantially ivory imports by promoting measures such as identifying suitable substitutes for *hanko* production; refrain from stockpiling; conduct only direct trade with source countries to curtail illegal trade based on laundering; help establish a future Central Ivory Auction to be overseen by the CITES Secretariat; and donate a set portion of the proceeds from ivory trade to support an African Elephant conservation fund (Gendai Publishing, 1989). Commitment to these measures, however, was questioned following the exposé of 20 t of ivory imported from transit countries within just three days of the waiting period before the import ban came into effect (TRAFFIC Japan, 1989). Finally, in September, a month before the opening of CoP7, MITI announced a total import ban on all ivory into Japan¹² (TRAFFIC Japan, 1989).

Despite the negative repercussions that the CITES decision held for the country's ivory industry, Japan did not enter a Reservation with respect to the listing of the African Elephant in Appendix I as adopted at CoP7. While this was certainly a difficult course for the government to navigate, given the obvious impact on the long-standing traditional industry, the key leverage was certainly the socio-political pressure against Japan's role in the illegal wildlife trade at the time. As reviewed in **Chapter 3**, following the CITES regional seminar in 1984, the government felt compelled to demonstrate a co-operative and positive attitude and engagement toward CITES to dispel its growing international image problem. An industry insider recalled that entering a Reservation against the newly listed African Elephant was not feasible as Japan was already being heavily criticized within CITES for retaining Reservations on a range of whale species and Hawksbill Turtle (I, interview).

11 The ministry responsible for the ivory industry and CITES trade management (currently METI).

12 A quota system for raw ivory import was adopted with an initial quota set to zero.



Credits: TRAFFIC

Scene from the CoP7 (CITES) in Lausanne, Switzerland, 1989

From the industry's perspective, the unravelling of the poaching crisis and its connection to Japan's consumption came as a shock to many members as it was traditionally believed that only ivory from natural elephant mortalities was traded (I, interview). The end of supply through CITES regulations led many to give up their traditional businesses. The remaining members of JIA have strived to continue their business with limited stocks, particularly by responding to the strengthening of domestic trade regulations and obtaining additional stocks through the two "one-off sales" sanctioned by CITES (see **Section 5.1.4**).

Social pressure

Social pressure around the issue of elephant poaching and illegal ivory trade exerted a great influence on the overall reduction of the ivory market in Japan. Sensational coverage by the media of the serious situation for African Elephants led many consumers to be wary of purchasing ivory and certain companies to refrain from selling or using ivory items.

In the run up to 1989, intensive global campaigns were conducted by various international NGOs to stop all trade in elephant ivory. Laden with emotional images and slogans, these campaigns were broadcast by the media in the US and Europe and were joined by internationally prominent figures like French actress Brigitte Bardot taking on the role as an ambassador against the trade in animals (Meredith, 2009). These international developments were reported by the Japanese domestic media to the nation's public (I, interview). In 1989, major Japanese newspapers featured the issue of the African Elephant and diligently covered the course of decisions at CITES, expressing in their editorials and commentaries the view that mass ivory consumption in Japan needed to be changed (Anon., 1989b, 1989d, 1989g). Newspapers also reported on awareness raising activities and fundraising campaigns by various domestic organizations and individuals that aimed to save the African Elephant (Anon., 1989c, 1989h, 1990a), as well as initiatives and prospects for utilizing various ivory substitutes as alternatives (Anon., 1989e, 1989f, 1989i).

Certain companies responded to this social pressure by discontinuing the sale, use or production of ivory products following the 1989 CITES trade ban. In this regard, arguably the greatest impact was the decision of major department stores to withdraw all sales of ivory jewellery on their premises from

the summer season of 1990 (Anon., 1990b, 1990d). As mentioned above (see **Section 5.1.2**), this move by the major retail sector virtually eliminated the mass market for ivory jewellery in Japan. Today, only a limited number of ivory accessories are produced as traditional handicrafts (I, interview). Global companies such as *Yamaha* and *Kawai*, Japan's leading musical instrument manufacturers, also ended the production of ivory keys for high-end pianos in 1989 and replaced ivory with a synthetic substitute that they had already successfully developed and commercialized (Anon., 1989f).

Most traditional *hanko* retailers did not stop selling ivory *hanko*, except for those located inside department stores that enforced policies against the sale of all ivory products (K, interview). However, decreasing demand from consumers was felt by many retailers after the CITES import ban. Some dealers commented that many consumers were fully aware of ivory trade issues and avoided purchasing ivory *hanko* even when they were recommended, believing that buying ivory was not a good thing to do socially (Gendai Publishing, 1990a). One retailer noted that certain companies who used to provide ivory *hanko* to board members switched their orders to other materials. A similar trend was also seen in government offices where the use of ivory *hanko* by executive officials was terminated and replaced with, for example, new ceramic *hanko* (Gendai Publishing, 1992). However, few companies or government offices made an immediate switch, and the majority gradually phased out the use of ivory *hanko* for reasons such as their expense. Digitalization of administrative work also contributed to the increasingly smaller investment in *hanko* by companies, according to a representative from the Japanese Seal Engravers Association (J, interview). Today there is virtually no demand for ivory *hanko* from companies or government offices (J, K, interview). As noted above, the social pressure on certain retailers and consumers was partly responsible for this development.

Ivory *hanko* substitutes

In 1990 there was an attempt by MITI to support the industry by exploring the feasibility of using mammoth ivory from Russia as a substitute for elephant ivory. However, the investigation concluded that mammoth ivory was inappropriate as a substitute due to supply difficulties, high price and low quality of the material (Gendai Publishing, 1990). More specifically, damage, cracks and discoloration and other imperfections rendered large quantities of mammoth ivory unusable and even their smell made some unsuitable for the production of *hanko* (I, interview). Trade statistics record a total of nearly 44 t of “other ivory” imported separately from elephant ivory between 1988 and 1995¹³ from source countries that typically export mammoth ivory, as well as several African countries that likely exported teeth of the Hippopotamus *Hippopotamus amphibius*. In fact, mammoth and hippo ivory as well as other animal materials such as the teeth of the Sperm Whale *Physeter macrocephalus* and “sheep horn” (supposedly from a species of wild sheep from the Himalayan region of China) were being utilized by certain manufacturers, but only in small quantities because of scarce supply and none of them were accepted as an elephant ivory substitute (K, interview). In fact, some *hanko* made of mammoth ivory do appear to be almost identical to elephant ivory *hanko*, but their marketing as a material “next to” elephant ivory served to signal an inferior product. This has apparently resulted in a situation whereby mammoth ivory *hanko* are now sometimes sold as elephant ivory (K, interview).

In the quest to find acceptable substitutes for ivory *hanko* production, a range of natural and synthetic chemical materials were tested and developed. Since around 1989, domestic chemical manufacturers put in resources to develop suitable substitutes that could be marketed as a most prestigious *hanko* material to take over after ivory. These included synthetic materials made to look like ivory, as well as materials with totally different attributes and appeal such as synthetic wood, metal, and precious stones (Gendai Publishing, 1988). Although most of these materials did not take off, in recent years metal materials, especially titanium, are gaining popularity and starting to be considered as the “post ivory” high-end *hanko* by the *hanko* industry. The Editor of the leading *hanko* magazine (K, interview) expressed the view that the newer generation of consumers prefers such modern and stylish products

13 Source: Ministry of Finance, Trade Statistics (HS code: 0507.10-090)



Credits: b.T.KITADE / TRAFFIC



Credits: T.KITADE / TRAFFIC

LEFT: *hanko* made from titanium; RIGHT: *hanko* made from aluminium
Photos taken at a *hanko* business and related industry fair held in Tokyo, October 2015

as a status symbol, whereas traditionally consumers accorded the luxury status and sometimes spirituality to ivory *hanko*.

The number of shops selling titanium *hanko* has grown from fewer than 30% of the market 10 years ago to around 50% today, a development that reflects investment in equipment and increasing consumer demand (K, interview). The drop in retail price of titanium *hanko* has also likely facilitated their adoption by more retail shops (J, interview). However, the reason why it does not pick up greater market share is because titanium and other metal materials require different equipment and skill sets to produce than those used by most traditional *hanko* manufacturers and craftsmen who carve the hallmark into each *hanko*. Metal materials, for example, require a laser carving machine costing more than JPY6 million (c. USD56–600). Furthermore, to engrave the hallmark by hand carving, which many *hanko* shops offer for adding value, is not possible with these new materials (K, interview). These technical issues have created a dichotomy whereby traditional *hanko* shops that sell most of the ivory *hanko* in Japan face hurdles adopting these potential “post ivory” substitutes, while larger, newer companies that sell *hanko* online or through franchise arrangements are developing the market with substitutes. This has created a struggle for traditional *hanko* shops because the *hanko* business is basically considered to be unsustainable without selling a sufficient number of high-end products, ivory or otherwise. The price of ivory *hanko* has gone up over the past few years (K, interview), and the trend is expected to continue as a result of declining domestic ivory stocks.

Substitutes for ivory in other products

Although mammoth ivory or animal teeth were not suitable to replace elephant ivory in *hanko* manufacturing, carvers of art items like *netsuke* have found them to be useful alternatives (Anon., 1989i). This is because of their small production scale and because they do not require large or high quality tusks for cost recovery. According to the International Netsuke Society, newly produced *netsuke* are often produced with mammoth or hippo ivory in lieu of elephant ivory so that they can be traded amongst hobbyists and tourists in the international market (International Netsuke Society, 2015). Carvers of such art items also traditionally used other materials in their work. For example, hardwoods are the commonest material for making *netsuke* (Sunamoto, 1987).

With regards to musical instruments, in response to the CITES trade ban ivory piano keys were swiftly replaced by synthetic substitutes which the manufacturers had already developed and used for other product lines. *Yamaha* and *Kawai* reportedly started selling pianos with synthetic substitute keys as early as 10 years and three years prior to the 1989 trade ban, respectively (Anon., 1989f). Reasons behind these moves may be associated with the fact that producing a set of ivory piano keys was said to require a very large tusk of over 20 kg (Martin, 1985), and the average tusk size in global trade was dropping rapidly throughout the 1980s due to unsustainable hunting (TRAFFIC Japan, 1989). Another

factor may have been the declining market for ivory piano keys. Ivory piano key carvers reported in 1981 that demand was steadily falling throughout the 1970s (Martin, 1985).

The situation facing the Japanese traditional musical instrument industry is entirely different as no proper substitute to ivory has been found. There was an attempt in the late 1980s to develop and market *bachi* made from a synthetic ivory substitute (Anon., 1989f) and although the initial response appeared hopeful, they did not catch on. According to the Tokyo Japanese Music Commerce Association (L, interview), this was because the sound quality was not as good as that produced using ivory *bachi*; and because it cost as much as secondhand ivory *bachi* (L, interview). Today, ivory *bachi* is still used by professional and advanced players whereas cheaper plastic *bachi* is widely used by beginners. Apart from the sound quality, other differences include the fact that ivory is more flexible, durable and resistant to slipping as it absorbs moisture from sweat (L interview). Ivory is still also used for making bridges for the *koto* and the *shamisen* due to its superior sound quality, but only in high-end, expensive products (L, interview).

An important consideration is that *bachi* production requires relatively large tusks and only utilizes ivory from Asian Elephants or “Forest Elephant” populations of the African Elephant¹⁴. The Japanese industry classifies ivory from these sources as “hard ivory” and ivory from African Savanna Elephant populations as “soft ivory” due to the difference in hardness. Although hard ivory is more limited than soft ivory in domestic stockpiles, especially as all new imports from the legal one-off sales under CITES comprised soft ivory (see **Section 5.1.4**), the lack of availability of items like *bachi* is not felt in the market. According to Tokyo Japanese Music Commerce Association (L, interview) this is because the market is small, the demand very limited and the ivory *bachi* is generally long-lasting (with adequate maintenance it can be used for generations). The price factor also makes demand for secondhand *bachi* higher than that for new *bachi* (L, M, interview). A new *bachi* costs around JPY1.2 to 1.5 million (c. USD11 300 to 14 200) for a large-sized piece, and JPY40 000 to 50 000 (c. USD3 800 to 4 700) for a smaller-sized seamless *bachi*, while they could be bought for one quarter to half the price secondhand (L, interview). Manufacturers of ivory *bachi* consider they are able to obtain adequate ivory supplies from privately owned whole tusks (see **Section 5.3**) that are largely hard ivory and from their own stockpiles inherited from predecessors (I, interview). One retailer also expressed the view that the shelf stock of ivory *bachi* was ample considering the small customer demand (M, interview). Under these circumstances, there currently seems to be little concern in the traditional music industry over the supply of ivory-made items in the foreseeable future.

However, in 2014, a new initiative arose within the Japanese traditional music sector aiming to raise awareness of the plight of Forest Elephants in Central Africa and to collaboratively develop a suitable synthetic substitute for “hard” ivory well before the ivory stockpiles run out so that both the traditions of ivory carving and traditional music playing can be conserved (M, interview). Led by a conservationist from Central Africa and the Japanese traditional music media, this multi-stakeholder initiative engages researchers of artificial materials and traditional Japanese music, professional instrument players, as well as makers and retailers of musical instruments, but the participation of ivory carvers has not been realized to date (M, interview).

14 The Forest Elephant, inhabiting forested areas of Central Africa, suggested as genetically distinct from the Savanna Elephant population, although currently classified as the same species. Blanc, J. 2008. *Loxodonta africana*. The IUCN Red List of Threatened Species 2008: e.T12392A3339343. <http://dx.doi.org/10.2305/IUCN.UK.2008.RLTS.T12392A3339343.en> . Downloaded on 04 October 2015.

5.1.3. Driver: collapse of Japan's economic bubble and population decline

The overall decline in the market for ivory in Japan was triggered by regulatory interventions which culminated with the CITES trade ban in 1989, and domestically there was a ripple effect from increasing social pressure causing some companies and consumers to refrain from selling and purchasing ivory. Although these responses alone probably eliminated demand for certain products, namely ivory jewellery, it was not the case for other ivory products such as *hanko* or *bachi*. Another driver that had significant impact on the decimation of Japan's ivory market was the collapse of the economic bubble and subsequent recession (I, interview).

During the economic boom, ivory was popular for the status it represented, and to a certain extent, this was common attribute for all ivory products including even practical functional items such as *hanko* and *bachi* (I, interview). However, with the end of the country's economic boom, spending patterns of Japanese consumers increasingly changed to less consumption and more saving (Figure 21). This consumer attitude has now lasted for over two decades as Japan has been trapped in recession (Figure 21), and has likely become ingrained in the mindset of newer generations of consumers who never experienced the economic boom. In this regard, it can be assumed that fewer and fewer people have sought expensive ivory items as a means to show status. Disappearance of demand for ivory *hanko* by companies (see Section 5.1.2) exemplifies the influence of this economic driver.

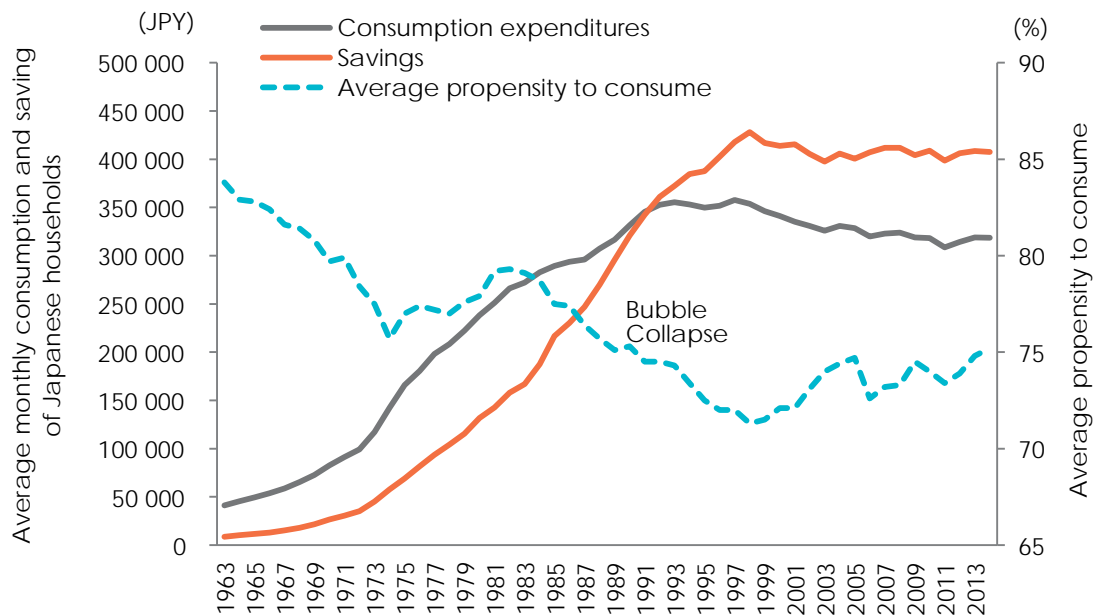


Figure 21. Average monthly consumption, savings and propensity to consume of Japanese households between 1963 and 2014

Propensity to consume is calculated as the percentage of consumption expenditure against disposable income.

Source: Ministry of Internal Affairs and Communication, Statistics Bureau, Family Income and Expenditure Survey (2014)

Another underlining driver for the decline in the market has been the steady fall in the country's population growth rate, which has continued over several decades (Figure 22). According to the Japanese Seal Engravers Association (J, interview), this has contributed to a drop in market for personal *hanko* as people generally buy four to five formal *hanko* in a lifetime. The trend is expected to worsen as the country entered negative population growth from 2011 onwards (Figure 22). As such, although *hanko* production represents 80% of ivory usage in Japan today, the demand will likely continue to diminish based on both the economic and demographic trends.

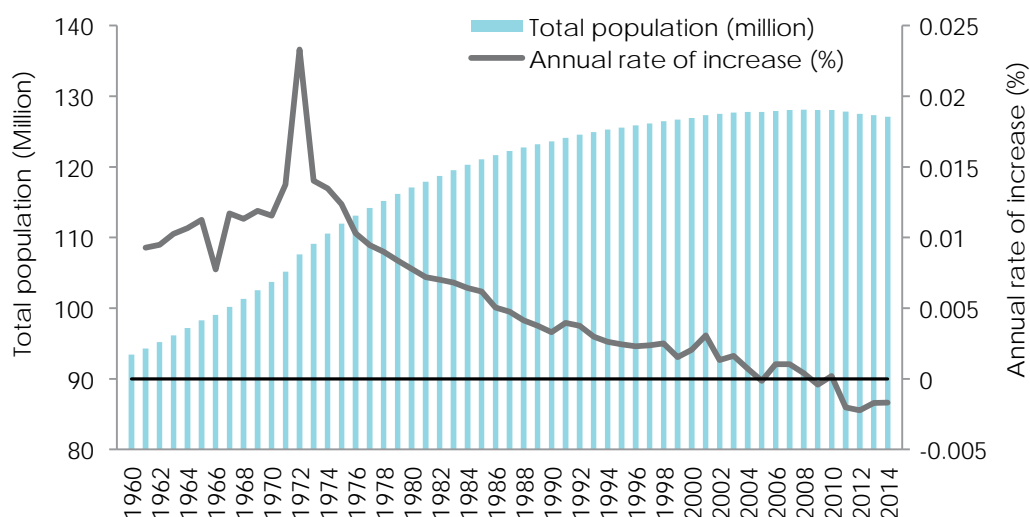


Figure 22. Change in Japanese population between 1960 and 2014

The population was obtained through census on October 1st each year (population of Okinawa prefecture was excluded from the census between 1960–1971).

Source: Ministry of Internal Affairs and Communication, Statistics Bureau, Population Census (2015b)

5.1.4. Domestic market since the trade ban

CITES one-off sales

Following the 1989 ban on all commercial ivory imports, Japan has received a total of nearly 90 t of raw ivory through two one-off legal sales permitted by CITES (**Table 8**). Four southern African countries that successfully down-listed their African Elephant populations to Appendix II, namely Botswana, Namibia, Zimbabwe and South Africa, were the source of the ivory. The elephant population status and management, including anti-poaching efforts, in these countries were considered to be adequate by a Panel of Experts commissioned by CITES, and only government-held tusks from elephants that died of natural or management-related mortality were allowed to be sold to a trading partner designated as meeting CITES requirements for domestic control of ivory trade. Japan, following inspections by a Panel of Experts and making improvements with respect to a number of issues that were found to be deficient, was sanctioned by the CITES Standing Committee as an approved ivory trading partner, first in 1998 (for the 1999 sale and import) and secondly in 2006 (for the 2008 sale and import the following year) (CITES, 1999b, 2006). However, there were certain aspects of Japan’s control system against which the Panel expressed concerns (CITES, 1999a, 2007a), and some of these issues remain unaddressed as reviewed in **Section 5.3.2**.

Table 8. Summary of ivory import through one-off sales in 1999 and 2008

The import of the 2008 sale occurred in 2009.

Exporting country	1999 Import weight (kg)	2009 Import weight (kg)
Botswana	17 171	16 682
Namibia	12 366	3 753
Zimbabwe	19 916	1 207
South Africa	-	17 765
Total	49 453	39 407

Source: CITES Trade Database

Conditions of the one-off sales for range States included provisions for: profits from the sales to be directed exclusively toward the conservation of wild elephants and support for local communities living in or around the elephant range; and for the trade to be conducted under the strict supervision of the



Credits: TRAFFIC

Scene from 1999 ivory import, Tokyo



Credits: TRAFFIC



Credits: TRAFFIC

Scene from 2009 ivory import, Tokyo

CITES Secretariat. Ivory imported via the one-off sales was purchased by members of JIA and was transferred under rigorous inspection by the Japanese Customs (Kiyono, 2003). All of these tusks were registered under LCES upon arrival at the port of entry (Kiyono, 2003), and they comprise the material used by the domestic manufacturing industry, together with the pre-Convention domestic stocks in private ownership that can be traded legally under LCES (see **Section 5.3.1**).

Pattern of illegal trade

While the domestic market for ivory has been declining since the 1989 trade ban, there have been a number of ivory seizures involving Japan as a destination country. In particular, there was a surge in smuggling of ivory *hanko* materials around 1990, immediately following the CITES trade ban (Gendai Publishing, 1990b). The Elephant Trade Information System (ETIS)¹⁵ records over 10 cases of illegal

¹⁵ ETIS is a comprehensive information system to track trends in illegal trade in ivory and other elephant product as set forth by CITES *Resolution Conf. 10.10 (Rev. CoP16)*. It is managed by TRAFFIC on behalf of CITES Parties.

import within just one year of the introduction of Japan's trade ban in September 1989; the majority of these consignments were shipped from Hong Kong. Major incidents involving large-scale seizures (over 100 kg) in which Japan was implicated as the country of destination are summarized in **Table 9**. Of the more recent cases, a 2002 seizure made in Singapore involving over 6.3 t of raw ivory and 42 120 semi-worked ivory pieces represents the largest seizure record in ETIS so far. Furthermore, uncovering of the 2006 seizure of nearly 2.8 t caught the international community by surprise because it happened just as Japan was designated as the trading partner in the second one-off sale (CITES, 2007a).

Table 9. List of reported large-scale ivory seizures (>100 kg) involving Japan as the destination country

The list may not be comprehensive as many of the earlier report did not include the weight.

Year of seizure	Exporting country / territory	Quantity (kg)	Ivory type
1990	Hong Kong	960	Worked (30 000 pcs)
1991	Hong Kong	270	Worked (1814)
1991	Republic of Korea	798.5	Raw (62 pcs)
1991	United Kingdom (transit: France)	126	Worked (34 pcs)
1992	South Africa (transit: Republic of Korea, Hong Kong)	372	Raw (27 pcs)
1993	Hong Kong	220	Worked
1996	Singapore	352	Worked (13 800 pcs)
1999	Rwanda (transit: France)	420	Worked (682 pcs)
2000	(transit: Singapore)	500	Raw (27 pcs)
2002	South Africa (transit: Singapore)	>6333	Raw (535 pcs) Worked (42 120 pcs)
2006	Malaysia (transit: Republic of Korea)	2794	Raw (608 pcs) Worked (17 928 pcs)

Source: ETIS

Since 2007, ivory seizure records involving Japan, especially in large-scale seizures, have progressively diminished to the extent that illegal trade with Japan has largely become negligible in a global context (CITES, 2012). The emerging trend over recent years suggests that Japan has become a source of ivory for external destinations such as China and Thailand; in this regard seizures of ivory shipments from Japan in the form of parcels have been repeatedly made. Thai Customs reported 18 packages of ivory products and pieces sent through the mail from Japan were seized in 2015 (Anon., 2015a). China Customs also reported many similar seizures of ivory smuggled in parcels shipped from Japan, totalling a movement of over 100 kg of ivory (Anon., 2012, 2015b). Furthermore, in October 2015, Beijing Forest Police announced busting a major smuggling ring that trafficked over 800 kg of ivory in total that reportedly originated in Japan (TRAFFIC, 2015a). This new pattern seems to suggest that ivory is illegally flowing out of Japan to newer overseas market where the price of, and demand for, ivory is apparently higher.

5.2. Consumer attitude towards the use of ivory products

5.2.1. Experience and attitude towards ivory products

Awareness of and experience with ivory products

The 2014 consumer attitude survey (see **Section 2.3**) characterized the experiences and attitudes of current Japanese consumers towards ivory products and Japan's domestic ivory market.

A solid majority (77.2%) of current consumers at least had knowledge of ivory products, and nearly two in five respondents had experience in purchasing, owning, using/displaying some sort of ivory product (**Figure 23**). The proportions of people with experience of receiving or with an interest in purchasing ivory in the future were lower, around 13% and 9%, respectively. Whereas both awareness and experience tended to increase with age, the level of interest in future purchasing turned out to be similar across all age groups.

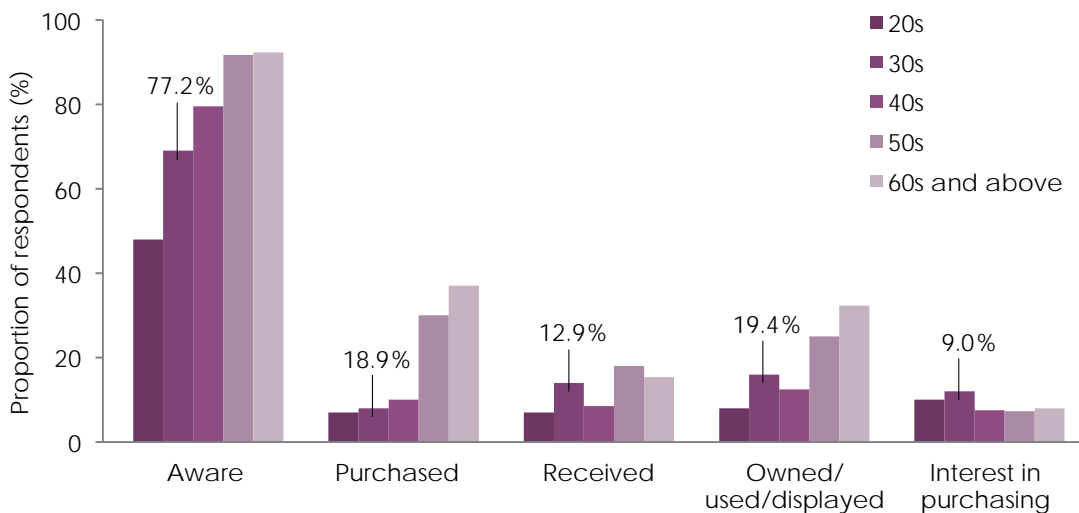


Figure 23. Proportions of respondents with awareness, experience in purchasing, receiving, using, and interest in purchasing of ivory products by age groups (N=1000)
 Percentages above the bars indicate proportions across age groups that are weight adjusted for population compositions.
 Source: TRAFFIC, consumer survey, 2014

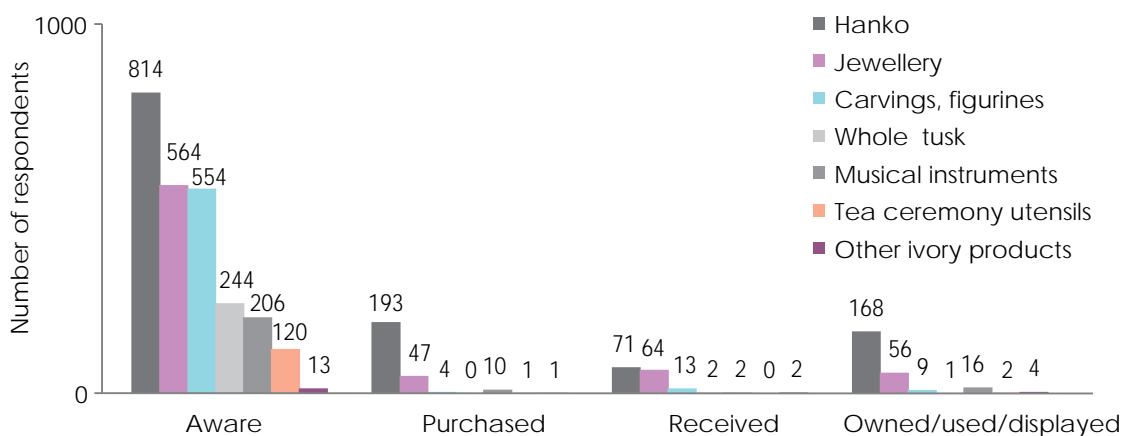


Figure 24. Ivory product types for which respondents had awareness, experience in purchasing, receiving and using, shown as numbers of respondents (N=1000)
 Multiple selection of products was allowed.
 Source: TRAFFIC, consumer survey, 2014

The ivory product which consumers had the most awareness and experience of was predictably ivory *hanko* followed by ivory jewellery (Figure 24), corresponding to the two major product types mass produced in the 1970s and 1980s. Very few had experience of purchasing, receiving, or owning/using/displaying other products such as carvings/figurines/*netsuke*, whole tusks, musical instruments, and tea ceremony utensils. This demonstrates the popularity of ivory *hanko* compared to other items, yet the proportion of people who purchased or owned ivory *hanko* was less than 20%, indicating that most own *hanko* made of materials other than ivory.

Reasons for purchasing or receiving ivory products

The most popular reasons for purchasing an ivory product were its luxuriousness and high quality, which were common for both *hanko* and other ivory products, mainly jewellery (Figure 25). This result corroborates the narratives of the industry regarding soaring ivory sales during the economic boom (see Section 5.1.1). For *hanko*, the third most popular reason was because respondents had heard that ivory *hanko* can bring good luck, which is likely a reflection of the sales marketing strategies employed (see Section 5.1.1). Other common reasons included rarity and popularity, as well as recommendation by family, friends or shop staff.

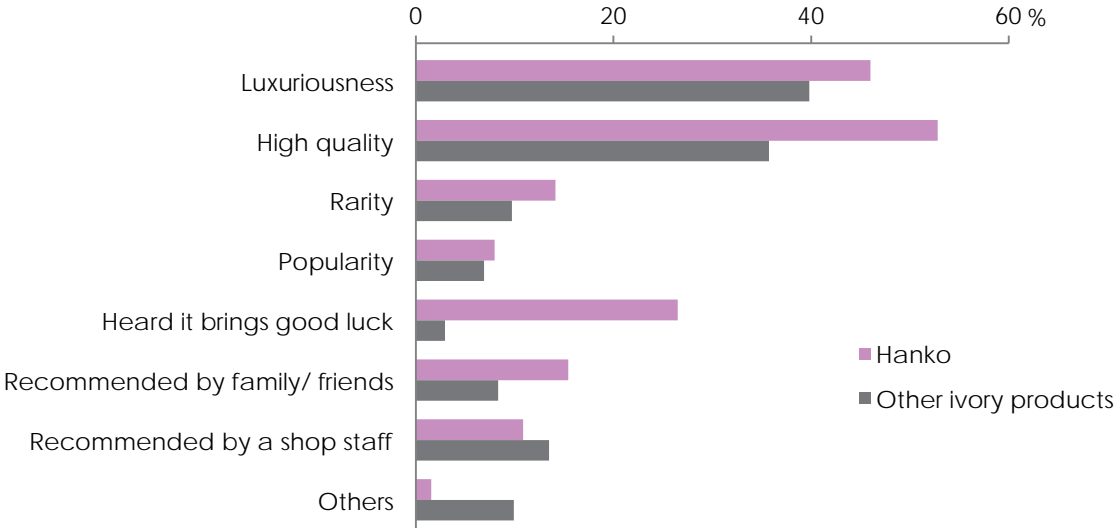


Figure 25. Reasons for purchasing ivory products by those who had experience purchasing, shown as percentage of respondents selecting the pre-listed reasons
 Multiple selection was allowed (*hanko*, N=154; other ivory products, N=50; weight-adjusted for population composition).
 Source: TRAFFIC, consumer survey, 2014

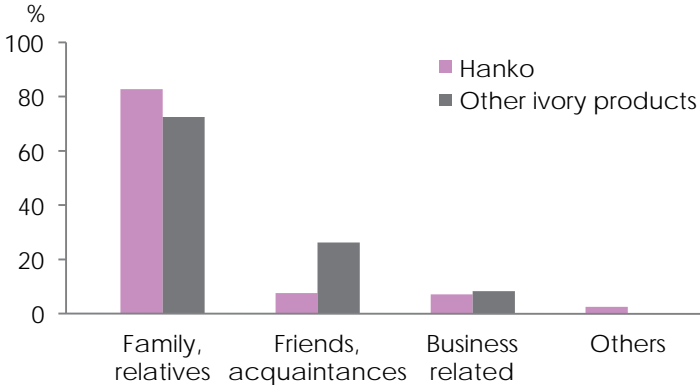


Figure 26. Party from whom respondents received ivory products, shown as percentage of respondents
 Multiple selection was allowed (*hanko* N=70; other ivory products N=68; weight-adjusted for population composition).
 Source: TRAFFIC, consumer survey, 2014

The majority of respondents with experience of receiving ivory products had received them from immediate family members or relatives, 83% for *hanko* and 73% for other ivory products, respectively (Figure 26). The proportion of respondents receiving ivory *hanko* from friends, acquaintances or business-related people was low at only around 8%. This is likely due to the nature of a *hanko* as a personal signature, combined with the tradition of giving children or grandchildren *hanko* when certain life events transpire. In contrast, over 25% indicated they received other ivory products from friends and acquaintances, while gifts from business-related people remained rare at around 8%.

Current status of use and reasons for discontinuing

A majority (61%) of respondents with experience of owning, using or displaying ivory products were found to still own and use/display their possessions (Figure 27). This is expected given that the most common type of products, ivory *hanko*, are long-lasting and practical items. Nevertheless, 39% of respondents no longer use or display their ivory products, while nearly half of them no longer own the items.

A number of reasons for ending the use of ivory products were given (Figure 28). One of the three commonest was awareness that “over-hunting of elephants became a serious issue”, given by 11 respondents, of which seven were more than 60 years old. This reflects the public awareness toward ivory issues disseminated in the late 1980s (see Section 5.1.2). However, the impact of such awareness translating into action may not be widespread, given that more than 60% of respondents continue to use/display ivory products (Figure 27) and that almost all the other reasons for discontinuing use were practical reasons such as the item had deteriorated, broken, got lost or was no longer needed. Aside from this, four people gave “out of fashion” as a reason.

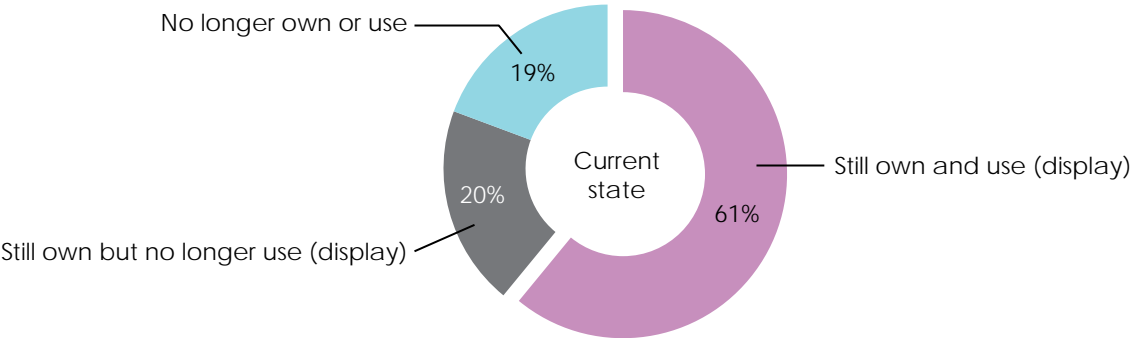


Figure 27. Current state of possession and use by those who had experience of owning, using or displaying ivory products (N=194; weight-adjusted for population composition)
 Source: TRAFFIC, consumer survey, 2014

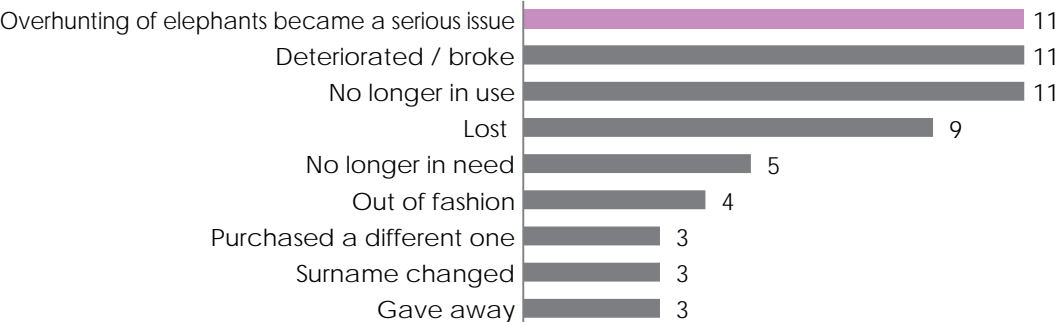


Figure 28. Common reasons for ending the use (or display) of ivory products, shown as number of respondents giving the reason in free answers (N=84)
 Source: TRAFFIC, consumer survey, 2014

5.2.2. Current attitudes towards legal ivory market

Current level of interest in ivory products

Current consumer interest in ivory products was found to be rather low (9.0% across all products) (Figure 23). Even ivory *hanko* attracted the interest of only 64 out of 1000 respondents, followed by 22 for jewellery and 12 for carvings/figurines (Figure 29). Interest in other categories of ivory products was even more limited to fewer than 5 respondents each. Popular reasons for interest in ivory products are given in Table 10. While recognition of the high quality of ivory *hanko* stood out, other perceived characteristics of ivory such as rarity, beauty of its colour and texture were also given as reasons, as well as the notion of status, luxury and good luck.

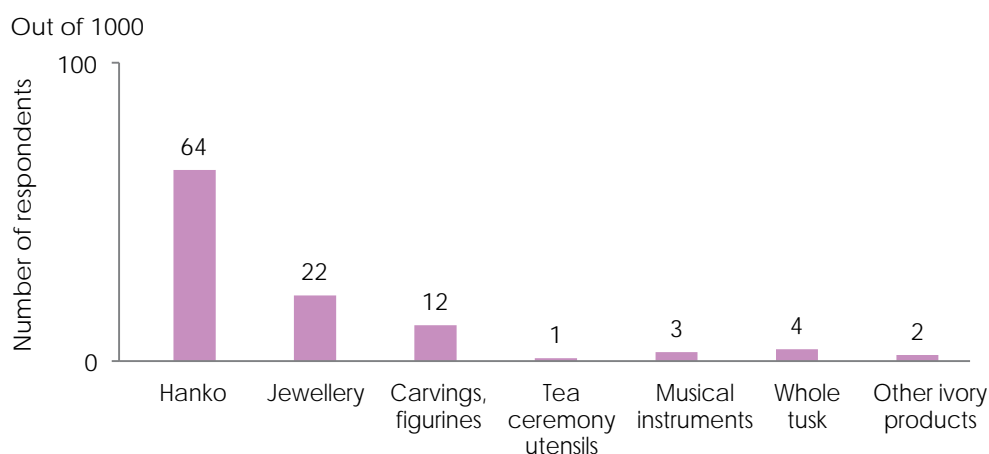


Figure 29. Number of respondents indicating interest in purchasing ivory products by product types (N=1000)
Multiple selection was allowed.

Source: TRAFFIC, consumer survey, 2014

Table 10. Top reasons for interest in purchasing ivory *hanko*, jewellery and carvings/figurines

Numbers in brackets indicate numbers of respondents giving the reasons in free answers.

Ivory <i>hanko</i> (64)	Ivory jewellery (22)	Ivory carvings, figurines (12)
Long-lasting/life-long products (9)	Looks beautiful (4)	Rare (3)
Luxurious (8)	Rare (3)	Stylish (1)
Best quality as a <i>hanko</i> (7)	Like the colour (2)	Seems to be of high quality (1)
High quality (5)	Simple (2)	Appears luxurious and stands out (1)
Rare (5)	Seems good fortune/good Luck (2)	Want to have a white smooth texture figurines (1)
Beautiful (5)	Fashionable (1)	Likely to be pleased as a gift (1)
Preferred texture/material (3)	Would make a lucky charm (1)	Beautiful (1)
Can show off/high status/gives prestige (3)	Seems to be of high quality (1)	Always wanted one (1)

Source: TRAFFIC, consumer survey, 2014

Attitudes towards ivory *hanko* substitutes

Over 80% of respondents with experience in purchasing, receiving, or owning/using ivory *hanko* indicated that they would consider a substitute if their ivory *hanko* became unusable and needed to be replaced (Figure 30). While this is a large proportion, as many as 19% indicated that there is no suitable substitute they would consider, highlighting the fact that ivory is still considered the best *hanko* material. Amongst the range of potential substitutes, water buffalo (or cattle) horn, as well as natural wood (usually boxwood) were found to be the most popular (Figure 30). This implies that many people would not have a problem switching from ivory, irrespective of their knowledge about the hierarchy

of *hanko* materials (see **Figure 19**). Regarding titanium, which is often regarded as a potential “post-ivory” material, only 16% chose it as an adequate substitute, which was still lower than other natural materials such the buffalo horn, natural wood, and amber (**Figure 30**). This may result from the fact that titanium is still an unfamiliar choice or that users of ivory tend to prefer natural materials over metal.

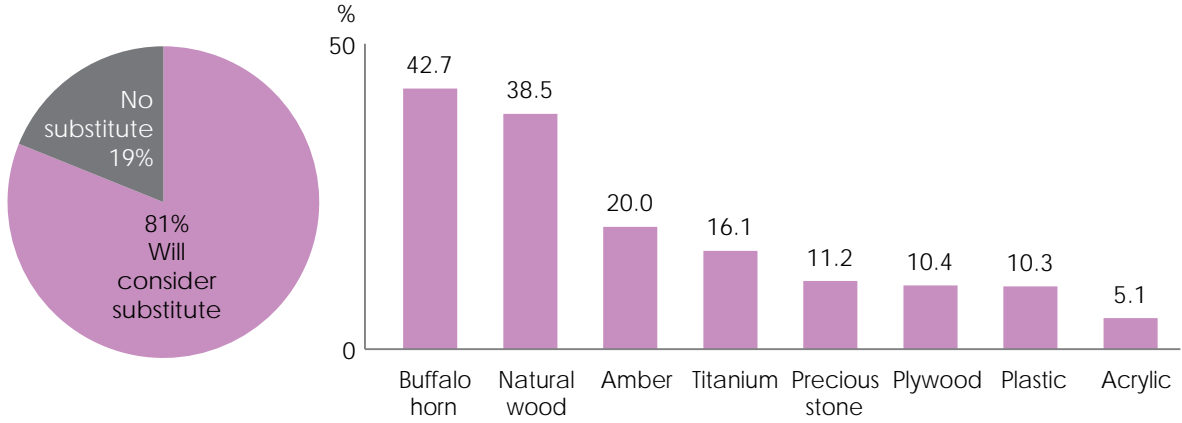


Figure 30. Attitudes toward ivory *hanko* substitutes amongst respondents with experience in purchasing, receiving, owning/using ivory *hanko* (N=225; weight-adjusted for population composition)
 LEFT: Whether or not respondents would consider switching to a substitute listed to the right in case their ivory *hanko* became unusable; RIGHT: Kind of substitute respondents would consider buying (multiple selection allowed from choices of buffalo horn, natural wood, amber, titanium, precious stone, plywood, plastic and acrylic)
 Source: TRAFFIC, consumer survey, 2014

Public attitudes towards the domestic ivory market

Finally, the survey examined current public attitudes towards Japan’s domestic ivory market through a set of questions about ivory *hanko*. Amongst those who had experience in purchasing, receiving, owning or using ivory *hanko*, only one in four people had ever considered the legality of the origin of their *hanko* (**Figure 31**). This implies that in Japan’s legal market, most consumers are not conscious of the fact that ivory trade is regulated by CITES and LCES.

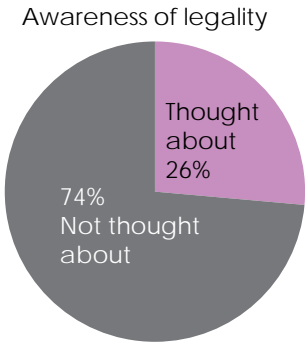


Figure 31. Awareness of legality amongst respondents with experience in purchasing, receiving, owning/using ivory *hanko* (N=225; weight-adjusted for population composition)
 Source: TRAFFIC, consumer survey, 2014

Respondents were informed about different possibilities for the origins of ivory: 1) legal ivory from elephants that died of causes other than poaching; and 2) illegal ivory from poached elephants, and asked about their attitude toward Japan’s current domestic ivory market. The results revealed that just about half the consumers consider it is fine to use ivory in Japan as long as it is of legal origin and not from poached elephants (**Figure 32: left**). One-third expressed the view that it is not good to use ivory

regardless of its origin. The rest, 17%, were indifferent, considering it is fine to use or purchase ivory in Japan regardless of its origin. Overall, it appears that the public attitude is quite divided on this matter, although a majority is still in support of avoiding poaching and illegal trade.

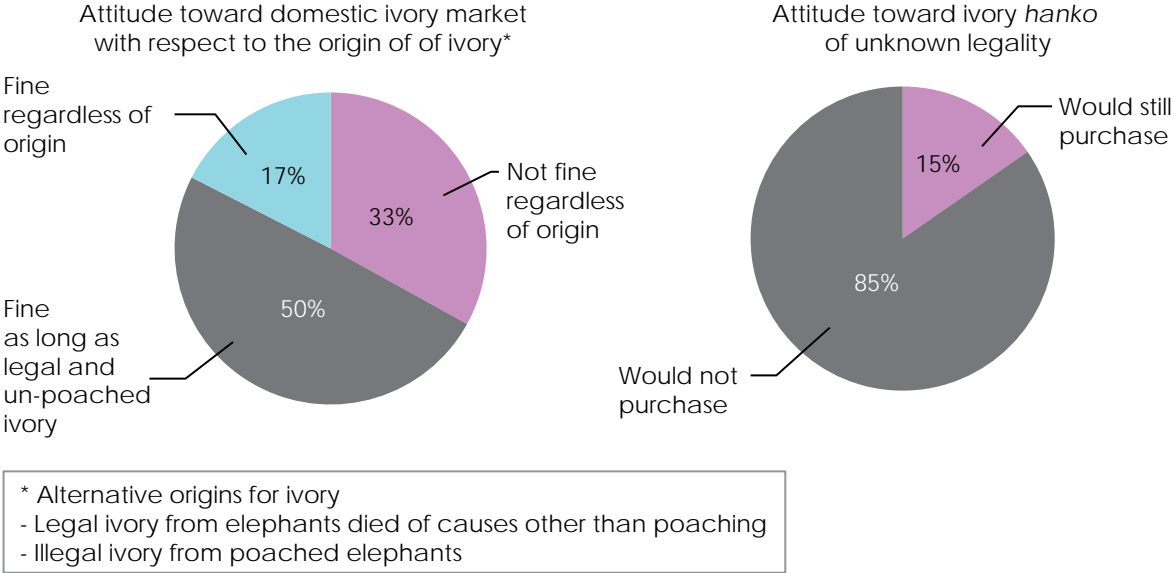


Figure 32. Consumer attitude toward domestic ivory market (N=1000; weight-adjusted for population composition)
 LEFT: acceptance of domestic ivory market with respect to the origin of ivory (respondents were asked about their attitude toward domestic ivory market given the possibility of two alternative origins for ivory as indicated above); RIGHT: Attitude toward ivory *hanko* of unclear legality (respondents were asked whether they would still purchase the products when its legality is unknown)
 Source: TRAFFIC, consumer survey, 2014

Finally, when respondents were asked whether or not they would purchase an ivory *hanko* of unknown legality, 85% answered they would not, while 15% answered otherwise (Figure 32: right). This result suggests that, despite the currently low level of awareness about legality as seen previously (Figure 31), most consumers would purchase items that are clearly legal and avoid those that are not, provided they are made well aware of this distinction, although the extent to which such attitudes would be translated into real action is unknown. However, the results also flag that there is a residual segment, over 15% (Figure 32: right) in the current consumer population, who feel indifferent not only about the origin of ivory and its impact on elephants but also about the legality of ivory products. Although the actual consumer interest in ivory is found to be fairly low (Figure 29), this aspect should still be noted with some caution.

5.3. Current regulation and issues

5.3.1. Overview of LCES regulation

The LCES regulation for domestic ivory trade consists of two mandatory schemes: 1) the registration scheme for whole tusks; and 2) mandatory provisions for all businesses that deal in special international species (**Figure 33**). In addition to this, there is a voluntary product certification scheme based on the concept of promoting consumer choice for products with government-verified legality.

LCES designates the domestic ivory industry as a “Special International Species Business” and mandates all businesses that manufacture, trade, or retail in ivory products apart from whole tusks to notify METI (**Figure 33**). All such businesses receive a sticker showing a designated operator’s number (**Figure 34**) and are obligated to record all transactions and resulting balances of stockpiles and submit them to METI on a regular basis. While the LCES regulates the domestic trade/transfer of individual specimens of Appendix I species, it considers processed ivory and ivory products (i.e. any ivory pieces that do not retain the form of a whole tusk) as industrial materials which are exempt from the regulation. In addition to the record-keeping duty, notified businesses are required to confirm the legality of ivory with a seller or a buyer upon receiving ivory, and accept on-the-spot inspections.

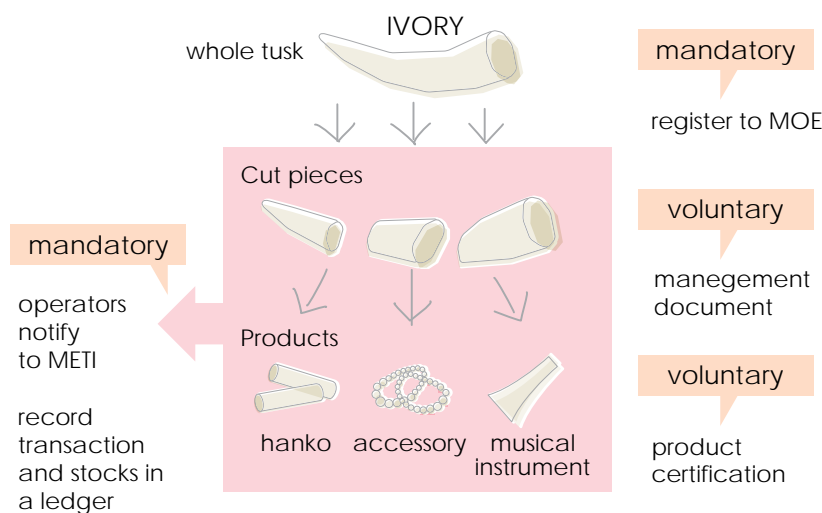


Figure 33. Schematics of Japan’s domestic ivory trade regulation

Figure adapted from Ishihara (2010)

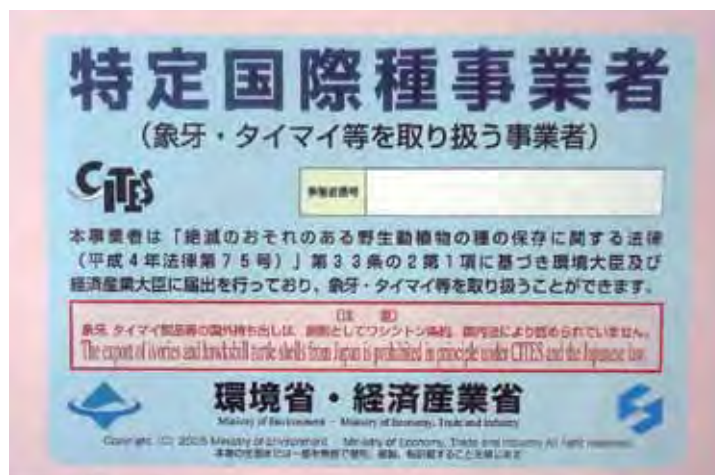


Figure 34. Sample of a sticker provided to operators of Special International Species Businesses

The blank box is for showing operator’s original number. Operators are advised to display the sticker although it is not a legal requirement

Image from a poster published by MOE and METI

Domestic trade in each whole tusks is regulated under the LCES provision prohibiting trade, except in cases where the tusk was imported before the CITES trade ban or was imported pursuant to the two CITES one-off sales. Before trade can happen, however, all such tusks must be registered with MOE. This also applies to tusks that are intended for trade and applies regardless of the types of ownerships (private or businesses) or the nature of the transaction (commercial trade or non-commercial transfer). Upon verifying the legality of its origin, a registration card is issued by MOE for each tusk (**Figure 35**). The registration card must accompany the tusk itself when being displayed, advertised or traded. When a whole tusk is cut for processing, its registration card must be returned to MOE¹⁶.

The voluntary product certification scheme exists for the purpose of prompting consumer choice towards products that offer government-verified legality (JWRC, 2012). Manufacturers may voluntarily manage individual cut pieces using management cards and may apply for product certification by the government. After verifying the products are derived from a registered tusk or cut pieces with a management card, the government issues seals that can be attached to the certified products as proof of their correct sourcing (**Figure 36**). However, since this scheme is voluntary, products without certificate seals can also be sold legally in the market. The administrative work for both whole tusk registration and product certification is delegated to a General Incorporated Foundation under the MOE, called the Japan Wildlife Research Centre (JWRC).

国際希少野生動物種登録票	
(個体・部分の加工品 個体の器官・部分の加工品)	
登録記号番号 第 000-00000 号	
登録を受けた国際希少野生動物種	種名 アフリカゾウ
	区分又は名称 牙
登録時 (平成26年 6月日) における 主な特徴	全長 105.5cm 重量 9.25kg み ほ
備考	ん
00000-0000	
平成26年6月2日交付	
一般財団法人 自然環境研究センター 理事長	

Figure 35. Sample of a registration card for a whole ivory tusk

The card contains information about the registration number, species, name of parts or state and characteristics of the specimen at the time of registration (in this case the length and weight of the tusk). A photo of the specimen is also included under a new format since 2014. Photo courtesy of JWRC



Figure 36. Sample of government certificate seals that are issued under the voluntary product certification scheme
Photo from a poster published by MOE and METI

¹⁶ The registration card is usually returned by the manufacturers when they cut whole tusks to process into materials. It may also be returned by an owner when a tusk is lost or no longer retains its original condition (e.g. broken), although this is much rarer.

5.3.2. Current status and issues in the domestic management of ivory

Registration of whole tusks

Registration of whole tusks started in 1995 when parts and derivatives of Appendix I listed species were first covered by LCES. MOE compiles the new and returned registrations each year (Figure 37). The total amount of registered tusks over the past 20 years amounts to 25 033 tusks weighing approximately 299 t (July 1995 to July 2015). For nearly half of them, or 11 450 tusks weighing approximately 143 t, registration cards have already been returned, indicating they have been cut and made into materials in the manufacturing industry. As of July 2015, there were 13 583 registered tusks weighing approximately 155 t (Table 11) (calculated as the difference between the total weight or number of tusks ever registered and those for which registration cards have been returned). These stocks are scattered in the hands of private owners and businesses. Aside from registered tusks, the METI compiles the amount of stockpiles held by businesses based on their reporting. According to this, nearly 53.3 t of cut pieces and 669 kg of tips are being held, along with a variety of products (Table 11). Because the LCES does not regulate simple possession of ivory, the true amount of ivory stocks in the country remains unknown. The Japanese government neither holds its own stockpile nor conducts the marking of registered tusks.

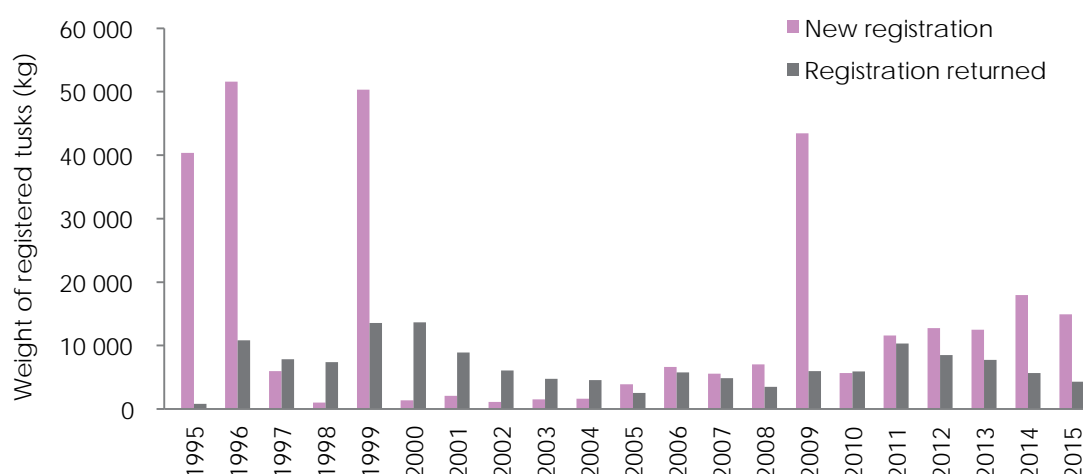


Figure 37. Annual weight of newly registered tusks and returned registration (kg) (1995 including July to December, 2015 including January to July)

Source: Ministry of Environment, *in litt.* to TRAFFIC, November 2015

Table 11. Amount of domestic ivory stocks that are acknowledged by the Japanese government

The data on stockpiles held by businesses is primarily based on the 2013 and 2014 reporting to METI. “Others” includes goods and parts in the following categories: stationery, smoking supplies, Buddhist altar articles, tableware, tea utensils, indoor recreational equipment, convenience goods, and others.

Registered tusks (as of July 2015)	Total weight (kg)	Total number
Whole ivory tusk	155 313	13 583
Stockpile reported by businesses (As of September 2015)	Total weight (kg)	Total number
Cut pieces	53 277	-
Tips	669	-
Accessories including parts	-	2 784 896
<i>Hanko</i> signature seals	-	754 057
Furnishing goods including parts	-	58 772
Musical instrument including parts	-	43 174
Others	-	110 470

Source: Ministry of Environment (*in litt.* to TRAFFIC, October 2015) and Ministry of Economy, Trade and Industry (*in litt.* to TRAFFIC, October 2015)

The registration scheme is common to trade in all Appendix-I listed species protected by LCES. In terms of ivory, however, it largely captures the flow of recycling of privately owned tusks by the manufacturing industry, according to JWRC (N, interview). That is, registered tusks are sold to and used by manufactures for production. Apart from the years immediately after the registration scheme began and the years of one-off sale imports (both 1999 and 2009), at which point manufacturers registered their stocks in a single total amount, it appears that up to more than 10 t of ivory each year is registered or recycled from private ownership (**Figure 37**), averaging around 7.3 t annually (1996–2014).

Issues of unknown domestic stock

The largest drawback of the registration system is that it does not precisely track the inventory of ivory tusks that are in private possession in the country. A consequence of this is that there is a continued influx of newly registered tusks each year, despite the fact that over two decades have passed since the international trade ban. Trade statistics shows that Japan imported nearly 6729 t of raw ivory between 1950 and 1989. Whereas the majority went into the hands of manufacturers, the whole ivory tusk boom in the 1970s and 1980s is believed to have distributed a substantial quantity of whole tusks across the country for investment and home decoration purposes (see **Section 5.1.1**). These tusks are continuously being put out for sale by private owners who, upon events such as parents' death or the rebuilding or moving of houses, wish to dispose of unwanted possessions. These tusks are individually registered, and, according to JWRC, registration sometimes involves multiple tusks recovered following a relative's death (N, interview).

Although any indication the registration scheme is being used to launder smuggled ivory is to date unsubstantiated, the apparently seemingly bottomless domestic stock gives rise to some level of concern. Registration of whole tusks requires some kind of proof of pre-Convention importation¹⁷, and JWRC strives to eliminate any doubts that tusks may derive from dubious origins. However, official evidence, such as a Customs clearance document or a purchase receipt is almost never available, and therefore indirect evidence in the form of a signed third party letter is accepted (N, interview). In order to prevent false applications, JWRC scrutinize the validity of such claims by interviewing applicants by phone. According to JWRC, it is the government's intension to salvage more tusks this way so that they are brought under the regulatory framework instead of being traded underground.

Some degree of laxness in terms of law enforcement was revealed in a major incident in 2011, whereby the largest *hanko* manufacturer was convicted of buying large quantities of unregistered tusks (58 tusks weighing approximately 509 kg in 2010) from various antiques dealers (Sakamoto, 2013). Although no links to smuggling were established, the trial revealed that trade in unregistered tusks by this manufacturer spanned a period of five years, and the actual volume traded is speculated to have been much more (Sakamoto, 2013). The case resulted in a fine of JPY1 million for the manufacturer and suspended prison sentences of up to one year for its two board members¹⁸. Since 2013, the maximum penalty for violating the LCES regulations on domestic trade was raised to five years of imprisonment and/or a fine of JPY5 million (c. USD47 200) for an individual, and JPY100 million (c. USD943 900) for a corporation.

However, given the state of unknown domestic stocks, effective control of the internal trade in whole tusks remains a challenge in Japan. In this regard, Thailand, in early 2015, enacted new legislation that mandated those in possession of ivory tusks, both commercial traders and private owners, to register their possession with the government within a deadline of about three months (TRAFFIC, 2015b). This nation-wide registration resulted in over 220 t of ivory being registered by more than 4400

17 LCES regulation of trade in Appendix I species came into effect on: 4th November 1980 for Asian elephants; 18th January 1989 for African elephants.

18 Six other dealers were arrested in association with this case for selling unregistered ivory tusks to the manufacturer (Aasahi-Shimbun, 12th May, 2011; Yomiuri-Shimbun, 10th June, 2011).

private citizens (TRAFFIC, 2015c). Such measures are also recommended for Japan as it would serve to delineate the total legal domestic stock once and for all. The Japanese government should seriously consider such option, especially given the recent leakage of domestic ivory overseas (i.e. China and Thailand) (see **Section 5.1.4**).

Control of ivory businesses through notifications

Under LCES, all aspects of the ivory industry are managed by METI as a Special International Species Business. The number of businesses that provided notifications to METI as of September 2015 is 9122, comprising 319 manufacturers, 584 wholesalers and 8219 retailers (**Table 12**). The total number has declined from 11 061 in 2006 (CITES, 2007a), due mainly to a decline in the number of retailers. Although no specific category is designated, antiques dealers who trade in ivory products are also mandated to notify METI and therefore are included in these numbers. Furthermore, any online business or dealer without a physical shop or a legal corporate status are also considered to be a Special International Species Business under LCES.

Table 12. The number of businesses providing notifications to METI (as of September 2015)

Categories	Number of businesses
Manufacturers	319
Wholesalers	584
Retailers	8219
Total	9122

Source: Ministry of Economy, Trade and Industry, *in litt.* to TRAFFIC, October 2015

In terms of enforcement gaps, certain online retailers as well as dealers on internet auction sites were found to be operating without notifications in a 2014 survey (Matsumoto, 2015). In response to this finding, the government and major e-commerce companies began undertaking monitoring activities (O, P interview). A related issue is the lack of a legal basis for requiring the display of a retailer's notification status, which not only hinders effective monitoring, but also prevents consumers from



Screenshot from an internet auction site where whole ivory tusks with government registration cards are being advertised

clearly distinguishing legal from illegal operators (Matsumoto, 2015). It is also necessary to cast a wider net beyond major e-commerce sites, especially to monitor any trade that may lead to ivory being smuggled to countries like China where demand is higher (see **Section 5.1.4**). Furthermore, a 2013 internet auction site case involved domestic antiques dealers and a Chinese buyer who implied her intention to resell the ivory in China at a higher price (Anon., 2013).

There is clearly a risk of illegal exports from online trading, through antiques dealers and auction businesses. As these businesses and dealers do not specialize in ivory products, they are assumed to be less aware of LCES regulations and may circumvent their notification duties to operate illegally, an issue that was also noted during an earlier inspection by a CITES technical mission (CITES, 2007a). The status of compliance by these businesses remains largely unchecked, despite known cases of illegal ivory trade involving antiques dealers.

While METI responds to any violations with administrative guidance, no penalty has ever been applied within the framework of the control of ivory businesses (Sakamoto, 2013). Furthermore, since the regulation is based on businesses' "notification", not "registration" or "licensing", violations do not result in severe consequences such as revocation of business privileges. This could be considered to fall short of *Resolution Conf. 10.10 (Rev. CoP16)* that requires all relevant businesses to be registered or licenced (Sakamoto, 2013). The current level of penalties for violating control of ivory businesses remains low: a maximum of JPY500 000 (c. USD4700) for operating without notification or submitting false notifications; and a maximum of JPY300 000 (c. USD2800) for violating the duties of submitting ledgers or accepting inspections, or misusing the voluntary certification system. Apart from these actions, the government also holds the authority to order a trade suspension for a maximum period of three months.

Lack of compulsory mechanism for ensuring legality in the market

In terms of the risks of smuggled ivory entering and exiting the domestic market, significant concerns remain owing to the lack of registration requirements for cut pieces and the lack of ensuring the traceability from a registered tusk to each product from it. This is because once a tusk is cut, the current system provides no direct and compulsory government oversight for checking the legality of the resulting individual pieces. Under LCES, the control of cut pieces as well as further processed materials and products is carried out through the control of ivory businesses, where the obligation for confirming the legality of traded items is delegated to notified businesses. This LCES system falls short of requirements set forth under *CITES Resolution Conf. 10.10 (Rev. CoP 16)* (Trade in elephant specimens), which treats cut pieces as "raw ivory" together with whole tusks and urges compulsory trade controls as well as marking of pieces that are both 20cm or more in length and one kilogramme or more in weight.

Under the Special International Species Business requirements, METI reviews all ledgers submitted by businesses annually (for manufacturers) or biannually (for wholesalers and retailers). According to METI, the reporting rate is above 90%. Records are examined, particularly for any sign of unregistered tusks or un-notified businesses showing up as a customer, inconsistencies in trade records for voluntary managed cut-pieces, or inconsistencies in stockpile balances (P, interview). In addition, around a hundred on-the-spot inspections are conducted each year, targeting businesses with large trade volumes, those who failed to submit ledgers, or those with any ambiguity in their trade records (P, interview). Despite all these efforts, the question remains as to how effective the system is in terms of eliminating and/or detecting illegal trade with true malicious intent. Firstly, there are certain businesses and dealers that operate without notifications; and secondly, no third-party verification of legality and traceability is required for processed materials and products, leaving room for unreported trade to occur unnoticed.

The effectiveness of the voluntary certification scheme is also in question. According to JWRC, only about 30 manufacturers consistently apply product certification in recent years, and in 2013 approximately 60 000 products were certified (JWRC, *in litt.* to TRAFFIC, November 2014). Given that most of these products constituted *hanko*, it represents only a fraction of the total *hanko* production estimated by JIA as around 200 000 (I, interview). The largest drawback is that certification is voluntary, thereby allowing both products with and without certification seals to be legally sold in the market. This renders the scheme effectively useless in terms of controlling the domestic market, as pointed out by the CITES mission (CITES, 2007a). Past surveys revealed the use of certification seals by physical shops as about 65% but only 40% amongst online shops (Ishihara, 2010). According to the *hanko* retail industry, traceability is further compounded because certificate seals are commonly traded separately by wholesalers, partly because the seals are too big to attach to a *hanko* (J, K, interview). Certain online retailers were also found to misrepresent government certification as proof of the “quality” or “genuineness” of ivory (Matsumoto, 2015). Such problems undermine the effectiveness of the certification scheme.

5.4. Conclusion

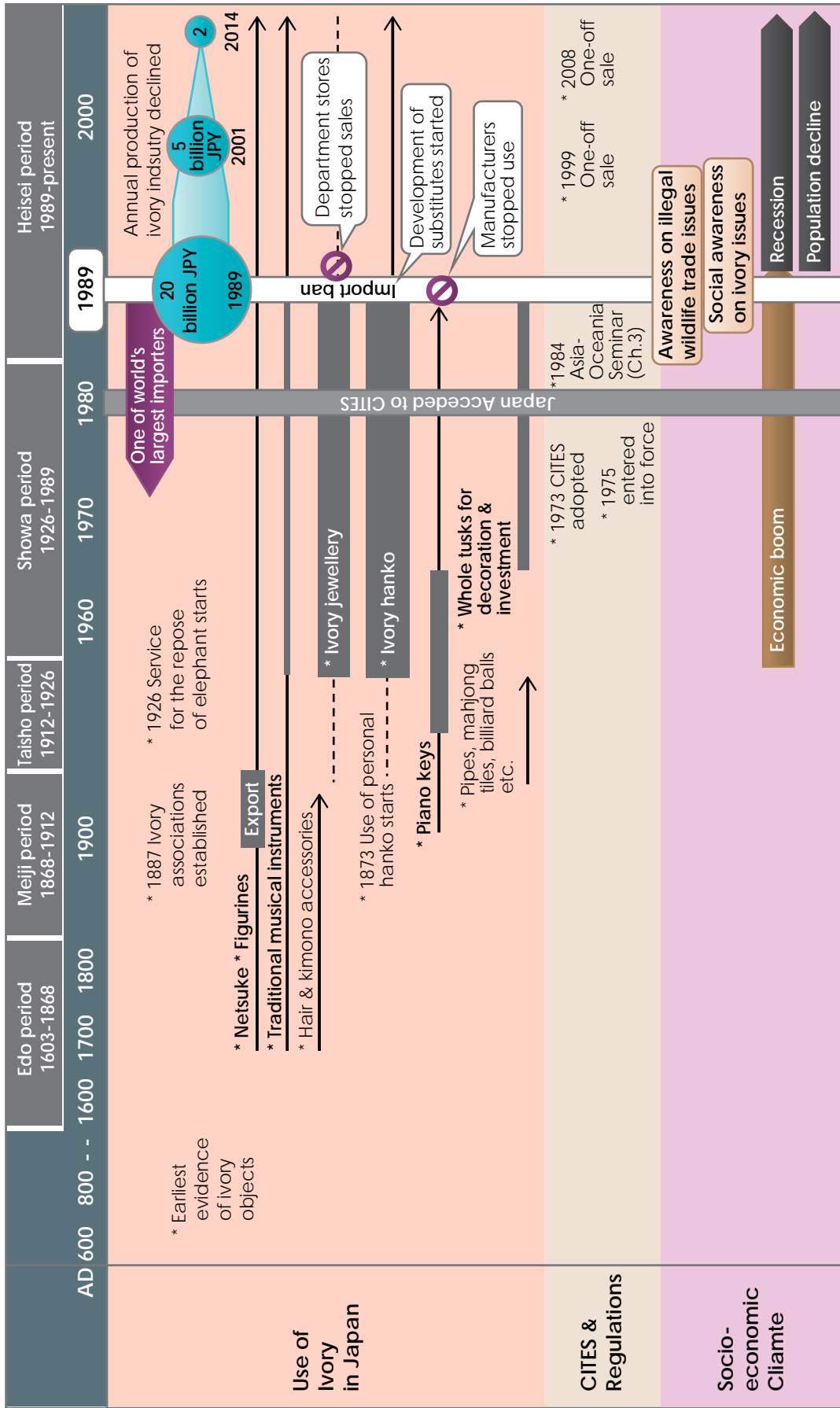
This chapter reviewed the history of ivory use in Japan and discerned the nature of demand for various products and drivers that led to the overall decline of the market in the country. The results are synthesized in the chronological table presented below (**Time Chart 3**).

The drivers behind the overall decline in the ivory market were primarily the government-led regulations, and secondarily the social pressure that influenced certain companies and consumers to refrain from selling, purchasing or using ivory products, particularly ivory jewellery. Unlike rhino horn, suitable substitutes were not found for ivory and a market for practical items such as ivory *hanko* still exists, as well as a specialized market for traditional musical instruments and artwork. Even these markets, however, have been reduced substantially by the long-term recession that transformed consumers’ spending patterns into a state where ivory’s appeal as a status symbol and luxury item was no longer sustained.

In the current global context, Japan continues to be one of the few countries that harbours a significant domestic ivory industry. From the consumers’ perspective, however, interest in purchasing ivory products is low, and younger generations were also found to have little knowledge of ivory products. While ownership of a *hanko* is a necessity for adults in Japan, a preference for ivory is unlikely to remain and the new generation of high-end *hanko* made from materials like titanium is already emerging in the market. Demand is even more limited for traditional musical instruments, and there is also a new multi-stakeholder movement emerging in the traditional music sector in search of a suitable substitute to ivory.

The regulatory system in the domestic ivory market, on the other hand, leaves uncertainties in terms of the effectiveness of controls. These include the unknown amount of domestic ivory stocks that are in private ownership; ivory trade occurring beyond the LCES oversight process; the lack of compulsory mechanisms to trace ivory pieces once a tusk is cut; the inability to identify illegal products in the market. With respect to some of these issues, LCES falls short of the requirements provided in CITES *Resolution Conf. 10.10 (Rev. COP16)*. Considering the current global crisis of rampant poaching of elephants and illegal ivory trade, an overhaul of the Japanese regulatory system is warranted in order to ensure that Japan’s domestic market remains a closed loop, especially noting that there have been a number of incidents of illegal export of ivory from Japan.

History and drivers of decline in the market for elephant ivory



Time Chart 3. History of ivory use and various factors in its market reduction in Japan
Source: authors' work

6. CONCLUSIONS

Given the current resurgence in global rhino and elephant poaching and horn and ivory trafficking, the present study endeavoured to examine the history of the decline in the market for rhino horn and elephant ivory in Japan. This has illuminated salient characteristics and lessons learned that might be relevant to other Asian consumer countries currently tackling illegal trade and high levels of domestic demand. Although there are clearly differences in terms of the respective global and national situations, this case study on Japan has nevertheless generated a wealth of historical insights into what may be the most successful example of reduction in the market for these commodities in an Asian setting in modern history.

First and foremost, the underlying lesson was that there was no single driver behind the use and demand for rhino horn and ivory. Instead, there was great variability not only in terms of the types of products, but also in the nature of demand from the industry and/or consumers. These differences affected how the decline in the respective market was achieved in the face of a range of drivers acting differently for distinct products. While many interventions for policy change and demand reduction are currently being undertaken in major consumer countries, this lesson from Japan stresses the importance of truly understanding the nature of use and demand through close examination of domestic perspectives, including the relevance to cultural roots, socially or economically embedded attitudes in consumers' minds, as well as the dynamics and motivations of industries involved in the production and marketing of key products.

In terms of specific drivers, the government-led introduction of regulatory measures within the framework of CITES turned out to be the primary influencer for curbing overall use of both rhino horn and elephant ivory in Japan. One of the important insights from this perspective was that in both cases, the success of the regulations ultimately depended upon co-operation of the domestic industries. The impact of regulations, however, was very different between rhino horn and elephant ivory as seen by how easily compliance resulted within the respective industries. The smooth transition from rhino horn usage to use of a substitute, Saiga Antelope horn, following the 1980 import ban was enabled by the fact that major manufacturers were able to replace rhino horn without compromising either the effectiveness of their brand name medicines or consumer demand for the products containing it. The circumstances surrounding market decline for rhino horn were presumably rather unique amongst the range of wildlife products Japan consumed at the time. Most of these were, like elephant ivory, so high in demand and without immediately identifiable alternatives that the government initially had trouble controlling even overtly illegal trade. However, even for ivory, the gradual co-operation of the industry played a key role in curbing the amount of ivory imported into Japan in the years immediately prior to the imposition of a complete ban in 1989. All in all, a strong government leadership engendered by the critical international pressure in the mid-1980s became the keystone for these changes in the industries.

Differences in the role of social pressure was also evident in the history of market declines for these wildlife commodities in Japan, with the trade in ivory impacted in a far more substantive manner than the trade in rhino horn. However, even with respect to ivory, social pressure did not induce widespread retraction of demand for the most popular products such as ivory *hanko*. There are several possible reasons for these different developments vis-à-vis social pressure. For rhino horn, the most important factor was the inconspicuous nature of rhino horn as an ingredient in the medicinal products purchased by consumers. Buyers of these medicines did so primarily because of their trust in the efficacy of the long-standing brands and not because they wanted rhino horn specifically or held belief in its effects *per se*. Secondly, large-scale rhino horn import ended well before the issue of illegal wildlife trade became a matter of "international shame" for Japan following the CITES regional seminar in 1984, which was then domestically mainstreamed by the activities of NGOs and the subsequent unprecedented media coverage surrounding Japan's problems with CITES implementation.

Ivory stands as a case in stark contrast as it was firstly in demand directly by consumers within the context of a booming economy for the very status and luxury image it represented. Secondly, ivory was one of the key commodities that directly served to brand Japan as a problematic wildlife trade renegade throughout the 1980s. The issue of whaling aside, Japan's trade in elephant ivory, along with Hawksbill Turtle shell, arguably did more to foster a negative international image of Japan than any other wildlife trade commodities during this period.

The scale of impact of consumer attitude change as part of social pressure was difficult to gauge in the present study. However, there was some evidence that indicated a certain level of public awareness about the issue of illegal wildlife trade in general as well as the more specific situation concerning African Elephant poaching in the late 1980s. The consumer survey conducted in 2014 also uncovered a high level of awareness about these issues amongst consumers in their 60s and above. Moreover, the accounts of *hanko* retailers indicated that, soon after the 1989 trade ban, more and more consumers were becoming wary of purchasing ivory *hanko*. Certain respondents from the consumer survey also reported that they stopped using ivory products because they acknowledged that over-hunting of elephants had become a serious issue. Despite all these indications, however, the extent of the impact of social awareness on behavioural change in consumers remains uncertain considering that the majority of people surveyed still continue to use ivory products that they possess, mostly *hanko*, and a market for them survives today, though at a scaled down level. One thing that became evident from the analysis was that demand for less essential and more conspicuous goods such as ivory jewellery more easily evaporated from the consumers' perspective, compared to items with practical and traditional functions.

Nonetheless, the creation of social pressure on both the international and domestic fronts became a critical driver for the change in government policy as well as in the private sector to a certain extent. In the case of Japan, this was gradually achieved in the 1980s against the strong tide of an economic boom and the conspicuous consumption that it engendered. Counter forces in the form of formal international pressure through CITES, domestic awareness-raising by NGOs and other figures, and the critical coverage by domestic mass media on the issue of illegal wildlife trade took root during this period. Of these factors, international pressure, particularly as a result of the 1984 CITES regional seminar and the fortuitously timed followed-up visit by Prince Philip for WWF, turned the tables in terms of consolidating the notion of international shame on the face of the Japanese government. Domestically, one salient feature was the monitoring activities of a NGO that were instrumental not only in continuously uncovering the specific issues of illegal wildlife trade but also communicating it to the government, industry and mass media to facilitate regulatory improvements. If this and other domestic dimensions of constant pressure had not built up within the country, it is hard to imagine that the external pressure alone would have led to the same remedial course of action on the same time scale.

Finally, the results of the present study illuminated drivers from a wider socio-economic environment surrounding the use of rhino horn and ivory in Japan. While this perspective may be the most difficult in terms of drawing out any direct lessons for other countries in the contemporary context, it nevertheless highlights the importance of understanding wildlife trade from the higher dimensions of societal transition. In the case of rhino horn in Japan, this wider context was the modernization of the national medical system, changes in the distribution of household medicines, and the interruption of the traditional family structure that greatly contributed to the overall decline of the traditional medicine industry. In the case of ivory it was, firstly, the collapse of the country's economic bubble and the draining recession which greatly influenced consumer spending patterns with respect to luxury goods and greatly impacted the notion of ivory as a status symbol in Japan. The country's "declining trend of population" is also accelerating the shrinkage of the personal *hanko* market, a key outlet in the ivory trade. Lastly, what was also obvious from the results of the consumer survey was the marked generational differences in experiences and attitudes towards wildlife consumption. All these results

point to the view that both gradual and drastic changes in the use of wildlife may be expected in countries that are going through major economic and social changes, and understanding the impact of such changes could offer further insights on the dynamics of wildlife trade.

Last but not least, the present study included analyses of the current state of the domestic market for rhino horn and ivory to grasp where Japan now stands in the historical and global context. In terms of the relative scale, it could be said that the remaining market for rhino horn is almost negligible, and the ivory market—albeit still significant—is currently not considered an important factor in the current crisis of illegal elephant killing and ivory trade. However, despite this, it would be premature to consider Japan as the definitive role model, and this is because the various drivers of market declines, ranging from the change in government policy, the industry’s response, and social awareness, have not necessarily been institutionalized at each level as a commitment towards sustainable use of wildlife. As a result, concerns remain about the current market, including for example, the continued use of many other wildlife materials in traditional medicine as well as certain issues in the control systems for domestic trade in ivory. The consumer attitude survey also illuminated certain trends of concern, including the low level of awareness in younger generations about the threatened status of iconic species as well as the use of wild species in traditional medicine. Concerning the ivory market, the survey identified a low awareness of legality issues and some degree of indifference towards illegal ivory or its impact on poaching of elephants. As such, continued vigilance is certainly needed in Japan. However, it is still fair to say that the industries most impacted by the market decline for rhino horn and ivory, or at least its core members, have consolidated many important lessons and continue to make genuine efforts to engage in legal and sustainable practices.

7. RECOMMENDATIONS

For achieving a market decline for wildlife products in the current global context:

- * The following influential and contextual factors were identified as important in the decline of Japan's rhino horn and ivory markets. Current and future efforts in other consumer countries should note that a multi-faceted approach may be necessary for long-term success:
 - 1) International policy pressure to elicit strong government commitment in implementing national measures including legislation, regulations and law enforcement;
 - 2) Full co-operation of domestic industry bodies and stakeholders regarding compliance with trade and market regulations and/or adoption of substitute(s);
 - 3) Activities of NGOs in facilitating policy change and public awareness-raising at the national level, particularly through trade monitoring, exchange of objective information, and engaging key players at the national level (i.e. the government, industry stakeholders and mass media);
 - 4) An increase in public awareness and social pressure at the national level to influence consumer behaviour as well as policies in relevant private sectors;
 - 5) Broader socio-economic trends exerting distinct impacts on different products (e.g. transitions in health systems, family structures, national economy and population trends).

- * Japan's relative success in realizing positive results in market declines for rhino horn and elephant ivory should allow the Government of Japan to share proactively its experience with other CITES Parties, including increased co-operation on implementation and law enforcement efforts at the international and regional levels. Japan's role in assisting relevant countries in optimizing efforts to reduce illegal supply and demand could, for example, be catalysed initially through Japan providing relevant technical support to countries of primary concern, secondary concern and importance to watch in the CITES National Ivory Action Plan process in areas such as the implementation of domestic trade controls, stock management systems and registration schemes.

On Japan's current rhino horn use and traditional medicine market:

- * While the use of, and demand for, rhino horn in Japan has declined to low levels, the management of domestic stocks and effective border control remains necessary, especially to prevent any illegal re-export to countries with high demand. In this respect, the following improvements are needed in Japan:
 - 1) The Government of Japan should strengthen the domestic management of rhino horn stocks to meet the recommendations of CITES *Resolution Conf. 9.14 (Rev. CoP15)* by identifying, marking, and registering all rhino horn stocks including those that are not managed by the industry self-management system (i.e. held by pharmacies and personal owners);
 - 2) The Government of Japan should further adopt and enforce a comprehensive management system that effectively controls domestic trade in not only whole rhino horn but also rhinoceros parts and derivatives and establishes traceability for all products in the domestic market;
 - 3) Law enforcement agencies should increase their efforts to prevent illegal domestic trade and be alert to the potential threats of illegal rhino horn re-export to countries with high demand. Border control should be enhanced through better co-operation with other countries in the region and at the global level.

- * The government and industry should assess the sustainability of other ingredients in traditional medicine that are sourced from endangered wild species. Any necessary measures, including the adoption of appropriate substitutes, should ensure that such species are not adversely affected and that continued use will not lead to trade that is illegal or conducted at unsustainable levels. In

particular, the use of Saiga Antelope horn as a rhino horn substitute in Japan and elsewhere needs urgent attention as a component of wider Saiga Antelope conservation measures.

On Japan's current ivory market:

- * Given the persistent domestic ivory market and industry, the Government of Japan should urgently strengthen the enforcement of domestic trade regulations under current LCES provisions; specifically, monitoring for any businesses operating without notifications or any trade of unregistered whole tusks, with a particular emphasis on online markets and trade via antique dealers and auction businesses.
- * The government should further conduct an overhaul of the current regulatory provisions and make amendments so that Japan's LCES meets the requirements of CITES *Resolution Conf. 10.10 (Rev. CoP16)* and is sufficient to ensure the domestic ivory market remains a closed system. Specific improvements should include the following:
 - 1) A nation-wide registration programme of all ivory tusks and cut pieces in private possession should be conducted to delineate the total domestic stocks;
 - 2) Cut pieces should be included in the compulsory registration scheme;
 - 3) Control of ivory businesses should be updated to a system of registration or licensing instead of notification, and information on registered/licenced businesses should be disclosed;
 - 4) The existing voluntary certification scheme should be strengthened into one that effectively establishes traceability and marking of all legal products in the market.
- * The government should take urgent enforcement measures in the following areas to address the emerging trend of illegal re-export of ivory (e.g., to countries such as China and Thailand):
 - 1) Law enforcement effort focused on domestic trade dynamics, including border controls, should be strengthened in order to halt the leakage of existing ivory stocks and to prevent any smuggling of ivory into the country as a transit point for other end-use markets;
 - 2) A regional platform for co-operation between CITES authorities and law enforcement agencies amongst Parties in the Asian region should be established for improved information sharing and co-ordination of border controls;
 - 3) The CITES Management Authority of Japan should exercise increased vigilance against the re-export of pre-Convention ivory to prevent possible laundering of illegally-sourced ivory into this trade.
- * The Government of Japan, stakeholders and NGOs should strive to address the following aspects of Japan's persistent market and various characteristics of consumer demand:
 - 1) Through awareness raising, the public and target audiences need to be informed about the current status of elephants as well as the regulations and issues concerning international and domestic ivory trade;
 - 2) Development and mainstreaming of ivory substitutes needs to be facilitated so that demand will not outstrip the existing supply as the remaining legally registered ivory stocks decline in the future;
 - 3) Online and physical platforms providing ivory sales outlets for businesses/individuals should strengthen policies and enforce regulations to eliminate illegal trade and also facilitate awareness raising of users and consumers;
 - 4) Further research is needed to dissect the characteristics of current consumer attitudes, including the generational differences in awareness observed in this study. Targeted awareness-raising through behavioural change messaging should be considered to address the existing and latent demand for ivory in Japan.

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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.

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