



RESPONSE TO THE INVITATION BY THE SECRETARIAT OF THE CONVENTION ON BIOLOGICAL DIVERSITY TO SUBMIT VIEWS AND EXPERIENCES FOR THE IN-DEPTH REVIEW OF WORK ON INVASIVE ALIEN SPECIES

This response relates to Decision VIII/27 of COP 8: Alien species that threaten ecosystems, habitats or species (Article 8 (h)): further consideration of gaps and inconsistencies in the international regulatory framework

The decision includes the following paragraphs on the international dimensions of the problem:

“5. Notes that, in addition to capacity-building at national level, there is also a need for capacity-building at subregional, regional and global levels in order to promote consistency and mutual supportiveness of measures taken to address alien invasive species, and invites donors and financial institutions to support capacity-building initiatives at these levels to assist Parties in effectively controlling the spread of existing invasive alien species and preventing further introductions;

“7. Further recognizes that collaboration among international bodies and instruments is important in the context of addressing issues related to invasive alien species, and that such collaboration requires adequate resources;

“8. Encourages Parties to ensure close inter-agency collaboration at the national and regional levels among the various sectors and interest-holders relevant to the introduction, control and management of invasive alien species, for example through the establishment of national coordination committees;

“9. Notes that actions to address invasive alien species need to be taken at the international, regional, national and/or subnational levels, emphasizes the need to promote consistency among actions and efforts at the various levels, also emphasizes the appropriateness of regional and subregional approaches in particular, and encourages the

development, as appropriate, of regional guidance under appropriate regional bodies or institutions to address particular gaps in the international regulatory framework;”

The ecoSERVICES core project of Diversitas has assessed the scientific literature on the economics of invasive species as an externality of trade. It has identified a number of areas where there is room for significant improvement in the development of appropriate trade policy, the coordination of actions between trading partners (VIII/27/7,8,9), and investment in coordinated efforts (VIII/27/5). The following summarizes the findings.

1. Species introductions are increasing with the growth in world trade.

The recent growth and development of the world trade system has exacerbated a long-standing trend in the introduction of invasive alien species (Perrings et al, 2005). The opening of new markets or trade routes has resulted in the introduction of new species either as the object of trade or as the unintended consequence of trade, while the growth in the volume of trade along existing routes has increased the frequency with which introductions are repeated, and hence the probability that an introduced species will establish and spread (e.g. Enserink, 1999, Cassey et al, 2004; Semmens et al, 2004). It has been shown that the more open economies are, the more vulnerable they are to biological invasions (Dalmazzone, 2000; Vilà and Pujadas, 2001). It has also been shown that trade patterns are a good empirical predictor of invasions (Levine and d’Antonio, 2003). Many of the most damaging species introductions, such as the Zebra Mussel (*Dreissena polymorpha*) and the Asian Clam (*Corbicula fluminea*), were an external effect of transport – they were introduced through ballast water exchange in ships (Margolis, Shogren and Fischer, 2005). Other introductions have been deliberate, such as the Nile perch (*Lates niloticus*) and Tanganyika sardine (*Limnothrissa miodon*) in the African lakes (Kasulo, 2000). Aid flows have been similarly implicated in the introduction and spread of both pests and pathogens. For example, grey leaf spot (*Circoospora zae-maydis*) was first reported in South Africa in 1988 (Ward, 1996), and was thought to have been introduced in US food aid shipments of maize in during the drought years of the 1980’s (Ward et al., 1999). Similarly, parthenium weed from Mexico was first detected in Ethiopia in 1988 near food-aid distribution centres implying that it had accompanied wheat grain distributed as food aid during the drought (GISP, 2004).

2. Regional trade growth exacerbates the likelihood that introduced species will establish.

An important feature of agricultural trade in developing countries is that although it continued to grow at around 3.4 per cent in the 1990s, almost all the growth was accounted for by trade with other developing countries. More than 50 per cent of food imports in developing countries derives from other developing countries (Aksoy, 2005). The World Bank reports that a major trend in the trading system involves the proliferation of bilateral and regional trade agreements (RTAs), and especially the proliferation of South-South RTAs (World Bank, 2005). The number of RTAs has increased fourfold since 1990 and currently stands at over 230. Indeed, RTAs now account for nearly 40 percent of world trade. The development of South-South trade brings about closer linkages between ecosystems in which bioclimatic conditions are broadly similar, and therefore in which the risk that introduced species will establish,

naturalize and spread is high. There is evidence from NAFTA, for example, that the agreement has facilitated the spread of species within the NAFTA area that were introduced to a NAFTA country from some other country (Perrault et al, 2003). The promotion of agricultural trade between bioclimatically matching regions in which resources for the detection and control of potentially invasive species are weak must be a concern.

3. Policy responses to IAS as an externality of trade involve trade restrictions.

The problem of IAS as an externality of trade has been analysed by a number of authors (Perrings et al, 2000; Perrings et al, 2002; Kohn and Capen, 2002; Costello and McAusland, 2003; McAusland and Costello, 2004). One issue in this literature has been to identify the optimal policy response to the risks posed by species introductions. Costello and McAusland (2003) explored the use of tariffs on imports to reduce the damage costs from accidental introductions. While they show that import tariffs will always reduce import volumes of potentially invasive species, they find that tariffs could have adverse effects if they alter the composition of imports, which might lead to land-use changes in such a way as to make ecosystems more vulnerable to invasive species. McAusland and Costello (2004) consider the efficiency of port inspections combined with tariffs on imported goods, and find that the optimal tariff covers inspection costs plus the potential damage costs from outbreaks of pests undetected during inspections. The optimal level of tariffs in each case depends on the risk of biological invasions and the expected level of damage they cause. A second issue has been to develop mechanisms to protect the global community against the risks posed by the fact that protection of society against invasive species is generally a 'weakest-link' public good (Perrings et al, 2002).

In practice, the GATT does allow for actions in restraint of trade where human animal or plant life and health are threatened by trade. The Sanitary and Phytosanitary Agreement (SPA) provides the rules under which countries can do this, but allows individual countries some latitude. It encourages adoption of the standards set by the Codex Alimentarius Commission for food safety, the International Office of Epizootics for animal health, and the International Plant Protection Convention for plant health, but allows countries to choose their own level of protection (Jaffee and Henson, 2005). This has been and continues to be used as a trade protection device. Large numbers of countries are ineligible to supply certain markets with a range of animal products and food crops because of restrictions based on threats to plant and animal health (Sumner 2003). A review of the complaints lodged by developing countries over the use of the SPA reveals a persistent set of concerns, including the overly restrictive and non-scientific based measures by high income countries for dealing with foot and mouth disease and bovine spongiform encephalopathy, and plant pests and pathogens, especially in the horticultural sector (Jaffee and Henson, 2005). Nor is the SPA the only instrument used to restrict trade. For example, bacterial wilt (*Ralstonia solanacearum*) is listed in US law as a potential biological weapon. When it was found on a shipment of pelargonium cuttings, for example, it resulted in quarantine restrictions that have severely affected the horticultural trade in Kenya (Rangi, 2004).

4. There is scope for greater collaboration between trading partners in RTAs to address the problem of IAS.

A number of RTAs include environmental agreements. In many cases, these are designed to force compliance with environmental laws. So, for example, the North American Free Trade Association (NAFTA) has a Commission for Environmental Cooperation. Its role is to ensure that member states do not seek a trade benefit or attract inward investment by failing to comply with environmental laws. The U.S.–Singapore Free Trade Agreement includes an environmental chapter requiring that both countries effectively enforce their environmental laws, and including fines for non-compliance (World Bank, 2005). The same thing exists in developing country RTAs. The Southern Common Market (MERCOSUR), for example, includes an environmental working group charged with eliminating the use of environmental barriers to trade, promoting ‘upward harmonization’ of environmental management systems and securing cooperation on shared ecosystems. Indeed, many of the main South-South RTAs - MERCOSUR, the Andean Pact, the Common Market for Eastern and Southern Africa (COMESA), the Southern African Development Community (SADC), the ASEAN Free Trade Area (AFTA) and the Caribbean Community (CARICOM) – include agreements on standards (World Bank, 2005).

The regional scale is the appropriate level at which to manage environmental resources wherever the ecosystems affected are regional in extent. In marine systems, for example, the conservation of straddling or migratory stocks requires cooperation across the sea areas within which those stocks move. The conservation of such stocks is a regional public good, and subsidiarity indicates that the right level of governance is the regional level. Similarly, the control of the introduction of potentially invasive species within a trading group should be regulated at the level of that group. Not only does this make it possible to ensure that the resources committed to control are commensurate with the collective benefits it offers, it also minimises transaction costs by reducing the number of participants to those with a real stake in the public good, and builds trust by allowing repeated interaction between members over time (Sandler, 2005) (VIII/27/7,8,9).

5. There is limited scope for GATT reform to address the problem.

The reduction of ‘Amber Box’ (trade distorting) measures under the Uruguay Round and its Agreement on Agriculture (URAA) may have had positive effects on agrobiodiversity in countries where agriculture is highly intensive, but may have had negative effects in countries where agriculture is largely extensive and relies on traditional techniques (SCBD, 2005). ‘Green Box’ (non-trade distorting) measures designed to internalise externalities are re-designed agriculture support measures. They have largely been used by developed countries, and in many cases appear to have been beneficial for agrobiodiversity. The SCBD (2005) notes that they have the potential to benefit biodiversity in developing countries where connected to wildlife or habitat conservation, or to the protection of traditional livestock strains and landraces. Green Box agricultural support mechanisms that target invasion risks may be helpful in countries where agriculture is based on traditional landraces or livestock strains, and on production methods that are vulnerable to the effects of invasive weeds, pests and pathogens.

6. International investment in IAS control is dominated by short-term fire-fighting goals.

International investment in the IAS problem is dominated by coordinated actions in response to particular threats such as SARS or aids, or to bilateral or multilateral conservation and development projects that include and element of invasive species control (such as the South African Working for Water project, of which the control of IAS in the fynbos is a part). Lending for invasive species control is a very small share of World Bank lending for environmental and natural resource management (ENRM) projects. Overall ENRM lending has fallen substantially in the last decade, both in absolute terms and as a percentage of total lending. In 2002 it was less than a third of what it had been in 1994. Since then it has been improving, but in 2004 was still only around 40 per cent of 1994 levels (Acharya et al, 2004).

More systematic programs exist, but are poorly funded and implemented. For example, IAS are a significant component of the action plan of the environment initiative of the New Partnership for Africa's Development (NEPAD) (UNEP, 2003). The action plan notes that the impacts of invasive species are 'a major public policy' concern in many countries of Africa, affecting water supplies, fisheries, forestry, horticulture, trade and tourism. It also notes that they are a primary cause of biodiversity loss and ecosystem decline, that they exacerbate poverty and threaten the sustainability of development strategies (UNEP, 2003). The goal of the Programme Area on Prevention, Control and Management of Invasive Alien Species is stated to be "to minimise the impact of IAS on the African continent's people, economies and ecological systems". The main instrument, however, is coordinated action amongst RTAs – the East African Community, the Southern Africa Development Community and the Common Market for Eastern and Southern Africa – to regulate and control the introduction and spread of potentially invasive alien species. There is little direct investment in the program.

7. International investment in monitoring and information provision can significantly improve the capacity of both national governments and RTAs to develop mechanisms to mitigate the IAS risks of trade (VIII/27/5).

The commitment of international resources to monitoring efforts on IAS similar to those provided by the Atlanta Center for Disease control are necessary (a) to ensure that the countries that are parties to trade have the information needed to undertake coordinated actions, and (b) to identify the areas where international funding of local control efforts are necessary to protect the global public good (Perrings et al, 2002). Diversitas' support for an international mechanism for an International Mechanism Of Scientific Expertise on Biodiversity (Loreau et al, 2006), is designed to promote discussions amongst stakeholders as to what the best way of supporting the kind of monitoring efforts needed in this area.

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