ning of this article, show the way: human rights laws, humanitarian law and international environmental law must be considered as parties of a whole. Globalisation means not only global trade but also implies the need for a global approach to international law, the fundamental objectives of which must be clearly understood by now: the protection of human rights and the preservation of the biosphere.

Notes
2  Id. at 36, para 105(2)(D).
3  Para 29.
8  EMUT, 996:071.
9  EMUT, 993:39.
13  See Kiss-Shelton, 566-567.
15  EMUT 997:39.
17  EMUT, 993 - 04.
19  1015 U.N.T.S., 163.
20  The second paragraph of Article 32 only provides for further co-operation of Parties in order to further develop rules and measures to protect the environment during armed conflicts.

ICAO

Invasive Alien Species – Aeronautical Implications

by Ruwantissa Abeyratne*

1. Introduction

The brown tree snake (Boiga irregularis) which managed to hitchhike its way on military aircraft to Guam shortly after World War II, has caused extensive damage to the biodiversity of the island by devouring its bird population. Broadly defined, “biodiversity” is the variety of all living things and their interactions. Biosafety is the coexistence of ecosystems and habitats without disturbance. In this context the brown tree snake is an invasive alien species which is a threat to the biosafety of the habitat and ecosystem it invades. An alien species – a species, sub-species or lower taxon, occurring as a result of a human agency in an area or ecosystem in which it is not active – becomes invasive when it colonises natural or semi natural ecosystems and threatens native biodiversity.1

Alien species can be introduced to a habitat or ecosystem unintentionally or intentionally. In the former instance, the introduction occurs as an adjunct to human activity such as trade and tourism. Intentional introduction of alien species usually occurs when production industries such as agriculture, horticulture, forestry and aquaculture import organisms for biological control purposes. Either way, whether intentionally or unintentionally civil aviation may be instrumental as a medium of carriage of this environmental threat, although there is no evidence through documentation indicating a universal problem in civil aviation at the present time.

Biodiversity serves humanity in producing goods and services for fundamental human needs such as clean air, fresh water, food, medicines and shelter. It also provides people with essential recreation and spiritual enjoyment. After habitat destruction, invasive alien species are the most significant threat to biological diversity, over and above such threats as the overuse of resources, pollution and global climate change.

The Convention on Biological Diversity (CBD) of 1992 – one of the preeminent international treaties addressing the threat of invasive alien species – requires each party, as per Article 8(h), and to prevent the introduction of, control or eradicate such alien species as threaten ecosystems, habitats or species. The Convention’s subsidiary Body on Scientific, Technical and Technological Advice, which met in Montreal from 31 January to 4 February 2000, urged Parties to apply the principles of Article 8(h) of the Convention and, at its latest meeting, also held in Montreal in March 2001, adopted a set of recommendations and guiding principles to assist States with the implementation of this provision. The meeting also brought to bear the need for research and assessment on various

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subjects including the pathways for aircraft and ships by which invasive alien species might be introduced. The Global Invasive Species Programme (GISP) – a non-governmental organisation working with the CBD, established in 1996 – is working on assembling and making available best practices for the prevention and management of invasive alien species and to stimulate the development of new tools in science, policy, information and education for use by States and organisations addressing the problem.

It is now recognised that special care should be taken to prevent introduced species from crossing the borders of neighbouring States. In the event of such an occurrence, or where such an eventuality is probable, the affected State must promptly be warned, and consultations should be held in order to institute adequate measures. In the event of the carriage of an invasive alien species by air, inasmuch as States may require mechanisms to integrate policy recommendations from environmental, biological, management and external international sources for decision making, so airlines have to bear some responsibility of being aware of their own part in assisting affected States if their aircraft have been used for the transport of invasive alien species whether through the regular process of air transport as goods or without their knowledge.

Already, there are various preventive measures in civil aviation that may assist in obviating the problem. Passengers and cargo subject to air carriage are sent through stringent quarantine and control measures at entry and departure points, such controls being administered by the public authorities of each Contracting State. Also, dissection and disinfection of the aircraft are carried out in order to prevent unintentional introduction of invasive insects and micro-organisms respectively. However, these measures do not cover species larger than insects which may, like the brown tree snake, hitchhike on aircraft from one habitat to another.

Invasive alien species are deeply woven into the fabric of modern life and are a critical element in the context of modern economic globalisation and its integral media of trade, transport, travel and tourism. The linkage between this phenomenon and invasion pathways of species is arguably the most critical dimension to the problem. In this equation, notably the more substantial responsibility lies with States, in educating the public in: identifying values of environmental sustainability with the big picture of international financing, transnational business and multimedia marketing; identifying measures that may work within existing value systems; and using risk assessment procedures. There is some responsibility that rests with airlines, starting with building awareness of the problem within the airline community and extending to the various exigencies involved in the carriage of goods that may carry the threat of invasive alien species.

2. Regulatory Issues

During the 32nd Session of the ICAO Assembly, held in 1998, four States presented a draft resolution to the ICAO Assembly, calculated to bring about action by ICAO to counter the threat posed through civil aviation, of species which were not indigenous to a particular area who could affect adversely the biodiversity of a new environment to which they were transported. The Assembly adopted Resolution A32-9 in response to this request, which essentially called upon the ICAO Council to work with other Organisations of the United Nations in reducing the risk of potentially invasive alien species being introduced to areas outside their natural range, and to report on work carried out in this regard at the 33rd Session of the Assembly.

The ICAO Secretariat, in conducting preparatory work on this request, contacted the International Maritime Organisation (IMO) in order to seek the IMO’s experience in solving problems relating to the introduction of invasive alien species outside their natural range. The IMO’s response was that alien life forms travelling across the oceans in the ballast water of ships have, over sustained periods of time, caused acute problems for the marine environment, human health and public property. After much work, including participation in the Sixth Session of the Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA/6) of the Convention on Biological Diversity held in March 2001, the Council submitted its Report to the 33rd Session of the ICAO Assembly, held from 25 September to 5 October 2001 which included a draft resolution to supercede Resolution A32-9. The new Resolution urges all Contracting States to support one another’s efforts to reduce the risk of introducing, through civil air transportation, potentially invasive alien species to outside their natural range; requests the ICAO Council to continue to work with the appropriate concerned Organisations to identify approaches that ICAO might take in assisting to reduce the risk introducing potentially invasive alien species to areas outside their natural range; and requests the ICAO Council to submit its report on the implementation of work at the next Ordinary Session of the Assembly, to be held in 2004.

In considering this recent ICAO measure in its regulatory context, one must necessarily address the existing legal framework both under the Convention on International Civil Aviation (Chicago Convention) of 1944 which governs legal and regulatory principles of international civil aviation, and the Convention on Biological Diversity of 1992, which governs the general area of the spread of invasive alien species. Both Conventions hit common ground on one fundamental postulate – that which pertains to the introduction of laws and regulations to curb the threat. The Chicago Convention, in Article 23, empowers and requires States to promulgate provisions for Customs and immigration procedures, while the Convention on Biological Diversity, in its Article 8(k), requires Contracting Parties to develop or maintain necessary legislation and/or other regulatory provisions for the prote-
tion of threatened species and populations. The latter Convention, by Article 22, also provides that the provisions of the Convention shall not affect the rights and obligations of any Contracting Party deriving from any international agreement, except where the exercise of these rights and obligations would cause a serious damage or threat to biological diversity.

Assembly Resolution A32-9, adopted at the 32nd Session of the ICAO Assembly in 1998, while recognising global concern of Contracting States regarding such environmental problems as aircraft engine emissions, the depletion of the ozone layer, aircraft noise, and tobacco smoke in aircraft cabins, requests the ICAO Council to work with other United Nations Organisations to identify approaches that ICAO might take in assisting the reduction of risk of introducing potentially invasive alien species to areas outside their natural range. This measure is taken in view of the recognised responsibility of Contracting States to achieve maximum compatibility between civil aviation operations and the quality of the human environment.

Insofar as civil aviation is concerned, intentional introduction of alien species does not affect carriage by air, since many stringent standards are already in place to check alien species and their migration, particularly if they could prove to be invasive after introduction to their new habitat. It is the unintentional carriage of alien species that is of primary concern to civil aviation, such as the transportation of the brown tree snake which settled in Guam after hitchhiking its way by air, presumably on military aircraft. Be that as it may, Resolution A32-9 imposes an obligation on ICAO to cooperate with other international Organisations and bodies in taking measures to counter the threat of invasive alien species. To this extent, ICAO needs to vigorously liaise with those Organisations which could provide ICAO with a list of possible invasive alien species in order to make the Contracting States of ICAO aware of the inherent dangers involved in carrying alien species by air. More importantly, ICAO could, in the event such a list is available, revisit the carriage by air provisions relevant to the issue, as embodied in the various Annexes to the Chicago Convention.

A. Annex 9 Provisions

The carriage of air freight has no spectacular history nor singular milestones in the annals of air carriage. It grew as a necessity, to transport merchandise which was needed for air transport. Records show that the first instances of the carriage of air freight were in transporting mail in balloon or dirigible from city to province, for example during the siege of Paris in 1870. Air cargo has been defined a contrario from the definition of baggage contained in Article 4 of the Warsaw Convention to simply mean “goods transported which are not baggage”. Annex 9 to the Chicago Convention defines cargo as “any property carried on an aircraft other than mail, stores and accompanied or mishandled baggage”. Magdelenat makes the valid point that air cargo carries with it the advantage of being transported more quickly than other modes of transport and therefore frequently consists of articles of high value, urgently needed merchandise and extremely perishable goods.

A milestone, if ever there were one for air freight, would be Chapter 4 of Annex 9 to the Chicago Convention which opens with the initial requirement that regulations and procedures applicable to goods carried by aircraft shall be no less favourable than those which would be applicable if the goods were carried by other means. In order to serve best consignors who send their urgently needed or perishable goods with expediency, the Annex, in Standard 4.3, impels Contracting States to examine with operators and Organisations concerned with international trade all possible means of simplifying the clearance of goods carried inbound and outbound by air.

Another positive requirement of the Annex, in keeping with the electronic age and its requirements, is to require that Contracting States, when introducing electronic data interchange (EDI) techniques for air cargo facilitation, should encourage international airline operators, handling companies, airports, customs and other authorities and cargo agents to exchange data electronically, in conformance with UN/Electronic Data Interchange for Administration, Commerce and Transport (UN/EDIFACT) international standards, in advance of the arrival of aircraft, to facilitate cargo processing. The Annex is supported in these proactive measures by its parent document, the Chicago Convention, which in Article 22 provides that each Contracting State agrees to adopt all practicable measures, through the issuance of special regulations or otherwise, to facilitate and expedite navigation by aircraft between the territories of Contracting States, and to prevent unnecessary delays to aircraft, crews, passengers and cargo, especially in the administration of the laws relating to immigration, quarantine, customs and clearance. Article 23 of the Convention opens the door for Annex 9 to require of States, from time to time, to keep abreast with developments in the carriage of air freight when it provides:

“Each Contracting State undertakes, so far as it may find practicable, to establish customs and immigration procedures affecting international air navigation in accordance with the practices which may be established or recommended from time to time, pursuant to this Convention. Nothing in this Convention shall be construed as preventing the establishment of customs-free airports.”

The overall aim of Annex 9, through its Chapter 4, which addresses entry and departure of cargo and other articles, is to retain the advantage of speed inherent in air transport. However, the Annex makes provision for recognising the need for Contracting States to adhere to application regulations relating to aviation security which are incorporated in Annex A to the Chicago Convention. For example, in Standard 4.2, Annex 9 requires that Contracting States shall make provisions whereby procedures for the clearance of goods carried by air and for the interchange of cargo with surface transport will take into account applicable regulations which address issues of aviation security. For its part, Annex 17 recommends that each
Contracting State should, whenever possible, arrange for the security measures and procedures to cause a minimum of interference with, or delay to, the activities of international civil aviation.17

The Second Facilitation Panel Meeting, which took place in Montreal from 11 to 15 January 1999, had, as its primary incentive, the updating and revision of the provisions of Annex 9 for air cargo and was influenced by recent work which has been substantially completed by the World Customs Organisation on the comprehensive revision of the Kyoto Convention.18 However, the scope of the revision process was broader than the alignment of the Annex with Kyoto Convention principles.

The facilitation strategy as reflected in the SARPs which were developed during the first 25 years of ICAO contemplated a business environment of manual inspection and clearance procedures in which all information exchanges were dependent on the preparation and movement of paper document. International airlines and airports were largely owned and often administered by governments; hence facilitation of cargo clearance activities was viewed as essentially a government responsibility.

The concept of an integrated transaction depends entirely on risk-management, and is particularly important for air freight because it is focused on those controls which are exercised by customs, during the relatively short time that goods are in their physical possession. It is a very powerful example of a premium procedure because it offers valuable benefits to both Customs and declarant. The Customs get an unambiguous single price and value statement, together with complete origin-destination information for control purposes, and therefore are privy to more than the export or import part of any transaction.

During the 1970s, with the emergence of wide-bodied aircraft, computers and other new technology, States began to find ways to rationalise their inspection process. Today, issues related to information requirements are more significant than the number and type of paper documents which are exchanged among the parties to an import/export transaction. As computerisation capabilities are almost universally available to both governments and industry, it is now possible to be more positive about advocating the use of information technology by all parties.

The revision of the Kyoto Convention19 is aimed at a broad-front harmonisation and improvement of basic Customs procedures, with an eye to primary Customs responsibilities for control as well as a growing sensitivity to the economic advantages of facilitation. Premium Procedures are a means of bringing market forces to bear by linking specific facilitation advantages directly to prescribed-control improvements. The Integrated Transaction is an advanced Premium Procedure, in which the emerging concept of the “authorised trader” is applied in such a way that a single submission of minimal, standardised data, by such a declarant, will suffice for all Customs export/import purposes.

It is difficult to see how such a concept as Premium Procedures or the Integrated Transaction could be worked into the Recommended Practices/Standards Structure of the existing Annex. The revision of Kyoto will, of course, lend itself very well to this process of provision-by-provision adjustment, and numerous Panel delegates can be expected to produce detailed proposals.

B. Annex 18 Provisions

Yet another ICAO initiative in the carriage of air freight is Annex 1820 to the Chicago Convention – on The Safe Transport of Dangerous Goods by Air – which was developed by the Air Navigation Commission of the Organisation in response to a need expressed by States for an internationally agreed set of provisions governing the safe transport of dangerous goods by air. The Annex draws the attention of States to the need to adhere to Technical Instructions for the Safe Transport of Dangerous Goods by Air21 developed by ICAO, according to which packaging used for the transportation of dangerous goods by air shall be of good quality and shall be constructed and securely closed so as to prevent leakage and labelled with the appropriate labels.22

Annex 18 defines “dangerous goods” as “articles or substances, which are capable of posing significant risk to health, safety or property when transported by air”.23 This definition incontrovertibly restricts harm envisaged to transportation by air and links the damage to the fact of transportation. The words “when transported by air” would usually mean that the harm would be caused when the goods are being transported. As such, it is arguable that the carriage of species that could turn invasive after the fact of transportation, such as in the case of invasive alien species, could not fall under the definition of dangerous goods within the parameters of Annex 9. Another argument against linking the carriage by air of species that may turn invasive, to the definition of dangerous goods, is that Annex 18 identifies risks to health, safety or property as the effects of transportation of dangerous goods. As to whether a danger to the biodiversity of an ecosystem is a safety issue is arguable in the context envisaged in the Annex, which essentially aims at safety of flight.

The Annex does not have an inclusive list of dangerous goods, except in Standard 4.2 which lists articles and substances that are identified in the technical instructions as being forbidden for transport in normal circumstances and infected live animals. However, one of the fundamental articles that may detract from linking invasive alien species to Annex 18 is that invasive alien species are not “invasive” from the outset, but become invasive after settling in their new habitat. Identifying such species, whose nomenclature is dependent on their behavioural patterns, as dangerous goods carried in an aircraft would be inconsistent with the provisions of Annex 18.

The situation could, of course, be different if there can be some definite identification between species carried by air and the environment in which they will be, with definite and proven evidence that the carriage by air of such species to such an environment would definitely result in the species turning invasive. Even in such an instance, the issue as to whether damage caused to the ecosystem and biosafety concerned could be categorised as a threat to safety in an aeronautical sense, becomes academic.
3. Legal Aspects

There are no explicit legal treaties or provisions specifying liability of a carrier for the carriage of animals or substances which may prove to affect the environment of the territory into which such carriage takes place. However, it would be fair to say that liability would lie based on the principles of responsibility of both of the States concerned who are expected to enact regulations under the Chicago Convention and the air carriers concerned who may be bound by such regulations.

The existence of responsibility, as a legal duty, is now widely recognised as a general principle of public international law, and is a concomitant of substantive legal norms and the premise that acts and omissions may be categorised as illegal based on the element of responsibility they carry.

The provisions of the Chicago Convention, which is an international treaty, are binding on contracting States to the Convention and therefore are principles of public international law. The International Court of Justice (ICJ), in the North Sea Continental Shelf Case, held that legal principles that are incorporated in Treaties, such as the “common interest” principle, become customary international law by virtue of Article 38 of the 1969 Vienna Convention on the Law of Treaties.

Article 38 recognises that a rule set forth in a treaty would become binding upon a third State as a customary rule of international law if it is generally recognised by the States concerned as such. Article 1(1) of the Outer Space Treaty, which designates that the use of space technology is achieved under the “common interest” principle for the common good of humanity, therefore becomes a principle of customary international law, or jus cogens. Obligations arising from jus cogens are considered applicable erga omnes which would mean that States using space technology owe a duty of care to the world at large in the provision of such technology. The ICJ in the Barcelona Traction Case held:

[A]n essential distinction should be drawn between the obligations of a State towards the international community as a whole, and those arising vis à vis another State in the field of diplomatic protection. By their very nature, the former are the concerns of all States. In view of the importance of the rights involved, all States can be held to have a legal interest in their protection; they are obligations erga omnes.

The International Law Commission has observed of the ICJ decision:

[I]n the Court’s view, there are in fact a number, albeit limited, of international obligations which, by reason of their importance to the international community as a whole, are – unlike others – obligations in respect of which all States have legal interest.

The views of the ICJ and the International Law Commission, which has supported the approach taken by the ICJ, give rise to two possible conclusions relating to jus cogens and its resultant obligations erga omnes:

a) obligations erga omnes affect all States and thus cannot be made inapplicable to a State or group of States by an exclusive clause in a treaty or other document reflecting legal obligations without the consent of the international community as a whole; and

b) obligations erga omnes pre-empt other obligations which may be incompatible with them.

Some examples of obligations erga omnes cited by the ICJ are prohibition of acts of aggression, genocide, slavery and discrimination. It is indeed worthy of note that all these obligations are derivatives of norms which are jus cogens in international law.

International responsibility relates both to breaches of treaty provisions and other breaches of legal duty. In the Spanish Zone of Morocco Claims case, Justice Huber observed:

[R]esponsibility is the necessary corollary of a right. All rights of an international character involve international responsibility. If the obligation in question is not met, responsibility entails the duty to make reparation.

It is also now recognised as a principle of international law that the breach of a duty involves an obligation to make reparation appropriately and adequately. This reparation is regarded as the indispensable complement of a failure to apply a convention and is applied as an inarticulate premise that need not be stated in the breached convention itself. The ICJ affirmed this principle in 1949 in the Corfu Channel Case by holding that Albania was responsible under international law to pay compensation to the United Kingdom for not warning that Albania had
laid mines in Albanian waters which caused explosions, damaging ships belonging to the United Kingdom. Since the treaty law provisions of liability and the general principles of international law as discussed complement each other in endorsing the liability of States to compensate for damage caused by space objects, there is no contention as to whether in the use of nuclear power sources in outer space, damage caused by the uses of space objects or use thereof would not go uncompensated. The rationale for the award of compensation is explicitly included in Article XII of the Liability Convention which requires that the person aggrieved or injured should be restored (by the award of compensation to him) to the condition in which he would have been if the damage had not occurred. Furthermore, under the principles of international law, moral damages based on pain, suffering and humiliation, as well as on other considerations, are considered recoverable.32

The sense of international responsibility that the United Nations ascribed to itself had reached a heady stage at this point, where the role of international law in international human conduct was perceived to be primary and above the authority of States. In its Report to the General Assembly, the International Law Commission recommended a draft provision which required:

Every State has the duty to conduct its relations with other States in accordance with international law and with the principle that the sovereignty of each State is subject to the supremacy of international law.33

This principle, which forms a cornerstone of international conduct by States, provides the basis for strengthening international comity and regulating the conduct of States both internally – within their territories – and externally, towards other States. States are effectively precluded by this principle of pursuing their own interests untramelled and with disregard to principles established by international law.

4. Conclusion

Although there is clearly no global linkage between invasive alien species and civil aviation, there are undisputably explicit legal provisions at public international law which impel both States and air carriers to be aware of the dangers of the carriage of potentially dangerous environmental and safety hazards into the territory of a State. ICAO has taken the initiative in sensing this awareness and aligning itself with other Organisations in collecting information and data that could be of assistance toward eradicating the menace of the invasive alien species. This is yet another area which would need the constant vigilance of the aviation community, which should consider this threat as a cutting-edge issue concerning civil aviation.

Notes

1 See Extract from the Draft IUCN Guidelines for the Prevention of Biodiversity Loss due to Biological Invasion, compiled by Mick Clout, Sarah Lowe and the IUCN/SSC Invasive Species Specialist Group, October 1996 at p. 2 At the 33rd Session of the ICAO Assembly, the Assembly noted the definition of invasive alien species to be “a group of organisms – plant or animal, large or small – with unique characteristics, which have been relocated outside their “normal distribution or natural range, and having become established in their natural environment, threaten one or more species which are native to that environment. See A33/WP/11, EC/6, 25/5/01.

2 The CBD was adopted under the umbrella of the United Nations Convention on Environment and Development (UNCED), held in Rio de Janeiro from 3-14 June 1992, which was a milestone in environmental treaty making. For the text of the CBD, see 31 ILR 818 (1997).


4 Australia, Canada, Norway and the United States.

5 A33-WP/11, EC/6, 25/5/01.

6 Ibid. Appendix.


12 Annex 9 to the Convention on International Civil Aviation (Facilitation), Tenth Edition: April 1997, ICAO, Montreal, Chapter 1. Definitions. See also Georgette Miller, Liability in International Air Transport, Deventer: Kluwer, 1977 at p. 10 where the author states that while the French term “merchandises” and the English term “goods” is not the same, the French term denotes anything that can be the object of a commercial transaction. However, under common law, “goods” refer to inanimate objects only, thus excluding live animals.

13 Supra, note 10, at p. 6.

14 Supra, note 13.

15 Annex 9, Standard 4.1.

16 Id. Standard 4.4.


18 The International Convention on the Simplification and Harmonization of Customs Procedures (Kyoto Convention) was adopted in Kyoto on 18 May 1973, and entered into force on 25 September 1974. The Contracting Parties to the Convention, established under the auspices of the Customs Co-operation Council, recognize that divergences between national Customs procedures can hamper international trade and other international exchanges and that it is in the interests of all countries to promote such trade and exchanges and to foster international co-operation. Considering that simplification and harmonization of their Customs procedures can effectively contribute to the development of international trade and of other international exchanges, and convinced that an international instrument proposing provisions which countries undertake to apply as soon as they are able to do so would lead progressively to a high degree of simplification and harmonization of Customs procedures, each Contracting Party to the Convention undertakes to promote the simplification and harmonization of Customs procedures and, to that end, to conform, in accordance with the provisions of the Convention, to the Standards and Recommended Practices in the Annexes to this Convention. The provisions of the Convention do not preclude the application of prohibitions or restrictions imposed under national legislation.


21 Doc 9284.

22 Id. Standard 6.1.

23 Annex 18, op. cit. Chapter 1 - Definitions.


28 I.C.J. Reports, 1970 at 32.

29 1925 RIAA ii 615 at 641.


31 I.C.J. Reports (1949), 4 at 23.
