



SHELLED OUT?

**A SNAPSHOT OF BEKKO TRADE
IN SELECTED LOCATIONS
IN SOUTH-EAST ASIA**

**PETER PAUL VAN DIJK
CHRIS R. SHEPHERD**

A TRAFFIC SOUTHEAST ASIA REPORT

© 2004 TRAFFIC Southeast Asia

All rights reserved.

All material appearing in this publication is copyrighted and may be produced with permission. Any reproduction in full or in part of this publication must credit TRAFFIC Southeast Asia as the copyright owner.

The views of the authors expressed in this publication do not necessarily reflect those of the TRAFFIC network, WWF or IUCN.

The designations of geographical entities in this publication, and the presentation of the material, do not imply the expression of any opinion whatsoever on the part of TRAFFIC or its supporting organizations concerning the legal status of any country, territory, or area, or its authorities, or concerning the delimitation of its frontiers or boundaries.

The TRAFFIC symbol copyright and Registered Trademark ownership is held by WWF. TRAFFIC is a joint programme of WWF and IUCN.

Suggested citation: van Dijk, P.P. and Shepherd, C.R. (2004). *Shelled out? A Snapshot of Bekko Trade in Selected Locations in South-east Asia*. TRAFFIC Southeast Asia.

Front cover photograph: Close-up of Hawksbill Turtle *Eretmochelys imbricata* scutes.

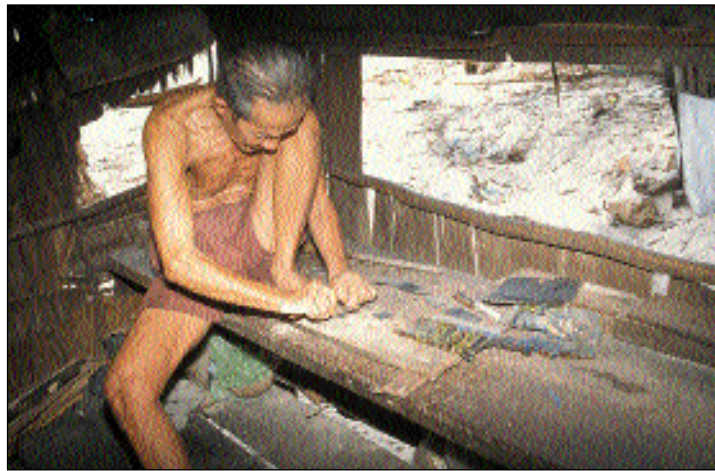
Photograph credit: Chris R. Shepherd/
TRAFFIC Southeast Asia.

SHELLED OUT?

A SNAPSHOT OF BEKKO TRADE IN SELECTED LOCATIONS IN SOUTH-EAST ASIA

by Peter Paul van Dijk and Chris R. Shepherd

Credit: Chris R. Shepherd/TRAFFIC Southeast Asia



**A bekko craftsman in his workshop in southern Viet
Nam, 2002**

TABLE OF CONTENTS

Acknowledgements	iii
Executive summary	iv
Introduction	1
Background	2
<i>The Hawksbill Turtle – general species information</i>	2
<i>Bekko – history and recent trade</i>	3
<i>Conservation status and threats to marine turtles in south-east Asia</i>	6
<i>Regulation relevant to the protection of marine turtles in south-east Asia</i>	8
Recent observations of Hawksbill Turtle trade in south-east Asia	10
<i>Survey methods</i>	10
<i>Survey findings - Indonesia</i>	10
Medan, North Sumatra	10
Bali	11
Ujung Pandang, Sulawesi	13
<i>Survey findings - Viet Nam</i>	15
Ha Tien, Kien Giang province	15
Mui Nai Beach, near Ha Tien	16
Chua Hang Pagoda, near Ha Tien	18
Ho Chi Minh City	19
Discussion	21
<i>General trade levels</i>	21
<i>Origin of Hawksbill Turtle products and the trade chain in Viet Nam</i>	21
<i>Origin of Hawksbill Turtle products and the trade chain in Indonesia</i>	22
<i>International trade in Hawksbill Turtle products in south-east Asia</i>	22
Potential for international trade in Indonesia and Viet Nam	24
Conclusions	25
Recommendations	25
References	27

ACKNOWLEDGEMENTS

The authors would like to thank Noorainie Awang Anak, Steven Broad, James Compton, Julie Gray, Hisako Kiyono, Sue Lieberman, Tom Milliken and Adrian Reuter for their comments and advice, which contributed to the completion of this report. This study was carried out with the generous support of WWF-Netherlands, WWF-UK and completion of the report was generously assisted by the Rufford Maurice Laing Foundation.

EXECUTIVE SUMMARY

The Hawksbill Turtle *Eretmochelys imbricata*, is listed in Appendix I of CITES, the Convention on International Trade in Endangered Species of Wild Fauna and Flora. Therefore, its shell products, known as *bekko*, are banned from international commercial trade by CITES. *Bekko* trade is also banned from domestic trade by national legislation in an increasing number of countries. Illegal trade, however, continues - with South-east Asia remaining one of the regions of supply. TRAFFIC Southeast Asia carried out surveys in two traditionally key countries involved in the *bekko* trade, Indonesia and Viet Nam, in September/October 2001 and February 2002, respectively, to establish the status of trade and stockpiles of *bekko* in selected locations.

In the locations surveyed in Indonesia, trade in Hawksbill Turtles, particularly open retail trade, appeared to have declined considerably over the decade preceding the survey. Wholesale trade also appeared to have declined and remaining trade had moved underground. Stockpiles seemed to have diminished significantly. Three former *bekko* traders in one location in Indonesia were found to be dormant in the trade, but claimed to be awaiting an opportunity to resume trade if legal exports were allowed again. Any indication that legal international trade in *bekko* may be resumed could be taken as encouragement for rebuilding stocks by some Indonesian traders. This would be likely to lead to increased exploitation pressure on remaining regional Hawksbill Turtle populations. The risk of this happening would be reduced if the Indonesian Government were to update its stock records and gave an emphatic message that it has no intention of seeking CITES authorization to resume exports.

At the time of the survey in Viet Nam, trade in Hawksbill Turtles and their products in that country had increased from trade levels described for 1993. Inclusion of the Hawksbill Turtle under Vietnamese protective legislation in April 2002 was a potentially significant step forward for efforts to conserve remaining populations of the species in Viet Nam.

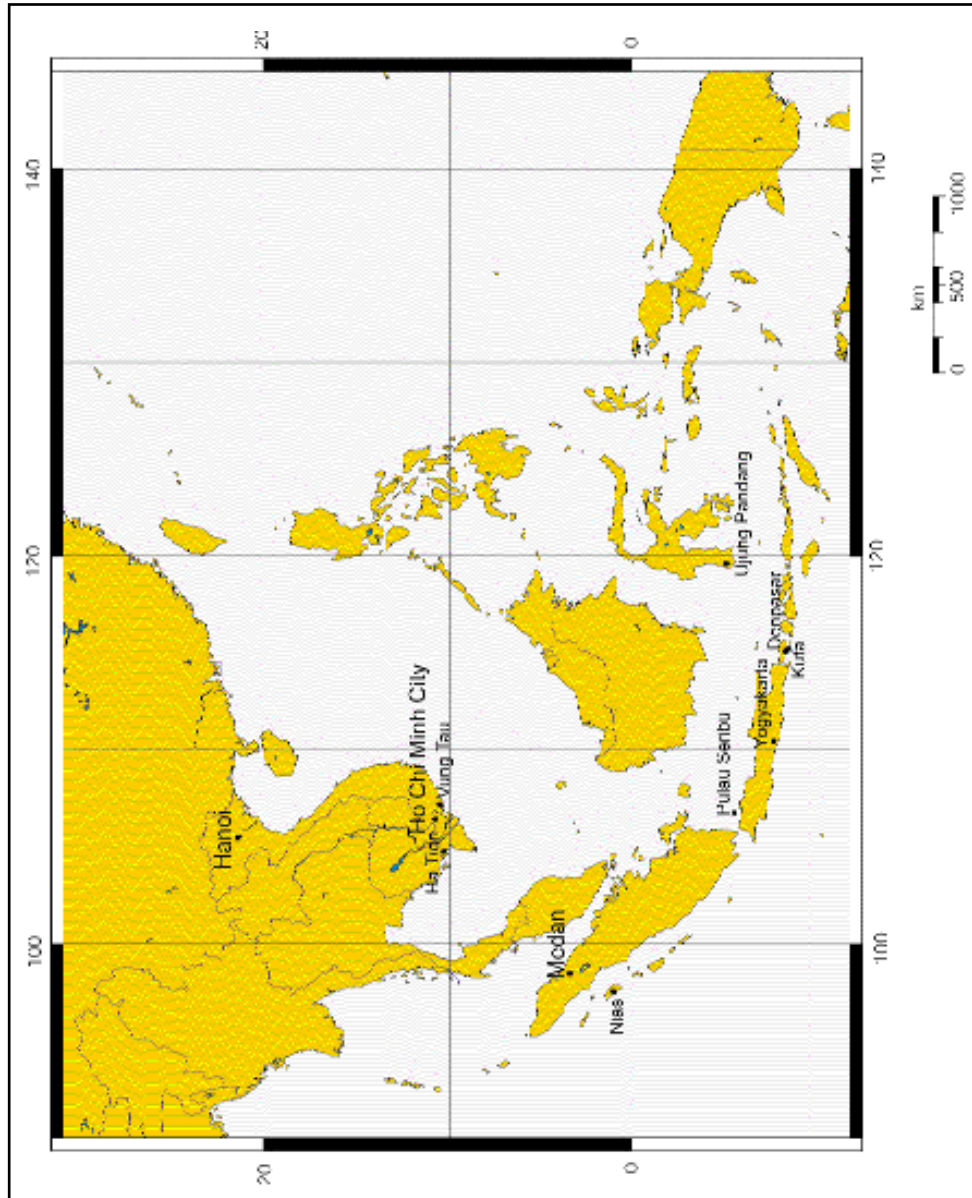
In both Viet Nam and Indonesia, trade dynamics at the time of research for this survey demonstrated that urgent action was needed to address the take and trade of Hawksbill Turtles, irrespective of events in the CITES forum. TRAFFIC recommends the following actions be taken in order to control the trade of Hawksbill Turtle products and to aid in the prevention of further violations of national legislation and CITES regulations:

- Hard data are needed urgently on existing Indonesian stockpiles of *bekko*, as any indication of resumption of its international trade, from any country, could lead to requests from Indonesian traders to be allowed to sell their stockpiles, and the stockpiles are likely to be increased preceding such requests.
- Illegal stockpiles of *bekko* should be seized by the Indonesian Government, in accordance with the law, to prevent further illegal export.
- Efforts by government authorities and NGOs in Indonesia, Papua New Guinea, the Philippines, and other regional Hawksbill Turtle range States, to address illegal exploitation and trade of Hawksbill Turtles and their parts, should be acknowledged, supported and expanded.

- Any existing or proposed Hawksbill Turtle ranching projects in Indonesia should be monitored closely, as these are suspected to represent potential laundering operations.
- An updated survey of the *bekko* industry and trade in Yogyakarta, Java, should be carried out, as this city has been identified as possibly being an important centre in the trade. Further trade and stockpile surveys are needed in Ujung Pandang and trade surveys are recommended in West Sumatra, Nias, Papua (formerly Irian Jaya), and other areas where significant harvest and trade of Hawksbill Turtles is known or suspected to occur.
- In Viet Nam, public education and awareness, aimed at both traders and buyers, should be initiated to publicize the recent full protection status afforded to the Hawksbill Turtle. Campaigns to encourage people to refrain from buying Hawksbill Turtle products and to make foreigners aware of the CITES legislation forbidding the international trade and transport of this species and its parts should be continued, and increased where possible.
- Viet Nam's legal protection of Hawksbill Turtles should be followed up with targeted enforcement actions, including for the purpose of tackling domestic trade, and for increasing efforts to detect and prevent further illegal exports of Hawksbill Turtle products from Viet Nam.
- A further survey in Viet Nam should be initiated to assess the impact of recently implemented domestic market controls on the continuing availability of *bekko* products throughout the country.
- Regional seizure monitoring should be organized for all South-east and East Asia, to help track the incidence of commercial shipments.

Figure 1

Map of South-east Asia, showing some of the key locations mentioned in the report



Map preparation: N.A. Anak

INTRODUCTION

The shell plates – or scutes – of the Hawksbill Turtle *Eretmochelys imbricata* (Linnaeus, 1766) have been in use for centuries for the manufacture of ornaments and other objects. The taking of Hawksbill Turtles to obtain this raw material, known as *bekko*, is recognized as a key threat to their conservation in the wild and has greatly contributed to their status as critically endangered. The species is listed in Appendix I of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), which means that international commercial trade in the species and its parts and derivatives to or from CITES Parties is effectively banned.

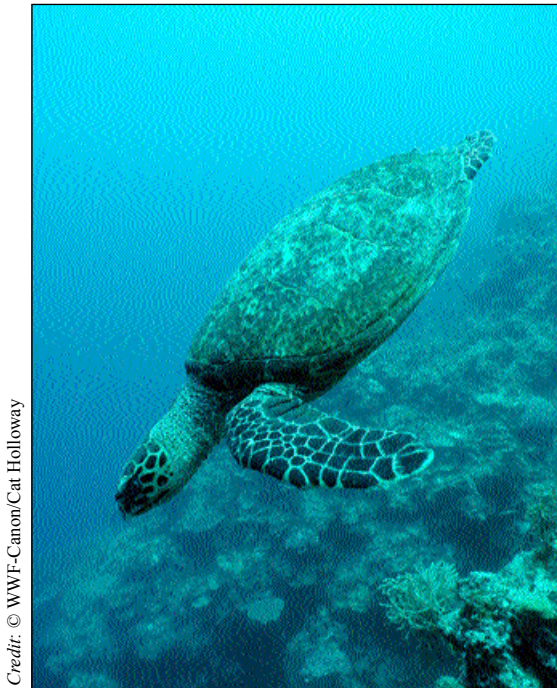
At the eleventh meeting of the Conference of the Parties to CITES (CoP11), Cuba proposed to sell the stockpile of 6.9 t of Hawksbill Turtle scutes that it had accumulated as a by-product of its Hawksbill Turtle harvest from 1993 to March 2000 (Anon., 2000a and b) and to allow an annual trade of scutes from up to 500 turtles (Anon., 2000a). Cuba's proposals were hotly debated (Richardson, 2000). The proposals were rejected by a narrow margin and a very similar proposal was submitted for the twelfth meeting of the Conference of the Parties to CITES (CoP12) (Anon., 2002a). Under this proposal (*Prop.12.30*), Cuba requested CITES Parties allow it to sell its accumulated stockpile of 7800 kg of Hawksbill Turtle scutes in a one-off transaction, provided the importing country undertook to ensure that the scutes would be registered and monitored carefully. In the lead-up to the CoP, diverse opinions on the proposal were expressed. Some were of the view that the transaction in question would provide additional resources for careful management of Hawksbill Turtles, thereby benefiting the species as well as commercial interests. Others argued that it would set a precedent for future transactions and might facilitate 'laundering' of Hawksbill Turtle scutes from other sources (Anon., 2002a), thus leading to increased exploitation pressures on populations of the species elsewhere in the Caribbean, in South-east Asia and beyond. Cuba withdrew proposal *Prop. 12.30* on 19 August 2002.

To contribute to its global marine turtle conservation, and specifically to assist in evaluating the wider conservation implications that Cuba's CITES Hawksbill Turtle trade proposals might have had, if accepted, TRAFFIC decided in 2001 to investigate the trade in Hawksbill Turtles and their products at South-east Asian locations of known or suspected high trade volume. Particular emphasis was placed on identifying the opportunities which may be available to abuse any transaction proposed under CITES and/or to facilitate the trading of any existing stockpiles in South-east Asian countries at an international level.

BACKGROUND

The Hawksbill Turtle – general species information

Half a century of casual observations, detailed studies, monitoring programmes and population management activities have resulted in a wealth of data concerning marine turtles' breeding biology, migration routes, exploitation pressures, incidental threats and conservation status. Landmark reviews are Bjorndal, 1982; Anon., 1990; Meylan and Ehrenfeld, 2000; and Pilcher and Ismail, 2000.



Hawksbill Turtle *Eretmochelys imbricata*

The Hawksbill Turtle is the most tropical of all marine turtles: distribution is pan-tropical and in South-east Asia, the Hawksbill Turtle occurs, or occurred, throughout coastal waters in suitable habitat. Hawksbill Turtles inhabit coral reef areas and generally nest on nearby beaches, preferably those of smaller islands, but may migrate to more distant nesting sites. The turtles feed mainly on sponges, but also take a variety of other invertebrate prey and may take some algae, seagrass and mangrove fruits or leaves. They are identifiable by their characteristically patterned carapace with four pairs of costal scutes, a relatively pointed head (hence the English name) with two pairs of prefrontal scales. They have a generally 'spiky'

appearance, created by the overlapping (rather than adjoining) keratinous plates on the carapace of most individuals and the distinctly serrate carapace margin. While the keratinous plates covering the turtle shell are termed scutes, the thin flexible keratinous pieces covering the head, limbs and other skin areas of the animal are termed scales. Hawksbill Turtles are relatively small marine turtles: straight-line carapace lengths of mature females range from 53 to 114 cm (rarely over 93 cm in Asian waters) and weights are between 35 and 77 kg (Pritchard and Trebbau, 1984; Marquez, 1990; Das, 1991; Iverson, 1992; Chan and Liew, 1999; Lim and Das, 1999; Pilcher and Ali, 1999).

It is widely believed that the long-term survival of marine turtles is at risk (Anon., 2002b). Sought after for its thick keratinous shell plates and eggs, and sometimes meat, the Hawksbill Turtle has been endangered by unsustainable harvest levels and habitat degradation, which have brought this widespread species to Critically Endangered status at a global level, according to IUCN categories of threat (Anon., 2002b). Harvesting of Hawksbill Turtles for their shield-like shell plates, or *bekko*, has occurred for centuries and Asian craftsmen have worked these into

decorative and useful objects for as long. Both the shell plates and the objects crafted from them are referred to as *bekko* in Japanese and this term has been adopted widely, including in conservation circles. Only the Hawksbill Turtle has keratinous scutes thick enough to be worked into *bekko* ornaments. Sometimes the scutes have been a by-product of hunting turtles for meat, sometimes the target of the hunt, in which cases the animal was occasionally returned to the sea after removing the scutes, in the vain and false hope that it would survive and re-grow its scutes. In most cases, directed fisheries for marine turtle meat have preferred Green Turtles, but Hawksbill Turtles are often taken opportunistically (although in many cultures they are seen as unpalatable or even poisonous).



Bangles made from Hawksbill Turtle scutes for sale in a shop in Ho Chi Minh City, Viet Nam

International trade in marine turtles and their products, including Hawksbill Turtles and *bekko*, has become increasingly restricted over the past 25 years or so, as national protection measures have been introduced, as all marine turtles have been included in Appendix I of CITES, and as more and more countries have joined CITES and reservations (legal objections) have been withdrawn. No legal international trade in Hawksbill Turtles and *bekko* has occurred since 1994, when Japan withdrew its reservation to the CITES Appendix-I listing. Although the Hawksbill Turtle remains categorized as Critically Endangered in the 2002 IUCN Red List of Threatened Species, few would argue that the global ban on international trade has not been beneficial to the species's chances of survival - and some evidence suggests that some populations have begun to recover, albeit slowly, since these global trade restrictions went into effect (Anon., 2000a).

Bekko - history and recent trade in Asia

Historical trade of *bekko* to Asian markets was primarily to Japan, but also to the Republic of Korea and Taiwan, Province of China (Groombridge and Luxmoore, 1989). *Bekko* processing in Japan dates back to the Genroku Period (1688-1704 A.D.) in the Edo Era. Edo (Tokyo) was the centre of *bekko* craftsmanship, producing mainly combs and hair ornaments. Their great expense restricted their possession to the wealthy, mainly the wives of feudal lords and high-class prostitutes (Anon., 2000c). During the Meiji Era (1868-1912), *bekko* artistry expanded to produce cigarette cases and other boxes and miniature warship models, in addition to the traditional combs and hair ornaments. One source claims that the marketing of these products in Nagasaki and their exhibition overseas stimulated demand outside Japan and export trade in *bekko* became significant (Anon., 2000c). Nowadays, Japanese *bekko* production is predominantly to meet domestic demand. *Bekko* combs remain an integral part of traditional Japanese wedding dress.

The trade identifies different grades and types of *bekko*. The vertebral and costal scutes of the carapace are termed *kora*, the marginal scutes are *tsume* and the plastron scutes are *harako*. *Bekko* is graded depending on its colour and markings, ranging from *shiroko*, which is unpatterned whitish-yellow, through *jotoroko* (orange with slightly unclear marks) and *chutoroko* (blackish with slightly unclear marks), to *barafu*, which is distinctly marked (Anon., 2000c). *Shiroko* is mostly *harako* and is the most expensive sort of *bekko* (Anon., 2000c and d).

A single average Hawksbill Turtle in trade yields about 780 g of *bekko* (Milliken and Tokunaga, 1987). Raw Hawksbill Turtle scutes vary in thickness between one and three millimetres. To create objects larger or thicker than the scutes naturally allow, separate pieces of scute can be joined together through a process involving pressure, water and heat, which leads to the extrusion of a colloidal substance which acts as a natural glue (Anon., 2000c).



Credit: © WWF-Canon/Juan Pratinestros

Hawksbill Turtle *Eretmochelys imbricata*

Hawksbill Turtles occur only in small numbers in Japan and nest in very limited numbers in the Ryu Kyu Islands (Kikukawa *et al.*, 1999). Areas formerly occupied by Japan (for example, Taiwan) also support only minimal populations in their coastal waters. Thus, Japan's *bekko* industry has always depended on imports. Source regions have involved all parts of the Hawksbill Turtle's natural range, namely the Caribbean and Latin American region, Asia, East Africa and Oceania. During the period 1970-1979, major exporting countries to Japan were Panama, Indonesia and Cuba. Japan imported 38 700 kg of *bekko*, on average, annually. From 1980 to 1989, Japan voluntarily limited its imports to 30 t annually (see <http://www.traffic.org/cop11/newsroom/hawksbillturtles.html>). Thereafter, the import quota for raw *bekko* was reduced in successive years, until the zero quota for imports was introduced, with effect from 1 January 1993 (Anon., 1994a, 2000c and 2000d). After 1980, until the ban on *bekko* imports in January 1993, most Japanese imports were exported by Cuba, the Solomon Islands and Jamaica (Anon., 2000d).

Following the moratorium on Japanese imports, the Japanese *bekko* crafting industry, formally organized as the *Japan Bekko Association*, has survived by working material from the stockpile that was imported into Japan before 1993. Members of the *Japan Bekko Association* conduct auctions of raw shell plates once a month (Anon., 2000d).

Since the ban on *bekko* imports to Japan in 1993, a number of attempts to smuggle *bekko* into Japan have been intercepted, ranging from a container shipment of about three tonnes of *bekko*, from Indonesia in 1995, to relatively small shipments from Dominica and Singapore (see **Table 1**).

Table I

Summary of confiscated *bekko* shipments to Japan since the ban on imports of *bekko* to Japan, effective 1 January 1993

Date	Weight of <i>bekko</i> (kg)	Origin of shipment	Point of import	Method of shipment	Persons involved
Jan. 1994	24	Dominica	Narita Airport, Tokyo	Suitcases	Two <i>bekko</i> traders from Nagasaki
Mar. 1994	587	Dominica	Itami Airport, Osaka	In boxes, claimed to contain cow horns and hoofs	a Japanese trader
Aug. 1995	3083.05	Indonesia	Minami seaport, Osaka	Concealed among coconut shells, in a container	a Japanese man
Mar. 1996	115.3	Singapore	Narita Airport, Tokyo	Suitcases	same Japanese trader as March 1994 case, using a courier to transport the suitcases
Aug. 1997	31.45	Singapore	Kansai International Airport, Osaka	Concealed in a suitcase	a Japanese man
April 1998	119.61	Singapore	Narita Airport, Tokyo	Carried in bags	A <i>bekko</i> trader from Nagasaki, his son and two to seven Singaporeans (four arrested)
1998	9.72	Singapore	Fukuoka Airport		
Sept. 1998	65.71	Singapore	Nagoya Airport	Concealed in suitcases	Japanese importer and four other Japanese, who had been asked to carry the <i>bekko</i> into Japan. Five Japanese were arrested.

Sources: Anon., 2000c and d.

Conservation status and threats to marine turtles in South-east Asia

In South-east Asia, as elsewhere, marine turtles suffer a variety of threats. The region is densely populated by humans and has a long cultural history, sometimes involving marine turtle use, with the result that impacts on marine turtle populations have probably been more extensive and intensive in South-east Asia than anywhere else in the world. With human populations growing rapidly and increased fisheries intensity, the threats to marine turtles are magnified. With expanding Asian economies and increased wealth in many importing countries, the likely increase in demand for *bekko* further threatens the Hawksbill Turtles.

The 2002 IUCN Red List of Threatened Species lists all marine turtle species as globally threatened and the conservation status of South-east Asian species is shown in **Table 2**.

Table 2

Global conservation status of marine turtle species occurring in South-east Asia, as listed in the 2002 IUCN Red List

Species of turtle	Conservation status
<i>Caretta caretta</i>	Endangered A1abd
<i>Chelonia mydas</i>	Endangered A1abd
<i>Eretmochelys imbricata</i>	Critically Endangered A1abd+2bcd
<i>Lepidochelys olivacea</i>	Endangered A1abd
<i>Natator depressus</i>	Vulnerable A2cde
<i>Dermochelys coriacea</i>	Critically Endangered A1abd

Source: Anon., 2002b.

In recent years, assessments of the status of marine turtles and the pressures on their populations in South-east Asia have highlighted the hunting of adult turtles for meat; egg collection for consumption; accidental capture in fishing nets (so-called 'by-catch'); degradation of nesting and feeding habitats; the impacts of marine pollution; harvesting of Hawksbill Turtle scutes; and disease as identifiable threats, roughly in descending order of importance (Salm, 1984; Anon., 1989; Groombridge and Luxmoore, 1989; Meylan and Donnelly, 1999; Pilcher, 1999; Kemf *et al.*, 2000; Meylan and Ehrenfeld, 2000; Suganuma *et al.*, 2000; Anon, n.d.). Harvesting of Hawksbill Turtles is not counted as a prime threat to Asian marine turtles, in general, according to recent review articles (for example, Kemf *et al.*, 2000) and popular environmental awareness publications (for example, Chantrapornsyl, 1996; Pilcher, 1999), and is reported as being of lesser importance in this regard than the higher volumes of turtles taken in the Balinese turtle meat trade (Davenport, 1988; Aw, 1999 and Anon., n.d., for example). This may be a reflection of the fact that Hawksbill Turtles are less common and widespread than either Green Turtles or Olive Ridelies, coupled with the fact that Hawksbill Turtle meat is generally considered less

tasty than that of the Green Turtle, and there is a perception in certain communities that it can even be poisonous on occasion (perhaps related to season or the turtle's diet). Regional trade routes to Bali to supply the demand for marine turtle meat continue to expand. Local Balinese marine turtle populations were depleted by the 1950s, and a map of trade routes dating from



Credit: © WWF-Canon/Ronald Petoce

Hawksbill Turtle (left) and Green Turtle with local fishermen on the coast of Papua, Indonesia

1988 showed turtle supply areas as far away as the Indonesian provinces of Maluku (formerly the Moluccas); South and South East Sulawesi; South and East Kalimantan; Papua (the former Irian Jaya); and the south coast of East and Central Java (Davenport, 1988). A more recent map shows trade routes extending as far as Waigeo (Papua province), the Aru Islands

(Maluku province), north Kalimantan and West Java (Anon., n.d.). Fishermen from the Tukang Besi islands off South East Sulawesi, where turtles were common a decade ago, now travel two days to capture turtles in the Maluku islands (Curran, 2002).

It is not entirely clear whether the harvesting of shell plates for *bekko* is a by-product of direct exploitation for consumption and/or fisheries by-catch of Hawksbill Turtles, or whether it is the primary driving force for exploitation of the species. The relative importance of harvesting for *bekko* versus exploitation for meat and eggs is likely to be very different at different locations and is likely to have changed over time. Meylan and Ehrenfeld (2000) specifically stated that “Tortoiseshell trade is considered to be the foremost cause of the Hawksbill’s critical endangerment”, citing the calculations by Milliken and Tokunaga (1987) that more than 600 000 Hawksbill Turtles were required to produce the volume of tortoiseshell imported by Japan from 1970 to 1986. Since the Japanese ban on *bekko* imports, effective 1 January 1993, it would appear that targeted exploitation of Hawksbill Turtles for *bekko* would certainly have declined, although perhaps not ceased.

In **Indonesia**, Sukanuma *et al.* (1999, 2000) blamed the decline of Hawksbill Turtle populations on exports of *bekko* and stuffed turtles to Japan before 1992 (although Japan has prohibited the importation of stuffed marine turtles since 1989); increased human population and development of the islands in the Java Sea; and increased collection of marine turtle eggs, as a result of both increased human population and the increasing economic value of the eggs. Hawksbill Turtle populations in the Java Sea region of Indonesia have declined sharply in recent years: of 30 known nesting beaches, 17 were surveyed recently, and nesting activity in these places was calculated to have declined by 72%. Nests at individual sites were found to have declined by between 50 and 88% and extinction of some rookeries was thought to be imminent (Sukanuma *et al.*, 1999 and 2000).

In **Viet Nam**, Hawksbill Turtles are rated 'Endangered' in the 1992 Viet Nam Red Data Book (Anon., 1992) and were reported by Nguyen (1999) to be impacted by egg collection, destruction of nesting areas, and over-harvesting. The *bekko* trade in Viet Nam has been described by Bourret (1941), Anon. (1994b) and Nguyen (1999), among others. Hawksbill Turtles were reported by Nguyen (1999) to be nesting on five of 18 marine turtle nesting beaches in the Con Dao archipelago, but the species's sensitivity to human interference made population estimates and trend information almost impossible to acquire.

Regulation relevant to the protection of marine turtles in South-east Asia

International conventions

Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)

All marine turtles, as families Cheloniidae and Dermochelyidae, are included in Appendix I of CITES, prohibiting all forms of commercial trade in the animals and their parts and derivatives to or from Parties to CITES. (As of November 2003, Cuba, the Grenadines and St. Vincent held reservations for the Hawksbill Turtle. Cuba also held a reservation for the Green Turtle *Chelonia mydas*, while Suriname held reservations for the Leatherback *Dermochelys coriacea* and the Green Turtle (reservation not applicable to the Australian population) (CITES Notification 2002/034; see http://www.cites.org/eng/append/reserve_latest.shtml).

All nations in South-east Asia with marine turtle populations are Parties to CITES, except Timor Leste (East Timor). Indonesia's membership of CITES came into force in March 1979, but the country maintained reservations on trade in Hawksbill Turtles and *bekko* initially. Viet Nam became a CITES Party in 1994.

Convention on the Conservation of Migratory Species of Wild Animals (CMS) (also known as the Bonn Convention)

Marine turtles follow a migratory life history in most, if not all, populations. Turtles therefore travel between national territorial waters and, as such, fall under the purview of the Bonn Convention. In July 2000, the Memorandum of Understanding (MoU) on the *Conservation and Management of Marine Turtles and their Habitats of the Indian Ocean and South-east Asia* was drafted at a meeting in Kuantan, Malaysia, attended by 24 States. The objective of this MoU is "to protect, conserve, replenish and recover marine turtles and their habitats, based on the best scientific evidence, taking into account the environmental, socio-economic and cultural characteristics of the signatory States". The MoU refers to a number of multilateral and bilateral conventions, MoUs and programmes relevant to the conservation of marine turtles in the Indo-Pacific region. Progress in implementation of the MoU and the actions proposed therein was reviewed at the First Meeting of the Signatory States to the MoU in Bangkok, Thailand, which was held during 22-24 January 2003. Indonesia and Viet Nam have not yet acceded to this convention.

National legislation in Indonesia and Viet Nam

Indonesia

Before 1999, Indonesian legislation fully protected the Leatherback, Loggerhead *Caretta caretta*, Hawksbill Turtle, Olive Ridley *Lepidochelys olivacea* and Flatback *Natator depressus* from exploitation, but permitted an annual quota of 5000 Green Turtles to be harvested in Bali for religious feasts and ceremonies (Soehartono, 1995). All marine turtles were given national protection status under *Government Regulation Act No. 7 and 8 of 1999*, which is in application of *Law No.5/1990*, concerning the conservation of biological natural resources and their ecosystems and incorporates *Decrees 327/1978 and 716/1980* of the Ministry of Agriculture. This legislation outlaws all domestic and international trade in marine turtles and marine turtle products in Indonesia.



Credit: © WWF-Canon/Jürgen Freund

Balinese turtle traders

Viet Nam

The five species of marine turtle reported from Vietnamese waters were not initially listed in *Decree 18/HDBT*, but the revision of this decree, issued as *Decree 48/CP* on 22 April 2002, has included the turtles within its scope. Species included in group I of *Decree 48/CP*, which include the Hawksbill Turtle, are excluded from use and exploitation when taken from the wild; special non-commercial use and exploitation must be proposed by the Minister of Agriculture and Rural Development and approved by the Prime Minister on a case-by-case basis. Thus, domestic trade in Hawksbill Turtles and *bekko* was legal until 22 April 2002, but has become illegal since. Exports of Hawksbill Turtles and *bekko* have been illegal since 1994, when Viet Nam became a CITES Party.

RECENT OBSERVATIONS ON HAWKSBILL TURTLE TRADE IN SOUTH-EAST ASIA

Survey methods

In Indonesia, locations known to have exported *bekko* in the past were visited and the investigator, posing as a “friend of an interested buyer in Japan”, questioned the dealers about the availability of *bekko*, quantities, other dealers in the business, etc. Owing to political unrest at the time, it was impossible to survey historical trade locations in Java, but other locations thought to be potential sources of information were also visited, including ports, fish markets, souvenir and jewellery shops, cargo export companies, handicraft wholesale exporters and a Hawksbill Turtle holding location. Individuals involved in conservation in Indonesia were also interviewed. Surveys were conducted in September and October 2001, in Medan (North Sumatra), Bali, and Ujung Pandang (South Sulawesi). The currency conversion rate for the Indonesian Rupiah (IDR) to the US dollar (USD) at the time of the survey was IDR9800 to USD1.

In Viet Nam, surveying was carried out from 13 to 20 February 2002, in Ho Chi Minh City and Ha Tien and its vicinity, to assess current trade in Hawksbill Turtle parts in southern Viet Nam. Traders and shops in both locations were surveyed by a researcher posing as a buyer interested in taking Hawksbill Turtle products out of the country, possibly in large quantities. Wholesale and retail prices were noted. Prices were given either in Vietnamese dong (VND) or US dollars (USD), depending on the trader. The currency conversion rate at the time of the survey was VND15 000 to USD1.

Previous surveys of *bekko* products in Indonesia and Viet Nam were consulted in order to compare trade levels at the time of those surveys with trade levels in 2001/2002. Sources consulted for Indonesia were Groombridge and Luxmoore, 1989; Anon., 1989; Salm, 1984 and Schultz, 1987 and for Viet Nam, Anon., 1994b.

Preceding the actual surveys, a few items, ranging from cheap pieces of poor workmanship to mid-range ornamental pieces, were tested to determine whether the item was genuine *bekko* or plastic imitation. Testing involved careful examination under magnification for workmanship irregularities and injection moulding lines, as well as holding a flame near the item (plastic melts, *bekko* sputters with a strong smell of burning hair or hooves). All pieces tested for authenticity proved to be genuine *bekko*.

Survey findings

Indonesia

Medan, North Sumatra

Medan has not previously been reported as a centre in the *bekko* trade. Seven souvenir shops were surveyed in September 2001: two of these were found to have small amounts of *bekko*

products on offer. The first shop had only three old fans, each priced at IDR150 000. The trader said that he would like to sell these as soon as possible, as he knew it was illegal to have them and that he would not be getting any new stock in, as it was now too expensive. According to him, new fans cost IDR750 000. The dealer stated that the increase in price was the result of a ban on the sale of marine turtle products. The fans were said to have been made in



Credit: Chris R. Shepherd/TRAFFIC Southeast Asia

Bekko combs and other items on sale in a souvenir shop, photographed during surveys in 2002

Nias, an island off the west coast of Sumatra. The second shop had more stock, including 14 brooches, 10 hair ornaments, six ornamental boxes and two combs, ranging in price from IDR150 000 to IDR400 000. All the products were said to have been made in Medan by a local craftsman, but the raw product came from Nias. The scale of the trade on the island of Nias was unknown.

Bali

WWF-Indonesia's Bali office, based in Denpasar, has carried out extensive campaigns regarding the conservation of marine turtles. Over the past few years, staff there have developed a very strong working relationship with the police and together they have been very successful in 'cleaning up' the marine turtle product trade in Denpasar. Police have acted on all information regarding illegal trade provided to them by WWF and have carried out very extensive sweeps of dealers, markets etc., and confiscated all marine turtle products. WWF and the police meet on a weekly basis to stay on top of the situation.

During surveys in Denpasar, as well as in the nearby tourist centre of Kuta, the results of the sweeps were obvious. Of approximately 20 tourist shops surveyed, only one was found to have a small amount of items made from *bekko*. All dealers in the shops, when asked if any products made from marine turtle were available, stated that they did not carry such items anymore, as it was illegal and marine turtles were protected. Even the shop that did have some items (approximately 25 rings) stated that these were from old stock and that once they were sold they would not be replaced.

In Denpasar Selatan, *Dana's Production: Souvenirs and Handicrafts* was visited. On being asked if any *bekko* was available, a member of the shop staff produced a large box from behind the counter, containing numerous *bekko* products. According to the dealer, the raw carapaces were purchased in Java (exact location unspecified) and taken to the city of Yogyakarta, Java, where craftsmen worked them into various items, many decorated with silver. They were then brought to Bali for sale. It was suggested that the origin of the turtles was sometimes

Indonesia's Papua province (formerly Irian Jaya), but also Java. When asked if any *bekko* was exported, the dealer replied that most was exported, but gave only a single example, that of a buyer from New York, USA, who purchased a large quantity of *bekko* products about once a year for resale in the USA. Items observed at this location are listed in **Table 3**.

Table 3

Bekko products observed and prices at Dana's Production, Bali, 2 October 2001

Item	Quantity*	Price (IDR)	Price (USD approx.)
Large boxes (approx. 25cm x 15cm x 10cm)	7	350 000 each	35.70
Medium boxes (approx. 20cm x 10cm x 8cm)	7	200 000 each	20.40
Small round box sets (three boxes about eight centimetres in diameter)	30	100 000/set	10.20
Small box sets without silver	10	75 000/set	7.65
Sarong buckles	30	30 000 each	3.06
Hair pieces with silver	30	25 000 each	2.55
Hair pieces without silver	30	20 000 each	2.04
Lighter with silver	20	40 000 each	4.08
Lighter without silver	10	25 000 each	2.55

Note: * Quantities are estimates

A certain amount of *bekko* trade continued in other parts of Bali, including Sernagan Island. One place visited in Sernagan had a large cement tank with 40 Hawksbill Turtles swimming around in it. Tourists paid to feed the turtles bits of seaweed and a variety of trinkets made of seashells were offered for sale at the site. No products made of *bekko* were seen for sale. When the sellers were asked if they sold any *bekko* products, they said they did not, because it was illegal. One dead turtle was observed floating in the tank. When asked what happened to dead animals, the sellers refused to answer. According to them, this holding tank was set up to protect turtles, which were brought in by fishermen and, sometimes, released back to the wild. They stated that fishermen brought in approximately 15 new animals each year but declined to say how many were released. Also on Sernagan, many Green Turtles and some Hawksbill Turtles were said to be landed regularly at a large port, which could serve as a source for raw Hawksbill Turtle carapaces.

WWF-Indonesia staff in Bali claimed that turtle exploitation, in general, remained problematic in some areas of the island. Notably, this appeared to be related to the local consumption of Green Turtle meat for religious and cultural reasons. This had apparently slowed considerably in Denpasar and Kuta, owing to police efforts, but to what extent it continued was not investigated.

Ujung Pandang, Sulawesi

In the reports on Hawksbill Turtle trade in Sulawesi in the 1980s (Salm, 1984; Schultz, 1987; Anon., 1989), 14 trading companies were listed as holding *bekko* stocks. Visits and investigations made regarding these companies as part of survey work in 2001 found that most were no longer in business (see **Table 4**). In conversations with people connected with various of these businesses (see **Table 4**), it was learned that the large companies involved in *bekko* export to Japan had stopped when the trade had been banned and they could no longer get permits. Most of these companies had then sold off the remainder of their stock and stopped buying *bekko* completely. A representative of one business, Mutiara Mas, however, stated that the company still had 200kg in stock and was waiting for the trade to reopen. The owner stated that he had applied for an export permit for one tonne of *bekko* to Japan, but had, to date, been refused by the government. He also stated that his stock had been much larger in the past, but that the majority of it had been stolen during the riots of 1997.

Most of the ex-dealers spoken to claimed that the international trade continued. It appeared that the trade in *bekko* was carried out underground, by individuals or small groups, rather than by the large companies that had been involved a decade or so earlier. Many of those involved in the trade in 2001, according to one ex-dealer who still watched the trade, were crew members on fishing boats, who earned extra income from the sale of both marine turtles and shark fins, as these were not the target species of these ships. This was also stated by another ex-trader at P.T. Bonecom, a business that dealt in shrimp and tuna in 2001 (see **Table 4**), but caught Hawksbill Turtles, when possible, for the crew to sell “on the side”. It was difficult to determine the size of the trade carried out by these individuals: it was likely to have been smaller than in previous years, according to many interviewees, who were of the opinion that Hawksbill Turtles were becoming very scarce.

It was perceived that the Indonesian Government was not interested in re-opening the trade in Hawksbill Turtle shells, except perhaps to sell remnant stockpiles. The involvement of the *Japanese Bekko Association* (JBA) in ranching and management of Hawksbill Turtles in Indonesia, developed in the 1980s prior to the CITES ban on international trade in marine turtles, had declined. However, the JBA allegedly wished to purchase all stockpiles from Ujung Pandang, Sulawesi; and elements within the Indonesian Government were allegedly interested in selling this stock. The JBA was thought to have been establishing Hawksbill Turtle ranching projects in Indonesia and, after an unsuccessful attempt to set up in Bali, was thought to be supporting one such operation on Pulau Seribu, an island off Java. The alleged ranching operation was fairly low-key in 2001 and was operating as a 'conservation project'. The current status of these alleged ranching operations is unknown and it is likely that they are no longer active. It was suspected, however, by some conservation organizations in Indonesia, that such ranching operations may act as a front for exporting current stockpiles of shell (Ketut Sarjana Putra, WWF-Indonesia Marine Programme, *in litt.* to TRAFFIC Southeast Asia, 2003). It is possible that the information on which this view was based was outdated.

An academic in the Fisheries Department of the University in Bogor, Java, was said to have been contacted in 2000 by the army, which requested assistance in arranging the export of

Table 4

Status in October 2001 of 14 businesses known to have traded bekko actively during the 1980s, in Ujung Pandang, Sulawesi

Name of businesses	Status in 1984 (Salm, 1984)	Status in 1986 (PHPA inventory - Schultz, 1987)	Status in 1988 (Anon., 1989)	Status in 2001 (TRAFFIC)
P.T. Bonecom	Moderately active	Not listed	Not active, no stock	Not active, no stock. Now a shrimp and tuna company. Hawksbill Turtles caught are sold privately by crew, as are sharks
C.V. Dwi Karya Baru	No recent activity	2300 kg	4400 kg in stock	Unknown
Firma Lumbung	No recent activity	Not listed	Not active, no stock	Has moved to Jakarta - status unknown
C.V. Handel Mij Negara	Moderately active	Not listed	Not active, no stock	Unknown
Fa. Mudjur Abadi	No recent activity	1500 kg	1500+ kg in stock	Unknown
Fa. Mutiara Mas	Not listed	1500 kg	1200+ kg in stock	200 kg in stock. Waiting for trade to re-open. Much stock stolen in 1997 riots.
Fa. Ng Jihiu Seng	Not listed	Not listed	2060 kg in stock	*Compiler, not exporter. Business is closed until trade reopens.
C.V. Rejeki Jaya	Moderately active	Not listed	100 kg in stock	Has sold all stock. Will open again if trade re-opens.
C.V. Sanida	Very active	500 kg	80 kg in stock	Owner has died. Business closed.
C.V. Sentosa	Very active	Not listed	Not active, no stock	*Not active
Fa. Sumbur Mujur	No recent activity	1900 kg	240 kg in stock	Unknown *possibly underground or moved
Serjaya Makassar	Moderately active	400 kg	Company not located	*Not active.
C.V. Sumber Laut	530 kg	500-1000 kg	530 kg in stock	*Not active.
C.V. Sumber Nusantara	Not listed	1500 kg	2000 kg in stock	Unknown - shop closed during survey

Notes: +: Additional stock available; * Information acquired from second party as target interviewee unreachable

“many tonnes” of shells (Ketut Sarjana Putra, WWF-Indonesia Marine Programme, pers. comm. to TRAFFIC Southeast Asia staff, 2001). The stock that they had allegedly been trying to export was thought to have been stored in Ujung Pandang, Sulawesi. It was also stated by WWF-Indonesia staff that there may have been some trade of Hawksbill Turtle shell directly from Papua province, but it is more likely that the shells here were being trans-shipped within Indonesia, to Ujung Pandang for illegal export or stockpiling.

Viet Nam

It may be worth repeating here that trading *bekko* within Viet Nam was still legal at the time of this survey, and only became an offence when *Decree 48/CP* of 22 April 2002 came into force.

Ha Tien, Kien Giang province

Ha Tien, located in Kien Giang province along the extreme south-western coast of Viet Nam, is a town of approximately 40 000 people. It is located on a large river and is approximately a 20-minute drive from the Cambodian border. In February 2002, Ha Tien was generally regarded by traders as the source of many of the Hawksbill Turtle products in trade in Viet Nam. It was also widely known for its Hawksbill Turtle products and therefore they were the preferred souvenir from this town for local tourists.

At the time of the survey in 2002, 10 families were reported actively to be manufacturing Hawksbill Turtle products and there were three main dealers said to be operating in Ha Tien. Two of these were located in the centre of town, while the third was at a nearby recreational beach. All three traders were visited and interviewed. *Bekko* quantities observed and prices (stated in Vietnamese dong, converted to US dollars) are shown in **Table 5**.

Table 5

Bekko availability and prices at three wholesalers in Ha Tien, February 2002

Bekko item (USD, approx.)	No. of traders	Total quantity	Price range
Bracelet	3	939	1.67-16.67
Hair clips, bands and pins	3	663	1.20-5.00
Finger ring	2	425	not stated
Comb	3	143	2.33-13.33
Key chain	2	97	1.20-1.33
Earrings (per pair)	3	32	3.00-10.00
Spectacle frame	2	20	12.00-34.67
Hand fan	3	12	23.33-30.00
Cigarette holder	2	8	4.00
Necklace	1	8	3.00-5.00
Ornamental box	1	5	25.33
Cigarette box	1	3	20.00
Lighter holder	1	2	not stated
Total		2357	
Whole stuffed turtle	3	90	30.67-200.00

The Phan Van Than company was considered the largest producer/supplier of Hawksbill Turtle products in Ha Tien. The business had been run by the same family for more than 50 years and carving was done mostly by members of the family, with hired workers sometimes sharing the work. The work was done in the rear part of the building, behind the showroom. According to the owners, they received and processed approximately 300-450 whole turtles a year and an

unspecified amount of large scutes. The turtles were purchased from fishermen and, although the dealers did not know how many fishermen were involved in the catching of turtles, they did state that there were many. The meat was said to be eaten, presumably by the fishermen. The



Credit: Chris R. Shepherd/TRAFFIC Southeast Asia

A live marine turtle in Viet Nam, at the home of a middleman, visited in 2002

majority of the products produced by this family business was sold to Vietnamese tourists and to retailers from Ho Chi Minh City. Local tourists came daily to buy products from the shop (in quantities unspecified), especially during the New Year festive season. Hawksbill Turtle product dealers from Ho Chi Minh City also frequented this shop regularly, buying “large” quantities to take back to Ho Chi Minh City for resale. Very few foreign tourists

were said to buy products from this shop, although one regular buyer from Hong Kong was said to come approximately every three months to buy everything in stock. The buyer then allegedly took the *bekko* items back to Hong Kong where they were to be resold. According to the traders interviewed in early 2002, this individual’s most recent visit had been in December, 2001.

A second trading company, Than Chi, had two locations in Ha Tien: the owner’s home, where the manufacturing was done, and a retail outlet a short distance away. This family-run company had been producing Hawksbill Turtle products for the past 20 years and, in 2002, employed three people as manufacturers. Turtles and scutes were purchased from an unknown number of local fishermen, who reportedly processed approximately 150 turtles each year. The majority of the products were said to be sold to Vietnamese tourists and to retailers from Ho Chi Minh City, but a small amount was sold to foreigners, most of whom were reported to come from Japan and China.

My Nghe Doi Moi is a business in Ha Tien which had been producing Hawksbill Turtle products for close to 50 years, when visited. The owner worked on products at the back of his home in Ha Tien and was willing to share his knowledge of the craft and trade with the researcher (see **Box 1**).

Mui Nai Beach, near Ha Tien

Mui Nai Beach is located a few kilometres outside Ha Tien town. It is a popular recreational destination mostly for Vietnamese tourists, although a few non-Vietnamese visit as well. There were three outlets observed selling wildlife products during the visit in 2002, but two of them were very small, having fewer than 100 Hawksbill Turtle articles each, mostly hairclips and bracelets. No stuffed turtles were observed at either of these two small outlets. The *bekko* stock observed at the third outlet, a much larger shop, is itemized in **Table 6**. The owners of this shop

Box 1

An interview with a bekko craftsman in Ha Tien, Viet Nam, February 2002

This interview with the owner of the My Nghe Doi Moi business in Ha Tien was conducted by Chris R. Shepherd, using the services of a local interpreter. The owner of the business had been involved with trade in Hawksbill Turtle products in Viet Nam for decades and old black-and-white photos of the owner and his colleagues manufacturing Hawksbill Turtle products were shown to the interviewer. The owner stated that the government had outlawed the catching of Hawksbill Turtles and that police sometimes confiscated large turtles from dealers and fishermen, even though it actually only became an offence to catch Hawksbill Turtles when Decree 48/CP of 22 April 2002 came into force, two months after this interview took place. The opinions expressed below are those of the interviewee.

*Numbers of Hawksbill Turtles are declining very sharply, and this has been especially true over the past five years. Up until about 1980, there were many Hawksbill Turtles in the ocean near Ha Tien and Phu Quoc Island. At that time, there were six people working full-time in my shop and as many as 400 large Hawksbill Turtles were purchased and processed each year. Only the largest turtles were purchased from fishermen, never small ones. After that, populations began to decline. Five years ago, I was forced to lay off all my employees and now I work alone. For the past 10 years or so I have been buying turtles of all sizes, as I have little choice - there are no big turtles left in the area. Hawksbill Turtles nest three times a year in this region of southern Viet Nam: in February, October and December. They are disappearing because there are too many fishermen catching them now. Also, the eggs are collected by locals and eaten or sold and the meat of marine turtles - Green Turtles, as well as Hawksbills and any other species caught - is also eaten, by fishermen or bekko producers, or sold at market, where it is regularly available. Green Turtle meat sells for VND35 000 per kg (approx. USD2.33) and restaurants in this area often have marine turtle meat on the menu - it is best served curried. Sometimes, turtles are sold stuffed [A stuffed Green Turtle, *Chelonia mydas*, was observed in the craftsman's home.] People usually buy stuffed turtles in pairs, to represent a boy and a girl - a well rounded, happy family - as this is said to bring better fortune to a family.*

Hawksbill Turtles nowadays are purchased from fishermen who are paid by the size of the animal. I still buy up to 300 turtles a year, but many of these are very small and are sold stuffed, rather than made into bekko products. Whole animals are measured across the carapace at its widest point, with the measuring tape following the contour of the shell. The width is written on the bottom of the plastron for future reference. The buyer pays per centimetre. The current price is VND7000 per cm (approximately USD0.47 per cm), or VND70 000 per 10 cm, as it is usually calculated. Sometimes buyers purchase scutes already removed from the animal. The scutes sell by the kilogramme and the current price paid to fishermen is VND2 000 000 per kg (approximately USD133.33 per kg). Light-coloured scutes are the most desired, but all are purchased, as all can be sold.

In 1993, when the turtle population was starting to decline drastically, business was further hurt by the ban on all exports of Hawksbill Turtle products from Viet Nam. Prior to this, I had regular

importers from South Korea, Hong Kong, Japan, China and France and quantities exported to these places were very large. Today, I do not export but still have some buyers from Hong Kong and South Korea, although they do not purchase such large quantities as they did prior to the ban, owing to difficulties in transporting the products undetected and also to the shortage of products. While it does not seem to be a problem shipping the products out of Viet Nam, it is difficult to import them into other countries. Buyers from Japan purchase a lot of Hawksbill Turtle products, but buy them only from retailers in Ho Chi Minh City. I do not know why they do this, but this amuses me, as the prices there are much higher than mine. Most of my products now are purchased by retailers in Ho Chi Minh City, as well as by a few traders in Ha Tien, including the Phan Van Than company. One particular dealer in Ho Chi Minh City buys all my products about once every two or three months, at which time I close the shop and take everything into Ho Chi Minh City. I tell buyers, though, that it is much better to buy directly from me, as the retailers in Ho Chi Minh City mark up the prices considerably. For example, a fan that I sell for VND350 000 in Ha Tien will sell for VND500 000 in Ho Chi Minh City.

Most of the craftsmen working in the area learned their trade under my guidance and supervision. For someone to become a craftsman, it takes a minimum of three years of training under an expert. The thinner the scute, the faster the pieces can be made into a product. It takes one man three days to make five thick combs. It takes only one day for a man to make a hand fan, as the fans are made out of thinner pieces. Hurrying to finish a product is not good, as a hurried piece has no beauty - time, patience and skill are required to produce beautiful pieces. Tools of the trade include a press to flatten the scutes, pliers and a vice to hold and bend the pieces, files, a fine-toothed saw and small blades - no powered equipment is used. A skilled worker, such as myself, may make a gross salary of approximately VND3 000 000 per month (approximately USD200 per month). The 10 families engaged in the Hawksbill Turtle craft in Ha Tien are mostly small-scale operations. For special orders, customers must place the order a month in advance.

used to manufacture their own Hawksbill Turtle products, but now act as retailers only, purchasing their turtle products from producers in Ha Tien.

Previously there was a turtle ranch at Mui Nai, according to sources at Mui Nai and Ha Tien. Young turtles were captured from Phu Quoc island and brought to this ranch for rearing. The animals were used to produce *bekko* products and the meat was eaten. The last of the turtles is thought to have died in 2000. Sources claimed the turtles died as a result of polluted, turbid water. There were apparently no more such operations in the area.

Chua Hang Pagoda, near Ha Tien

The Chua Hang Pagoda is situated in a cave on the coast, about one hour out of Ha Tien. It is a very popular destination for tourists, especially Vietnamese, but bus tours for foreign tourists also visit this pagoda. There are two entrances to the pagoda, both of which are surrounded by souvenir shops, fresh sea food vendors and restaurants. The majority of the souvenir shops offered Hawksbill Turtle products, all of which were said to have been purchased from Ha Tien wholesalers. A few of the shops were under the same ownership. All business cards acquired

Table 6**Bekko availability and prices at tourist stalls at Mui Nai Beach and Chua Hang Pagoda, February 2002**

<i>Bekko</i> item	Mui Nai Beach		Chua Hang Pagoda - 12 souvenir shops		
	quantity	price range (USD approx.)	no. of shops	quantity	price range (USD approx.)
Bracelet	410	2.33-3.33	7	737	1.47-5.33
Hair clips, band and pins	295	2.00-3.00	8	603	1.47-23.33
Comb	15	3.33-6.67	8	575	1.53-4.33
Key chain	0	-	4	48	1.33-1.67
Finger ring	35	not stated	2	47	1.20
Cigarette holder	11	2.33-4.33	1	12	not stated
Hand fan	2	not stated	2	5	23.33-46.67
Spectacle frame	0	-	3	9	14.67-18.67
Necklace	0	-	1	2	not stated
Lighter case	3	3.00	0	0	-
Miscellaneous	100-180	-	3	about 450	not stated
Total	about 900		12	about 2500	
Stuffed whole turtle	4	not stated	4	42	36.67-50.00
Sea turtle carapace, skull or other parts available	not stated	0	0	-	

from these shops had pictures of turtles on them, indicating that turtle products were the 'speciality' of the area; traders confirmed this by stating that the region was famous for these and that therefore they were a very common item for visitors to buy. Prices were stated in Vietnamese dong, implying that most trade was aimed at domestic tourists. Twelve shops and stalls offered Hawksbill Turtle shell products and the numbers and prices of these are shown in **Table 6**.

Ho Chi Minh City

Forty-three shops were visited in Ho Chi Minh City, encompassing the range from tourist souvenir shops, art and craft shops, opticians and jewellers, to specialized *bekko* traders. Of these shops, 21 offered *bekko* artefacts or stuffed turtles for sale. By far the most numerous *bekko* articles for sale were bracelets, which represented more than half of all *bekko* items observed. There were also over 1500 other *bekko* objects for personal ornamentation, such as hairclips, hairbands, hairpins, finger rings, earrings, necklaces, brooches and pendants, and about 250 *bekko* spectacle frames were seen on sale in total, in 12 shops. These are a traditional *bekko* item and were among the most expensive items on offer. Other expensive items included folding hand fans, boxes for cigarettes and other small items, purses, picture and mirror frames, miniatures and walking sticks. Quantities offered for sale and stated prices are shown in **Table 7**.

Table 7**Bekko items observed for sale during a survey of 43 shops in Ho Chi Minh City, Viet Nam, February 2002**

<i>Bekko</i> item	no of shops	total quantity	Wholesale price range (USD)	Retail price range (USD)
Bracelet	18	3092	1.50-8.00	2.00-38.00
Hair clips, bands and pins	15	550	1.50-5.00	1.00-30.00
Finger ring	4	443	1.50-2.00	2.00-43.00
Necklace	9	261	5.00-6.00	4.00-320.00
Spectacle frame	13	284	15.00-35.00	20.00-800.00
Earrings (per pair)	9	225	1.00-2.00	1.50-15.00
Comb	7	147	2.50-3.00	4.00-47.00
Cigarette holder/ filter	7	116	2.00	5.00-12.00
Brooches and pendants	3	103	1.00-2.00	2.00-22.00
Name seal	7	102	3.00-4.00	3.00-9.00
Ornamental box	7	74	-	25.00-70.00
Hand fan	8	59	20.00-25.00	14.00-98.00
Lighter holder	7	39	5.00	5.00-9.00
Guitar plectrum	1	36	-	2.00-4.00
Pipe	2	33	-	6.00
Cigarette box	6	31	18.00	42.00-62.00
Letter opener	2	25	-	3.00-35.00
Purse	3	22	65.00	180.00-250.00
Key chain	2	22	-	18.00
Mirror/picture frame	3	5	-	120.00-220.00
Model house / birdcage	1	5	-	75.00
Walking stick	1	1	-	370.00
Whole stuffed turtle	4	24	35.00	25.00-120.00
Total - Ho Chi Minh City	21	5699	1.00-65.00	1.00-800.00

Predictably, there was much variation in the prices asked for a particular type of item, as the items themselves were quite variable in the quality of the *bekko* used for manufacture and in the level of craftsmanship. Retail prices were somewhat higher than wholesale prices, although most retail prices were comparable to wholesale prices; the wide range in retail prices is mainly a result of the high prices at two particularly expensive retail shops. Two vendors each offered 10-30% discounts on retail prices for bulk purchases.

There was found to be a correlation between the selling of *bekko* products and some other wildlife products - most shops with *bekko* in stock also sold ivory items, for example, and five were found to have Tiger or bear teeth or claws for sale, too. Despite being used for the manufacture of luxury items, neither *bekko* nor ivory were traded outside the wildlife and tourist craft sectors, being absent from the jewellery, optician and department store trades. There was little correlation between the selling of *bekko* and various other categories of wildlife items, however, including carved bone products, deer antlers, mounted butterflies or snake wine: many of the shops offering these products did not stock *bekko*.

DISCUSSION

General trade levels

Overall, trade quantities observed in Viet Nam during the survey in 2002 greatly exceeded the quantities observed during a similar survey in late 1993 (Anon., 1994b). Prices during the 2002 survey were comparable in US dollar terms (Anon., 1994b), indicating that prices had actually declined in the intervening eight years when corrected for inflation. The widespread availability of *bekko* products openly on sale in February 2002 is not surprising, given that the Hawksbill Turtles were not legally protected by Vietnamese legislation at the time. The higher trade volume relative to 1993 may be a reflection of Viet Nam's economic liberalization over the past 10 years and the lower prices an indication of increased competition. However, these trends were inconsistent with widespread claims of a declining supply of Hawksbill Turtles.

In Indonesia, efforts by authorities and NGOs to curb wholesale exports and retail offers of Hawksbill Turtle products seem to have achieved significant success. While there remain problematic areas, it appears that total trade levels in 2001 were significantly lower than they were a decade before that.

Origin of Hawksbill Turtle products and the trade chain in Viet Nam

All traders interviewed in Viet Nam during survey work in 2002 were convinced that the harvesting of Hawksbill Turtles and the processing of their shells were domestic industries. All Hawksbill Turtles were claimed to have been obtained from fishermen in Vietnamese waters, which equate to a large area when taking into account Viet Nam's claim to the Paracel and Spratley Islands. It is possible that some Hawksbill Turtles were captured as fisheries by-catch outside Vietnamese waters. While interviews conducted for this report indicated that there was no importing of whole turtles, shells or scutes from other countries, results from a more recent survey of marine turtle products in Viet Nam, carried out in May 2002, suggest that some quantity of Hawksbill Turtle shells is imported (Anon., in prep.). Such imports into Viet Nam were reported to have come mainly from Indonesia, by means of Vietnamese fishermen, who had bought Hawksbill Turtle scutes from Indonesian fishermen on the high seas.

There was no doubt that crafting Hawksbill Turtle scutes into *bekko* objects continued in southern Viet Nam in February 2002 and much of the craft work was carried out in the town of Ha Tien. Altogether, the three traders in Ha Tien claimed to have acquired and processed from 750 to 900 Hawksbill Turtles annually, for the purpose of



Credit: Chris R. Shepherd/TRAFFIC Southeast Asia

Partially finished Hawksbill Turtle shell jewellery at the home of a craftsman in Viet Nam, visited in 2002

fashioning the scutes into *bekko* products and/or the stuffing of whole specimens. Several traders noted that the number of Hawksbill Turtles captured and the average size of the animals had declined, a decline reported to have first been noted in around 1980. Vendors at Mui Nai Beach and the Chua Hang Pagoda all acquired their supplies from Ha Tien-based traders, while vendors in Ho Chi Minh City stated that their *bekko* products were crafted in either Ha Tien or Ho Chi Minh City. Two shops in Ho Chi Minh City claimed to employ their own craftsman to work *bekko*, while other shops acquired their items ready-made from wholesalers in Ha Tien or Ho Chi Minh City.

Traders in the shops at Mui Nai Beach and the Chua Hang Pagoda stated that the vast majority of their items were sold to Vietnamese tourists. Reflecting this, prices were displayed in the local currency. This was in contrast to the situation in Ho Chi Minh City (see **International trade in South-east Asia** below).

Origin of Hawksbill Turtle products and the trade chain in Indonesia

Hawksbill Turtles appeared to be captured in Indonesian waters as a by-product of Green Turtle hunting or general fisheries activities. Hawksbill Turtles so captured may be absorbed into the established Green Turtle meat trade, for which Bali is the centre, or their scutes may be removed and processed into *bekko* items locally, while the rest of the animal is used for consumption, or discarded. There are indications of Hawksbill Turtle fishing within Indonesia from Maluku (Curran, 2002), Nias (this study), Papua (this study), and presumably this occurs wherever the species's distribution overlaps with Indonesian fisheries activities. This may include parts of the economic zones or territorial waters of other countries. With these regional trade routes for live marine turtles well established because of the demand for turtle meat in Bali, Hawksbill Turtles are likely to continue to be captured over a wide area. However, these harvesting activities are likely to be constrained by the inherent costs of capture effort, transport from capture grounds to trade and consumption centres, and the cost of trying to avoid enforcement authorities.

Processing of Hawksbill Turtle scutes into *bekko* items was found to be taking place in a number of Indonesian localities, ranging from cottage industries in the Tukang Besi Islands, South East Sulawesi (Curran, 2002) to traditional processing centres in Yogyakarta, Java. Most of the trade in shells, raw scutes and processed items appeared to be operating underground and rather disorganized.

International trade in Hawksbill Turtle products in South-east Asia

Viet Nam

In 1999, Nguyen wrote that trade in stuffed turtles and turtle products was “still going on throughout Vietnam”, and noted that several shops in Ho Chi Minh City, Vung Tau and Hanoi were offering up to 100 stuffed marine turtles. She considered it unlikely that foreign tourists were major purchasers, considering the difficulty, expense and risks inherent in transporting the stuffed animal overseas. The findings for Ho Chi Minh City are in contrast to findings from this

survey, which showed that it was almost impossible to avoid encountering *bekko* for sale in the shops and areas of the city visited by foreign tourists. All *bekko* products encountered in Ho Chi Minh City shops during surveys in 2002 were labelled with prices in US dollars, suggesting that the trade was primarily aimed at foreign buyers. Only a few shops had prices written in local currency as well. With prices starting from USD1, cost was no impediment for anyone wishing to acquire a souvenir and it was found that only some traders would admit to customers (and then often only when asked) that exporting *bekko* items from Viet Nam was an offence. When asked, many of the vendors in Ho Chi Minh City stated that foreigners bought *bekko* items; some traders in the city said that their *bekko* sales were exclusively to foreigners. Buyers from Japan, China, Thailand, Malaysia, Canada and the USA were mentioned specifically, with Japanese and Chinese buyers being said to be the most numerous, and buyers of the largest quantities. Many dealers indicated that wholesale quantities for export represented a large, perhaps the largest, part of their trade.



Credit: Chris R. Shepherd/TRAFFIC Southeast Asia

Stuffed Hawksbill Turtles for sale in Ho Chi Minh City, Viet Nam, 2002

The three main traders in Ha Tien asserted that much or most of the retail sales of Hawksbill Turtle shell product was to Vietnamese people, and that very few foreign tourists bought *bekko* products. However, some retail sales in Ha Tien and at Mui Nai Beach and the Chua Hang Pagoda were said to be made to foreigners, mostly from Japan and China.

It is reasonable to assume that many of the foreign customers referred to by Vietnamese traders were tourists, rather than Viet Nam-based expatriates, and thus it is reasonable to assume that *bekko* items sold to them were traded internationally, illegally. One trader claimed to sell spectacle frames, particularly the high-value *shiroko*, by mail-order to Japan. Other manufacturers and traders in Viet Nam stated that foreign buyers exported bulk quantities for resale at home - Hong Kong, Japan and South Korea were mentioned - and, notably, one regular buyer from Hong Kong was said to come approximately every three months to buy everything in stock, at the Phan Van Than company in Ha Tien, allegedly to take the *bekko* items back to Hong Kong. Thus, there existed indications of illegal international trade in Viet Nam in February 2002, on a commercial scale. The survey of trade in marine turtle products carried out in May 2002 (Anon., in prep.), similarly found widespread allegations of wholesale exports from Viet Nam to Hong Kong, Japan, South Korea, Taiwan, Thailand, mainland China and Asian communities in North America and Europe.

While domestic harvest and exploitation of Hawksbill Turtles (for eggs, meat, stuffed turtles and *bekko*) may be partly responsible for the decline of Viet Nam's Hawksbill Turtle stocks, these

pressures may be secondary to the impacts of international trade. The entry into force of protective legislation in Viet Nam, in April 2002, may have altered this situation, but verification is clearly important.

Indonesia

There is no evidence of any large shipment of *bekko* from Indonesia to Japan after the confiscation of three tonnes in August 1995, yet the indications that some traders continue to maintain *bekko* stocks, and rumours of large shipments being planned, suggest that at least a few in Indonesia are biding their time and waiting for an opportunity to resume bulk exports. Existing legal *bekko* stocks in Indonesia appear to have been poorly documented, but some of the stocks catalogued and verified in the late 1980s have been reduced, through illegal exports (for example, the 1995 shipment destined for Japan) and alleged theft of stock during the 1997 riots in Ujung Pandang and elsewhere in Indonesia.

Potential for international trade in Indonesia and Viet Nam

A resumption of legal international trade between other CITES Parties could lead traders in Indonesia to believe that Indonesia, too, might seek CITES authority to resume exports at some date in the future and this could be an encouragement to traders to rebuild these stocks to the last-registered quantities. Doing so could increase demand on the underground market and thus lead to increased exploitation pressures on Hawksbill Turtle stocks. For Viet Nam, likewise, any increase in wholesale demand and prices for Hawksbill Turtles and *bekko* on international markets might sustain or even encourage growth of existing trade networks. Potentially balancing this risk is the possibility that a legal supply of *bekko* from Cuba, or another source, to end-user *bekko* markets in East Asia could displace the residual demand there that appeared to drive at least some proportion of the Hawksbill Turtle harvest in Indonesia and Viet Nam in 2001/2002. It is not possible to predict with certainty which scenario is more likely. Of immediate concern, however, is the fact that conservation measures in place in both countries at the time of this survey were insufficient to deter on-going Hawksbill Turtle take and trade. Viet Nam's legislative changes in 2002 may help frame a remedial response to this situation. In Indonesia, better control of existing legal stocks and the enhancement of efforts to intercept illegal trade routes would seem to be key aspects to address in order to stem and deter illegal trade. Such measures are necessary irrespective of events in the CITES arena.

CONCLUSIONS

- At the time of the survey in Viet Nam (February 2002), the trade in Hawksbill Turtles and their products in the country had increased from trade levels described for 1993. Inclusion of the Hawksbill Turtle under Vietnamese protective legislation in April 2002 is a potentially significant step forward in efforts to conserve remaining populations of the species in Viet Nam.
- Trade in Hawksbill Turtles in Indonesia appeared to have declined significantly over the past decade or so, particularly the open retail trade. Wholesale trade appeared also to have declined, and trade seemed to have moved underground. *Bekko* stocks had apparently declined significantly. A small number of traders currently inactive in the *bekko* trade claimed to be awaiting an opportunity to resume trade if legal exports were allowed again. Indications of re-opening legal international trade in *bekko* may be taken as encouragement for some Indonesian traders to rebuild stocks, which would be likely to lead to increased exploitation pressures on regional Hawksbill Turtle populations.
- The risk of Indonesian *bekko* traders rebuilding illegal stocks would be reduced if the Indonesian Government were to increase monitoring efforts to ensure that its stock records were up-to-date. This would act as a further deterrent to illegal trade and aid in their monitoring and controlling efforts.
- In both Viet Nam and Indonesia, trade dynamics at the time of research for this report demonstrated that urgent action was needed to address the taking of Hawksbill Turtles and trade in their products, irrespective of events in the CITES arena.

RECOMMENDATIONS

- The Indonesian Government should compile up-to-date data on existing Indonesian stockpiles, as any indication of resumption of international trade of *bekko* could lead to requests from Indonesian traders to be allowed to sell their stockpiles.
- Remaining illegal stockpiles of *bekko* should be seized by the Indonesian Government, in accordance with the law, to help prevent further illegal export.
- Existing efforts to address illegal exploitation of Hawksbill Turtles and trade in their parts, by government authorities and NGOs in Indonesia, Papua New Guinea, the Philippines and other regional Hawksbill Turtle range States should be acknowledged and expanded by the range State governments, and supported by donor governments.
- Any proposed Hawksbill Turtle ranching projects in Indonesia should be monitored closely (by both NGOs and the Indonesian Government) as these are suspected to be potential laundering operations.

- An updated survey of the *bekko* industry and trade in Yogyakarta, Java, should be carried out as this city has been identified as a potential centre in the trade. Further trade and stockpile surveys are needed in Ujung Pandang and trade surveys are recommended in West Sumatra, Nias, Papua and other areas where significant harvest and trade of Hawksbill Turtles are known or suspected to occur.
- In Viet Nam, public education and awareness, aimed at both traders and buyers, should be initiated to publicize the recent full protection status afforded the Hawksbill Turtle. Campaigns to encourage people to refrain from buying Hawksbill Turtle products and to make foreigners aware of the CITES legislation forbidding the international trade and transport of this species and its parts should be continued and increased where possible, by NGOs and the government..
- Viet Nam's legal protection of Hawksbill Turtles should be followed up with targeted enforcement actions, including tackling the domestic trade and increasing efforts to detect and prevent further illegal exports of Hawksbill Turtle products from Viet Nam. Capacity-building for relevant government agencies should be carried out to aid in these enforcement efforts.
- A further survey in Viet Nam should be initiated to assess the impact of recently implemented domestic market controls on the availability of *bekko* products throughout the country.
- Regional seizure monitoring should be organized for all South-east and East Asia, to help track the incidence of commercial shipments. Indonesia and Viet Nam should be encouraged to accede to the Convention on the Conservation of Migratory Species of Wild Animals (CMS), in order to enhance multinational and trans-regional co-operation on marine turtle conservation issues between the governments of South-east Asia..

REFERENCES

- Anon. (1989). *Sea Turtles and Indonesia*. Report and information paper prepared by Greenpeace International for CITES CoP7. 24 pp.
- Anon. (1990). *Decline of the Sea Turtles: Causes and Prevention*. National Research Council. National Academy Press, Washington D.C., USA.
- Anon. (1992). *Red Data Book of Vietnam - Volume 1. Animals*. Ministry of Science, Technology and Environment. Science and Technics Publishing House, Hanoi, Viet Nam. 396 pp.
- Anon. (1994a). Tortoiseshell Trade: End of an Era? *Marine Turtle Newsletter* 66:16-17. Viewed at <http://www.seaturtle.org/mtn/archives/mtn66/mtn66p16.shtml>, 5 November 2003.
- Anon. (1994b). *Investigation of Trade in Hawksbill Turtles in Vietnam*. (Revised). Field Report No.7. TRAFFIC Southeast Asia, in collaboration with the Centre for Natural Resources and Environment Studies (CRES), University of Hanoi, Viet Nam. 17pp.
- Anon. (2000a). CITES proposal *Prop. 11.40*. An Annotated Transfer of that part of the Caribbean population of Hawksbill Turtles (*Eretmochelys imbricata*) inhabiting Cuban waters, from Appendix I to Appendix II, pursuant to *Resolution Conf. 9.24*, for the exclusive purposes of allowing: 1. The export in one shipment of all existing registered management stocks of shell accumulated from Cuba's management programme between 1993 and March 2000 (up to 6900 kg) to Japan for total consumption within Japan with no re-exports; and, 2. The export each year thereafter to Japan or to other Parties with equivalent controls which will not re-export of the shell produced from the traditional harvest, which will not exceed 500 individual *E. imbricata* each year. See <http://www.cites.org/eng/cop/11/prop/40.pdf>
- Anon. (2000b). CITES proposal *Prop. 11.41* - An Annotated Transfer of that part of the Caribbean population of Hawksbill Turtles (*Eretmochelys imbricata*) inhabiting Cuban waters, from Appendix I to Appendix II, pursuant to *Resolution Conf. 9.24*, for the exclusive purposes of allowing the export in one shipment of registered management stocks of shell accumulated legally in Cuba from a national management programme between 1993 and March 2000 (up to 6900 kg) to Japan for total consumption within Japan with no re-exports. No further annual export from the traditional harvest is sought and all other specimens of *E. imbricata*, including wild stocks in Cuban waters, will be treated as specimens in Appendix I and international trade in them shall be regulated accordingly. See <http://www.cites.org/eng/cop/11/prop/41.pdf>
- Anon. (2000c). *Hawksbill Trade Revived?: Analysis of the Management System of Domestic "Bekko" Trade in Japan*. Japan Wildlife Conservation Society, Tokyo, Japan. 16 pp.
- Anon. (2000d). *Japan's Hawksbill Shell Trade Control System. A briefing on Proposal 11.41 prepared by TRAFFIC East Asia-Japan*. (Briefing paper for CITES CoP11, April 2000.) TRAFFIC International, Cambridge, UK. See: <http://www.traffic.org/cop11/newsroom/hawksbillturtles.html>.
- Anon. (2002a). CITES proposal *Prop. 12.30* - Transfer of the population of Hawksbill Turtles (*Eretmochelys imbricata*) in Cuban waters from Appendix I to Appendix II, pursuant to *Resolution Conf. 9.24*, for the exclusive and only purpose of allowing the Government of Cuba to export its stockpile of shell plates (7800 kg), accumulated legally from its national

- conservation and management programme between 1993 and 2002, See <http://www.cites.org/eng/cop/12/prop/index.shtml>
- Anon. (2002b). *2002 IUCN Red List of Threatened Species* (<http://www.redlist.org>). Viewed August 2002.
- Anon. (in prep.). *The Trade in Marine Turtle Products in Viet Nam*. TRAFFIC Southeast Asia-Indochina, Hanoi, Viet Nam.
- Anon. (not dated). *Turning the Tide - the Wallacea Sea Turtles Campaign*. Brochure. 4 pp. [Date about 2001].
- Aw, M. (1999). Turtle Slaughter. *Asian Geographic* 1(2): 62-66.
- Bjorndal, K.A. (Ed.) (1982). *Biology and Conservation of Sea Turtles*. Smithsonian Institution Press, Washington D.C., USA. 615 pp.
- Bourret, R. (1941). Les Tortues de l'Indochine. *Bulletin de l'Institut Océanographique de l'Indochine*, Note 38: 1-235.
- Chan, E.-H., and Hock-Chark Liew (1999). Hawksbill Turtles, *Eretmochelys imbricata*, nesting on Redang Island, Terengganu, Malaysia, from 1993 to 1997. *Chelonian Conservation and Biology* 3 (2): 326-329.
- Chantrapornsyl, S. (1996). *Sea Turtles of Thailand*. (Brochure) Office of Environmental Policy and Planning, Government of Thailand, Bangkok, Thailand. 4 pp.
- Curran, S. (2002). The dimming light on Indonesia's turtles. *Asian Diver* 10 (6): 43-45.
- Das, I. (1991). *Colour Guide to the Turtles and Tortoises of the Indian Subcontinent*. R. and A. Publishing Ltd, Avon, UK. 133 pp.
- Davenport, J. (1988). The turtle industry of Bali. *British Herpetological Society Bulletin* 25: 16-24.
- Gregory, R. and Sharma, D. S. K. (1997). Review of legislation affecting marine and freshwater turtle, terrapin and tortoise conservation and management in Malaysia: recommendations for change. Project MYS 343/96. Report to WWF Malaysia.
- Groombridge, B. and Luxmoore R. (1989). *The Green Turtle and Hawksbill (Reptilia: Cheloniidae): World Status, Exploitation and Trade*. CITES, Lausanne, Switzerland.
- Iverson, John B. (1992). *A Revised Checklist with Distribution Maps of the Turtles of the World*. Privately printed, Richmond, Indiana, USA. 363 pp.
- Kemf, E., Groombridge, B., Abreu, A. and Wilson, A. (2000). *Marine Turtles in the Wild - 2000 - A WWF Species Status Report*. WWF-World Wide Fund for Nature, Gland, Switzerland. 40 pp.
- Kikukawa, Akira, Naoki Kamezaki and Hidetoshi Ota (1999). Current status of the sea turtles nesting on Okinawajima and adjacent islands of the central Ryukyus, Japan. *Biological Conservation*, 87: 149-153.
- LeBuff, Charles R., Jr. (1990). *The Loggerhead Turtle in the Eastern Gulf of Mexico*. Caretta Research, Inc., Sanibel, Florida, USA. 216 pp.
- Lim, Boo Liat, and Das, I. (1999). *Turtles of Borneo and Peninsular Malaysia*. Natural History Publications (Borneo), Kota Kinabalu, Malaysia. x + 151 pp.
- Márquez M., René (1990). *FAO Species Catalogue, 11: Sea Turtles of the World. An annotated and illustrated catalogue of sea turtle species known to date*. FAO Fisheries Synopsis, No. 125, Vol. 11. FAO, Rome, Italy. 81 pp.

- Meylan, A.B. and Donnelly, M. (1999). Status Justification for listing the Hawksbill Turtle (*Eretmochelys imbricata*) as Critically Endangered on the 1996 IUCN Red List of Threatened Animals. *Chelonian Conservation and Biology* 3 (2): 200-224.
- Meylan, A.B. and Ehrenfeld, D. (2000). Conservation of marine turtles. In: Klemens, M.W. (Ed.) (2000). *Turtle Conservation*. Smithsonian Institution Press, Washington D.C., USA and London, UK. Pp. 96-125.
- Milliken, T., and Tokunaga, H. (1987). The Japanese Sea Turtle Trade 1970-1986. TRAFFIC Japan, Tokyo. [Not seen, but cited in Anon., 1989; Anon., 2000c; Meylan and Ehrenfeld, 2000]
- Nguyen Thi Dao (1999). *Marine Turtle Status Report in Con Dao National Park - Period 1995-1998*. WWF Indochina Programme, Hanoi, Vietnam. 24 pp.
- Pilcher, N. (1999). Turtles turned turtle. *Asian Geographic*, 1(2): 57-61, 67-69.
- Pilcher, N. J. and Lamri Ali (1999). Reproductive biology of the Hawksbill Turtle, *Eretmochelys imbricata*, in Sabah, Malaysia. *Chelonian Conservation and Biology* 3 (2): 330-336.
- Pilcher, N. and Ghazally Ismail (Eds) (2000). *Sea Turtles of the Indo-Pacific: Research, Management and Conservation*. ASEAN Academic Press, London, UK. 361 pp.
- Pritchard, P.C.H. and Trebbau, P. (1984). The Turtles of Venezuela. *SSAR Contributions to Herpetology*, no. 2. Pp. 414.
- Richardson, Peter. 2000. Obstacles to Objectivity: First Impressions of a CITES CoP. *Marine Turtle Newsletter*, No. 89: 1-4.
- Salm, Rodney V. 1984. *Sea Turtle Trade in Indonesia*. IUCN/WWF Marine Conservation Project, Project 3108 Report No. 5, for Directorate of Nature Conservation, PHPA. 59 pp.
- Schultz, J. P. 1987. Status of *Chelonia mydas* and *Eretmochelys imbricata* in Indonesia. Report to Conservation Monitoring Centre (not seen).
- Sharma, Dionysius S. K., and Oswald Braken Tisen. 2000. Freshwater turtle and Tortoise Utilisation and Conservation Status in Malaysia. Pp. 120-128 in *Asian Turtle Trade: Proceedings of a Workshop on Conservation and Trade of Freshwater Turtles and Tortoises in Asia* (van Dijk, Stuart and Rhodin, eds.). Chelonian Research monographs, Number 2.
- Soehartono, Tonny. 1995. Marine Turtle Conservation in Indonesia. Pp. 55-81 in *Marine Turtles of Indonesia - Population Viability and Conservation Assessment and Management Workshop, December 11-14, 1995*. (Manansang, Siswomartono, Soehartono, Limpus, Seal, Miller and Ellis, eds.). Workshop report. PHPA, Taman Safari Indonesia, PKBSI, IUCN/SSC/CBSG and IUCN/SSC/MTSG.
- Suganuma, Hiroyuki, Naoki Kamezaki and Akil Yusuf. 1999. Current Status of Nesting Populations of the Hawksbill Turtle (*Eretmochelys imbricata*) in the Java Sea, Indonesia. *Chelonian Conservation and Biology*, Vol. 3 (2): 337-343.
- Suganuma, Hiroyuki, Akil Yusuf, Shinichi Tanaka and Naoki Kamezaki. 2000. Serious Declines of Nesting Populations of the Hawksbill Turtle (*Eretmochelys imbricata*) in the Java Sea, Indonesia. Pp. 116-118 in *Sea Turtles of the Indo-Pacific: Research, Management and Conservation* (Pilcher and Ismail, Eds.). ASEAN Academic Press, London.

TRAFFIC, the wildlife trade monitoring network, works to ensure that trade in wild plants and animals is not a threat to the conservation of nature. It has offices covering most parts of the world and works in close co-operation with the Secretariat of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)

For further information contact:

The Director
TRAFFIC Southeast Asia
Unit 9-3A, 3rd Floor
Jalan SS23/11, Taman SEA
Petaling Jaya, Selangor
Malaysia
Telephone: (603) 7880 3940
Fax: (603) 7882 0171
Email: tsea@po.jaring.my

The Executive Director
TRAFFIC International
219a Huntingdon Road
Cambridge CB3 0DL
UK
Telephone: (44) 1223 277427
Fax: (44) 1223 277237
Email: traffic@trafficint.org

TRAFFIC

is a joint programme of



IUCN
The World Conservation Union