

**THE LEGAL REGIME
FOR THE CONTROL OF
INVASIVE ALIEN SPECIES
(IAS) IN GHANA:
SOME LESSONS IN THE
IMPLEMENTATION OF
TREATY NORMS**

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LIST OF ABBREVIATIONS

| | | |
|--------------------|---|---|
| AIA | - | Advance informed agreement |
| Cartagena Protocol | - | Cartagena Protocol on Biosafety |
| CBD | - | Convention on Biological Diversity |
| CNA | - | Competent national authority |
| COP | - | Conference of the Parties |
| CSIR | - | Council for Scientific and Industrial Research |
| CEPS | - | Customs Excise and Preventive Service |
| EPA | - | Environmental Protection Agency |
| FAO | - | U.N. Food and Agriculture Organization |
| GMOs | - | Genetically modified organisms |
| GOG | - | Government of Ghana |
| IAS | - | Invasive alien species |
| IPPC | - | International Plant Protection Convention |
| ISPMs | - | International Standards for Phytosanitary Measures |
| LMOs | - | Living modified organisms |
| MDAs | - | Ministries, Departments and Agencies |
| MEST | - | Ministry of Environment, Science and Technology |
| MLF | - | Ministry of Lands and Forestry |
| MOF | - | Ministry of Finance |
| MOFA | - | Ministry of Food and Agriculture |
| MOH | - | Ministry of Health |
| MOT | - | Ministry of Trade |
| NPPO | - | National Plant Protection Organization |
| PPRSD | - | Plant Protection and Regulatory Services Division, MOFA |
| SPS Agreement | - | WTO Agreement on the Application of Sanitary and Phytosanitary Measures |
| WTO | - | World Trade Organization |

1. INTRODUCTION

The control of invasive alien species (IAS) is an international problem with international dimensions. Accordingly the international community has addressed the subject through treaties, notably the Convention on Biodiversity (CBD) and the International Plant Protection Convention (IPPC). Ghana as a member of the international community is a party to these treaty arrangements. Ghana is thus enjoined to enact such treaty norms into domestic legislation so as to give force and effect to them, and also to provide the necessary institutional and administrative frameworks for the implementation of the domestic legislation so enacted.

This article examines the constitutional, institutional and legislative frameworks for the implementation of the international norms for the control of IAS in Ghana. It identifies gaps or limitations and proffers some recommendations to address the weaknesses in the existing regime. In the light of the Ghanaian experience on the subject, the article proffers a methodology that could be employed by other states, especially those which adhere to the common law tradition, for the implementation of treaty norms for the control of IAS.

2. THREAT TO BIOLOGICAL DIVERSITY: THE INVASIVE ALIEN SPECIES PROBLEM

Several international treaties at the global and regional levels address the conservation of biological diversity including the problem of IAS.¹ Biological diversity has been defined as the variability among living organisms from all sources including, *inter alia*, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity between

species and of ecosystems.² In the era of limited populations and technologies, biodiversity faced little or no threats. However, as a result of developments in science and technology and increases in population, among other factors, biological diversity has come under serious threat. Human activities including hunting, fishing, farming, transportation and construction have combined to threaten, indeed in some instances to extinguish, biological diversity in its various forms.

Another important human-induced activity is the introduction of IAS. The CBD identifies IAS as species that threaten ecosystems, habitats or species.³ Invasive species have also been defined as alien species which become established in natural or semi-natural ecosystems or habitats, are agents of change and threaten native biological diversity.⁴

Entailed in these definitions are the elements of introduction, intention and threats or invasion: the species are transported by humans across major geographic barriers; the introduction could be intentional as for example, the transportation of an ornamental plant from one region to another for horticultural purposes, or unintentional through pathways involving transport, trade, travel or tourism. Once introduced, alien species could proliferate and spread beyond defined limits, often with disastrous consequences for the environment. Endemic species are especially vulnerable to competitors, predators, pathogens and parasites from other areas.⁵

In Africa, plants and animals introduced from other continents are placing a huge burden on the continent. The cost of the damage caused by alien species in African wetlands is put at billions of dollars annually. In many African countries, the water hyacinth, a native of the Amazon basin and brought originally to Africa as an ornamental plant, has now spread to

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¹ See the Annexure for a list of instruments on biodiversity to which Ghana is a party

² See CBD art. 2.

³ CBD art. 8.

⁴ Cf. IUCN at p. 138.

⁵ IUCN 2000.

most of the continent's lakes and rivers. Invariably the hyacinths form huge mats of floating vegetation, covering thousands of hectares and depriving life beneath the surface of light and oxygen and reducing the variety of fish species. Notable effects of water hyacinth infestation include: fishermen losing their livelihoods; reducing the volume of water available for domestic and industrial purposes; crippling navigation; decreasing the potability of drinking water; and causing the water body to serve as a breeding ground for disease-causing organisms. Hyacinths also have negative effects on power generation. The Akosombo Dam, the largest man-made lake in the world and a source of power for Ghana and other parts of West Africa, for example, is under serious threat from this alien species.

The hyacinth is difficult to control because it grows faster than mechanical cutters can tear it up, and because weevils (*Neochintina* spp) used in biological control are ineffective due to the shortness of the hyacinth's life cycle (14-18 days). Other IAS of note in the region include azola, the red water fern whose floating mats are a haven for mosquito larvae and snails carrying bilharzia; the water lettuce or vile cabbage; the water fern; and the Louisiana crayfish which destroys native African plants, snails and crustaceans; armyworm; exotic species of tilapia; *Salvanya molesta* (kariba weed); and *Ceratophyllum Demersum* (corn tail).

Armyworm is a cereal pest in most maize, rice, sorghum and millet growing areas in Ghana. Its occurrence is sporadic and sudden with levels of severity ranging from minor incidence to total crop devastation. In Ghana, armyworm infestation became an issue of concern when there was a sudden outbreak in 1987 in the Northern and Upper Regions of the country. Armyworm infestation is spreading rapidly to other parts of Ghana. The vulnerable areas include low lying savannah and areas along river basins. At the onset of the rains (between May and July), the moth (*Spodoptera exempta*) lays eggs in the soil. The emerging larvae (caterpillar) are wind-driven to form

aggregates which "march" through the fields, devouring every crop they encounter except mature plants. The sudden attacks leave in their wake vast bare lands requiring replanting. Grass for livestock to feed on is also affected, leading to food shortages.

Another potent IAS is the *Chromolaena Odorata*, (also known as Siam weed or Acheampong weed). It originated in the Far East and spread to Ghana from Nigeria where the Nigerian Electric Power Authority imported it for use as a biological control agent of other weeds. The same purpose is assigned this species by the Volta River Authority of Ghana. It has, however, spread beyond its intended areas of control to affect several acreages of farms, especially cocoa farms.

The IAS problem is one of international concern. Because ecosystems may straddle political boundaries, legal frameworks at the domestic level must provide a basis for transboundary co-operation and where possible, harmonized prevention or mitigation measures.⁶ Accordingly, the control of IAS has been addressed within the framework of treaties and other international instruments, notably the CBD and the IPPC. These international instruments are examined below.

3. CONVENTIONS FOR THE CONTROL OF INVASIVE ALIEN SPECIES

3.1. The Convention on Biodiversity

The Convention on Biodiversity (CBD) entered into force on 29 December 1993. Ghana ratified the CBD on 29 August 1994. The objects of the convention are to conserve biological diversity, to promote the sustainable use of its components and to encourage equitable sharing of the benefits arising out of the utilization of genetic resources. The CBD makes provisions for principles, programmes, policies and activities that are crucial for biodiversity conservation and equitable

⁶ Id.

use of bio-resources, including the precautionary, polluter pays and preventive principles; access to genetic resources; and technology transfer. The convention acknowledges the principle of national sovereignty over domestic natural resources, subject to respect for the rights of other states. The CBD, however, places a duty on state parties to conserve biological diversity within their jurisdiction, as well as to cooperate with other states in preserving biological diversity in areas outside national jurisdiction.

The CBD as a framework convention confers on states the responsibility for the formulation and implementation of strategies, plans or programmes for the conservation and sustainable use of biological diversity or for the adaptation of existing programmes for those purposes.⁷ Article 8 emphasizes *in situ* measures of conservation including:

- the establishment and management of a system of protected areas, ecosystems and natural habitats;
- rehabilitation and restoration of degraded ecosystems;
- *the management, regulation and control of the risks associated with LMOs [living modified organisms];*
- *the prevention of the introduction, and the control or eradication of alien species that threaten ecosystems, habitats or species;*
- provision of the conditions necessary for ensuring compatibility between present uses and the conservation of biological diversity and sustainable use of its components;
- the respect, preservation and maintenance of knowledge, innovations and practices of indigenous and local communities and the equitable sharing of the benefits arising from the utilization of such knowledge, innovations and practices;
- the development or maintenance of legislation for the protection of threatened species and populations.⁸

⁷ CBD art. 6.

⁸ CBD art. 8 (emphasis added).

The CBD also enjoins states to adopt *ex situ* measures for the purpose of complementing *in situ* measures. Such measures include recovery and rehabilitation of threatened species, their reintroduction into natural habitats under appropriate conditions and the establishment and maintenance of facilities for research on plant, animals and microorganisms.⁹

Articles 15 and 16 of the CBD deal with access to genetic resources and transfer of technology. States are enjoined to create conditions to facilitate access to genetic resources for environmentally sound uses of biodiversity and not to impose restrictions that run counter to the objectives of the CBD. The grant of access shall be on mutually agreed terms and subject to prior informed consent, and, where possible, with the full participation of the contracting state granting access. Each contracting state is enjoined to take legislative, administrative or policy measures to ensure the sharing in a fair and equitable manner of the benefits arising from the commercial exploitation and utilization of genetic resources.

As noted, as part of the *in situ* measures of conservation, parties to the CBD are enjoined to prevent the introduction of those alien species which threaten ecosystems, habitats or species. This is a general obligation that requires the adoption of specific legislation, programmes or policies for its implementation. There are, however, other provisions in the CBD that provide important indicators for planning tools and co-operative approaches that should underpin the design of legal frameworks for the implementation of Article 8. These have been identified¹⁰ as:

- integration of biodiversity-related considerations into sectoral and cross-sectoral plans, programmes and policies;
- identification and monitoring of

⁹ CBD art. 9.

¹⁰ FAO 2002.

processes and categories of activities that may have significant adverse impacts on conservation and sustainable use of biodiversity and, where a significant adverse effect on biological diversity has been determined, regulation or management of the relevant processes and categories of activities;

- the undertaking of environmental impact assessments for projects, programmes and policies likely to have a significant adverse impact on biodiversity, as well as notification, exchange of information and consultation with neighbouring countries which may be affected by damaging processes and activities;
- the use of economically and socially sound measures that act as incentives for the conservation and sustainable use of components of biodiversity;
- the promotion of research and training regarding conservation and sustainable use of biodiversity; and
- the promotion of public education and awareness.¹¹

IAS have been addressed by the Subsidiary Body on Scientific, Technical and Technological Advice of the CBD, and a publication on the subject, "The Interim Guiding Principles for the Prevention, Introduction and Mitigation of Impacts of Alien Species" prepared by the secretariat of the CBD, endorses a systematic approach to the control of IAS along the following recommended lines:

- priority attention should be given to preventing entry of potential IAS, both between and within states;
- if entry has already taken place, actions should be undertaken to prevent the establishment and spread of alien species;
- the preferred response would be eradication at the earliest possible stage;

¹¹ CBD arts. 6, 7, 8, 11, 12 and 14.

- if eradication is not feasible or cost-effective, containment and long-term control measures should be considered.

3.2. The Cartagena Protocol on Biosafety

Living modified organisms (LMOs), including genetically modified organisms (GMOs) are considered a subset of alien species as, among other things, they have no normal distribution, occur nowhere in the natural environment until released and their release could have severe and irreversible effects on environmental safety.¹² Article 19(3) of the CBD enjoins parties to consider the need for, and the modalities of, a protocol setting out appropriate procedures for the safe transfer, handling and use of any LMOs that may have an adverse effect on the conservation and sustainable use of biodiversity. This obligation has been fulfilled by the adoption of the Cartagena Protocol on Biosafety (Cartagena Protocol) by the Conference of the Parties (COP) of the CBD on 29 January 2000.

The Cartagena Protocol seeks to protect biological diversity from the potential risks posed by LMOs resulting from modern biotechnology. It establishes an advance informed agreement (AIA) procedure for ensuring that states are provided with the information necessary to make an informed decision before agreeing to the import of such organisms into their territory. The AIA requirement gives states the right to receive information from the exporter, prior to first import, regarding any LMOs intended for intentional introduction into the environment, as well as the right to approve, prohibit or restrict imports of that LMO on the basis of risk assessment carried out in a scientifically sound manner. In this regard, the exporter may be required to carry out and bear the cost of the risk assessment. However, LMOs that are pharmaceuticals for humans are excluded from the Cartagena Protocol if they are covered by another international agreement or arrangement.

¹² IUCN 2000.

Other actions involving the movement of LMOs excluded from the AIA procedure include LMOs in transit, destined for contained use in the importing country and intended for direct use as food or feed or for processing.

The Cartagena Protocol also prescribes the use of a risk assessment procedure to identify and evaluate the possible adverse effects of LMOs on the conservation and sustainable use of biodiversity, taking into account risks to human health with regard to particular introductions or classes of introductions. The parameters of these procedures are contained in Annex III to the Cartagena Protocol. The Cartagena Protocol also establishes a Biosafety Clearing House to facilitate the exchange of information on LMOs, in particular LMOs for direct use for food, feed or processing and to assist countries in the implementation of the Protocol.

3.3. Other instruments

Other biodiversity related instruments address IAS, including the Ramsar Convention on Wetlands, the Bonn Convention on the Conservation of Migratory Species of Wild Animals, the United Nations Convention on the Law of the Sea (UNCLOS), the World Trade Organization (WTO) Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement) and the IPPC. There are, in addition, regional instruments of relevance, including the Agreement on the Conservation of African-Eurasian Migratory Water Birds, Agreement for the Establishment of the Near East Plant Protection Organization and the 1969 Revised Algiers (African) Convention.

In addition to formal conventions and treaties, there are also soft law instruments on the subject, including the IUCN Guidelines for the Prevention of Biodiversity Loss Caused by Alien Invasive Species (IUCN Guidelines), Chapter 11 of UNCED's Agenda 21 and the International Maritime Organization (IMO) Resolution A.868 (20) on Guidelines for the Control and

Management of Ships' Ballast Water to Minimize the Transfer of Harmful Aquatic Organisms and Pathogens. Although legally nonbinding, these soft law instruments are nevertheless of importance as they serve as guides for action on the part of states in the implementation of measures for the control of IAS.

The provisions of all of these instruments constitute the norms, benchmarks or standards for the enactment and assessment of national standards. However, the obligations contained in these instruments are expressed in general terms, and parties are thus required to take appropriate steps to see to their implementation.

Of all the major instruments that address IAS, it is only the IPPC that prescribes institutional, administrative and legislative requirements for its implementation at the domestic level. It is also the only major instrument which is addressed in corresponding implementing legislation on IAS in Ghana.¹³ Accordingly, this article next turns to the implementation of the IPPC in Ghana.

4. THE INTERNATIONAL PLANT PROTECTION CONVENTION

4.1. Overview

The WTO Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement) establishes rules regarding sanitary and phytosanitary measures to guide states that are seeking to protect human, animal or plant life and health without impinging on international trade. Along with the Codex Alimentarius Commission for food and the *Office international des épizooties* (World Organization for Animal Health) for animal

¹³ Ghana ratified the CBD on 29th August 1994, but there is no specific legislation for its implementation. Rather, it is addressed by sectoral legislation, including laws on forestry, game and wildlife and fisheries. Ghana ratified the Cartagena Protocol on 17th December 2002; a UNEP-funded project is currently working on the implementation of the Protocol including the legislative and institutional frameworks for its implementation.

health, the SPS Agreement identifies the IPPC as the source for international standard-setting for phytosanitary measures and, as such, the convention serves as the basis for the harmonization of plant protection legislation. The IPPC was adopted in 1951, entered into force in 1952 and was revised in 1979, and its amendments entered into force in 1991. It was further amended in 1997 to reflect the mandate articulated in the SPS Agreement that the IPPC would be the standard-setting organization for plant protection matters.

The object of the IPPC is to prevent the introduction and spread of pest of plants and plant products, and to promote appropriate measures for their control through the adoption of legislative, technical and administrative measures specified in the convention. "Pest" under the IPPC is defined as "any species, strain or biotype of plant, animal or pathogenic agent injurious to plants or plant products." The convention's scope is therefore not limited to cultivated plants or to direct damage from pests; it also covers weeds and other species, as well as diseases that may have indirect effects on plants. Since some IAS are plant pests, they fall within the scope of the IPPC and its corresponding standards and procedures.

4.2. Implementation

The IPPC is an instrument designed to secure common and effective action to prevent the introduction and spread of plant pests, and to promote appropriate measures for their control. The convention provides a framework and a forum for international cooperation, harmonization and technical exchange among the contracting parties. Its implementation involves the collaboration of national plant protection organizations (NPPOs) which are the official services established by governments to discharge the functions specified in the convention, and regional plant protection organizations (RPPOs), which function as co-ordinating bodies at regional level for the achievement of the

objectives of the IPPC. The main underlying principles of the convention are:

Necessity. Restrictive measures must be applied only when made necessary by phytosanitary considerations.

Technical justification. Phytosanitary measures must be technically justified.

Minimal impact. Phytosanitary measures must be consistent with the pest risk and must be the least restrictive measures available. They shall result in the minimum impediment to international movement of people, commodities and conveyances.

Nondiscrimination. The measures must be applied without discrimination between countries with the same phytosanitary status. For a particular quarantine pest, phytosanitary measures must be no more stringent when applied to imported goods than measures applied to the same pest within national borders.

International cooperation. Contracting parties agree to publish phytosanitary measures and to supply information on pest risk analysis when requested. They also undertake to exchange information on plant pests, in particular the reporting of any outbreak or spread of pests, and to cooperate in establishing RPPOs, which in turn cooperate with the IPPC Secretariat and the Interim Commission on Phytosanitary Measures (ICPM).¹⁴ As noted, each contracting party under the convention is enjoined to establish an NPPO. The functions of NPPOs include:

- the issuance of certificates relating to the phytosanitary regulations of the importing contracting party for consignments of plants, plant products and other regulated articles;
- the surveillance of growing plants, including areas under cultivation (*inter alia*, fields, plantations, nurseries, gardens, greenhouses and laboratories) and wild flora, and of plants and plant products in storage or in transportation, particularly with the object of reporting the occurrence,

¹⁴ FAO, Guide to the International Plant Protection Convention, 2002.

outbreak and spread of pests, and control of pests;

- the inspection of consignments of plants and plant products moving in international traffic and, where appropriate, the inspection of other regulated Articles, particularly with the object of preventing the introduction and/or spread of pests;
- the disinfection or disinfection of consignments of plants, plant products and other regulated articles moving in international traffic, to meet phytosanitary requirements;
- the protection of endangered areas and the designation, maintenance and surveillance of pest free areas and areas of low pest prevalence;
- the conduct of pest risk analyses;
- to ensure through appropriate procedures that the phytosanitary security of consignments after certification regarding composition, substitution and reinfestation is maintained prior to export; and
- training and development of staff.

The 1997 text of the IPPC provides for the establishment of a Secretariat and a Commission on Phytosanitary Measures that will serve as the IPPC's new governing body. The members of the Commission are the parties to the convention and its functions are to review the state of plant protection in the world, provide direction to the work programme of the IPPC Secretariat and approve standards. As noted, WTO members are required to base their phytosanitary measures on the international standards developed within the framework of the IPPC. Countries are not restricted to IPPC standards: they may establish their own standards so long as they justify any deviation from existing international standards through risk analysis. Risk analysis must also be used where countries develop their own requirements in the absence of any international standard. A Standards Committee reviews draft documents on phytosanitary measures prepared by the Secretariat for approval and adoption by the FAO. Several International Standards for

Phytosanitary Measures (ISPMs) have been adopted. These include:

- **ISPM 1 – Principles of Plant Quarantine as Related to International Trade:** intended to reduce or eliminate the use of unjustifiable phytosanitary measures as barriers to trade;
- **ISPM 2- Guidelines for Pest Risk Analysis:** describes the process of pest risk analysis to assist NPPOs in the preparation of phytosanitary regulations;
- **ISPM 3- Code of Conduct for the Import and Release of Exotic Biological Control Agents:** lists the responsibilities of government authorities and of exporters and importers of biological control agents;
- **ISPM 4 – Requirements for the Establishment of Pest Free Areas:** outlines the requirements for the establishment and use of pest free areas in connection with phytosanitary certification of plants and plant products for export;
- **ISPM 5 – Glossary of Phytosanitary Terms:** lists terms and definitions relevant to phytosanitary systems worldwide and provides a harmonized internationally agreed vocabulary;
- **ISPM 6 – Guidelines for Surveillance:** describes the components of surveillance and monitoring systems for pest detection or for the provision of information for use in pest risk analysis, the establishment of pest free areas or the preparation of pest lists;
- **ISPM 7 – Export Certification System:** describes the components of a national system for the issuance of phytosanitary certificates for export;
- **ISPM 8 – Determination of Pest Status in an Area:** describes the content of a pest record, and outlines the use of pest records and other information in the determination of pest status in an area;
- **ISPM 9 – Guidelines for Pest Eradication Programmes:** describes the components of a pest eradication programme which can lead to the

- establishment or re-establishment of pest absence in an area;
- ISPM 10 – **Requirements for the Establishment of Pest Free Places of Production and Pest Free Production Sites**: describes these requirements, similar to those for pest free areas;
- ISPM 11 – **Pest Risk Analysis for Quarantine Pests Including Analysis of Environmental Risks and Living Modified Organisms** ;
- ISPM 12 – **Guidelines for Phytosanitary Certificates**: describes principles and guidelines for the preparation and issue of phytosanitary certificates;
- ISPM 13 – **Guidelines for the Notification of Non-compliance and Emergency Action**: describes the actions to be taken by countries regarding the notification of instances of failure of an imported consignment to comply with specified requirements;
- ISPM 14 – **The Use of Integrated Measures in a Systems Approach for Pest Risk Management**: provides for the development and evaluation of integrated measures in a systems approach as an option for pest risk management for import;
- ISPM 15 – **Guidelines for Regulation of Wood Packaging Material in International Trade**: describes phytosanitary measures to reduce the risk of introduction and/or spread of quarantine pest associated with wood packaging material;
- ISPM 16 – **Regulated Non-quarantine Pests: Concept and Application**: describes the concept of regulated non-quarantine pest and identifies their characteristics;
- ISPM 17 – **Pest Reporting**: describes the responsibilities of, and requirements for, contracting parties in reporting the occurrence, outbreak and spread of pests in an area for which they are responsible.
- ISPM 18 – **Guidelines for the Use of Irradiation as a Phytosanitary Measure** ;
- ISPM 19 – **Guidelines on Lists of Regulated Pests** ;

- ISPM 20 – **Guidelines for a Phytosanitary Import Regulatory System** ;
- ISPM 21 – **Pest Risk Analysis for Regulated Non-quarantine Pests**:¹⁵

5. TREATY NORMS AND GHANA'S OBLIGATIONS

As a party to the IPPC, Ghana is enjoined to implement the Convention in its national legislation in accordance with the rule that international obligations undertaken by a state are binding and must be performed in good faith.¹⁶ Indeed, the Ghanaian Constitution enjoins the state to promote respect for international law, treaty obligations and the settlement of disputes by peaceful means. Ratified treaties do not, however, have immediate force and effect in Ghana.

Ghanaian jurisprudence on the subject is inspired by the common law tradition inherited from the United Kingdom. Except to the extent that a treaty becomes incorporated into the laws of the United Kingdom by statute, the courts of the United Kingdom have no power to enforce treaty rights and obligations at the behest of a sovereign government or at the behest of a private individual.¹⁷ This view has prevailed in Ghana: if a treaty is to have domestic effect, it is necessary to enact same into domestic legislation by an Act of Parliament.¹⁸

Under existing arrangements, proposals for legislation are initiated from the sector Ministry. The proposals in the form of a Cabinet paper are presented by the sector Minister for consideration, vetting and approval by Cabinet. After Cabinet approval, the Office of the Attorney General is responsible for the drafting of

¹⁵ FAO 2002.

¹⁶ See Vienna Convention on the Law of Treaties art. 26.

¹⁷ See The International Tin Council Case [1990] 2 AC 418: per Lord Templeman. Some aspects of EC legislation provide an exception to the rule here, as they could be binding or directly enforceable even in the absence of domestic implementing legislation.

¹⁸ See Sarpong 2002.

the legislation. The draft, in turn, is presented in the form of a Bill before Parliament. Parliament thoroughly debates the matter, which in the initial stages is referred to the relevant Select Committee for in-depth study, and the necessary clarifications are sought from the Ministry. When approved, the Bill is passed as an Act of Parliament; and is subsequently presented to the President for his assent.

In the light of the foregoing, Ghana is enjoined to enact legislation to implement the IPPC so that the convention can have force and effect in Ghana. The subsequent chapters of this article examine the existing constitutional, institutional and legislative frameworks for the realization of this objective.

6. THE CONSTITUTIONAL, INSTITUTIONAL AND LEGISLATIVE FRAMEWORK FOR THE CONTROL OF IAS IN GHANA

6.1. Constitutional framework

The Constitution of the Republic of Ghana, 1992 (hereafter “the Constitution”) does not expressly address biodiversity. There are, however, provisions governing the environment in general and natural resources, which are hence of relevance. Article 36 of the Constitution enjoins the state to promote agriculture and industry, and its subsection (9) imposes an obligation on the state to take appropriate measures needed to protect and safeguard the environment. The Constitution also imposes an obligation on citizens to protect and safeguard the environment (Article 41k). It also enjoins the state, in its dealings with other states, to promote respect for international law, treaty obligations and the settlement of disputes by peaceful means, and to adhere to the principles enshrined in the Charters of the United Nations (UN), the Organization of African Unity (OAU, now the African Union), the Commonwealth, the treaty of the Economic Community of West African States (ECOWAS) and any other international organization of which

Ghana is a member (Article 40). Any activity that has as its objective the implementation of a convention for the control of IAS would thus be in consonance with Ghanaian environmental law and policy and the fulfillment of Ghana’s treaty obligations.

6.2 Institutional framework

Ministries and Agencies

The institutional framework for the control of IAS in Ghana is intertwined with the regime for environmental protection. In Ghana, environment and biodiversity issues are not the responsibility of one ministry, department or agency (MDA) of state; instead, several MDAs have responsibility for, or are engaged in, activities in these areas. These include:

- Ministry of Education
- Ministry of Environment and Science and Technology (MEST)
- Council for Scientific and Industrial Research (CSIR)
- Environmental Protection Agency (EPA)
- Ghana Atomic Energy Commission
- Ministry of Finance (MOF)
- Customs, Excise and Preventive Service (CEPS)
- Ministry of Food and Agriculture (MOFA)
- Cocoa Research Institute
- Crops Services Division
- Department of Fisheries
- Plant Protection and Regulatory Services (PPRS)
- Quality Control
- Ministry of Foreign Affairs
- Ministry of Harbors, Railways and Ports
- Ministry of Health (MOH)
- Ministry of Justice
- Ministry of Lands and Forestry (MLF)
- Forestry Commission (Wildlife, Forest Products Inspection, Forest Services and Timber Export Development Divisions)
- Ministry of Local Government and Rural Development

- District, Municipal and Metropolitan Assemblies.
- Ministry of Tourism
- Ministry of Trade (MOT)
- Ghana Standards Board
- Ministry of Transport
- Water Resources Commission¹⁹

Plant Protection

The responsibility for matters concerning agriculture, including plant protection, falls within various MDAs including MOFA, MLF, MOF, MEST, MOH and MOT. Under the supervision of MEST (which is the major oversight body on the environment) are two agencies that play an important role in the agricultural sector: CSIR and EPA. Most national or project-financed agricultural research is carried out or co-ordinated by CSIR.

EPA is the national regulatory authority on the environment. It does not, however, directly enforce the control of IAS. Rather, it acts in advisory, co-ordinating, facilitating and educational roles, notifying the appropriate agencies for example, the PPRSD and Fisheries Commission and educating the populace on the menace that IAS pose to the environment. The needed co-operation is problematic. There is an instance cited where certain species of fish harmful to the environment have been introduced into the Ghanaian aquatic environment without the required prior consultation or clearance with the EPA for the necessary impact assessments to be made prior to their introduction.

Ministry of Food and Agriculture

MOFA is responsible for the formulation of national agricultural policies as well as the planning, implementation, monitoring and evaluation of agricultural development projects. Additionally, MOFA advises the Government of Ghana (GOG) on laws required to regulate agricultural activities.

As part of the GOG's programme of decentralization, MOFA has undergone

¹⁹ The Water Resources Commission is an autonomous body, not part of any Ministry.

re-organization and now has four main directorates²⁰ and eight technical directorates²¹; including the Plant Protection and Regulatory Services Department (PPRSD). The PPRSD has been given the mandate to develop, organize, implement, monitor, train and regulate the plant protection sub-sector of the country. The functions of PPRSD have been divided into four divisions, namely:

- **The Seed Inspection and Certification Division**, which was created in 1990 as successor to the Ghana Seed Company.
- **The Plant Quarantine Division** was created in 1965. It consists of a head office unit and has stations at all borders and other major entry posts (Accra Airport, Tema Harbour, etc).
- **The Pesticide Management Division**, which was created in 1996, has a head office which has technical linkages with the Regional Development Officers for Plant Protection (10 officers) who serve as co-ordinators for fieldwork. The Division works closely with the EPA on the registration and inspection of pesticides. It also trains extension staff and registered dealers in pesticide management.
- **The Crop Pests and Diseases Management Division** was created in 1965 in response to national pest outbreaks. It has units for phytopathology, nematology and classical bio-control. It has laboratory facilities and reference collections for identification of pests as well as mass rearing of bio-control agents.²²

²⁰ (1) General Administration and Finance, (2) Human Resource Development, (3) Planning, Budgeting, Co-ordination, Monitoring and Evaluation of Policies and (4) Research, Statistics, Public Relations and Information.

²¹ The Directorates are: (1) Agricultural Engineering Services, (2) Animal Production Services, (3) Crop Services, (4) Agricultural Extension Services, (5) Fisheries Services, (6) Plant Protection and Regulatory Services, (7) Veterinary Services and (8) Women in Agriculture Development Services.

²² Gerken 2001.

6.3 Legislative framework

Plant Protection Act

The major piece of legislation governing plants and plant protection is the **Prevention and Control of Pests and Diseases of Plants Act** (1965).²³ The Act has as its main objectives to consolidate, with amendments, the legal framework relating to the prevention and treatment of plant pests and that relating to plant quarantine. It has three parts: Part I on prevention and treatment of plant pests; Part II on plant quarantine; and Part III, with miscellaneous provisions. Part I (sections 1-8) places a ban on the keeping, selling, offering for sale or barter or distributing any plant infested or infected with such pests as may be prescribed. Infested or infected plants may not be removed from any land except for the purpose of inspection by an inspector; destruction; or preservation of the produce of such plants for subsequent manufacture for sale or for seed. Provision is made under the Act for the making of regulations by the Minister on the prevention and extermination of plant pests and other relevant matters.

Part II of the Act (sections 9-12) prohibits any person from importing any plants, plant products, plant pests, soil, manure, grass, packing materials or any other material liable to harbour dangerous plant pests except with a permit. Provision is made for regulations prescribing the conditions for the grant of a permit, examination of items imported under the permit and the prohibition and restriction of importation of such items. Inspectors have powers to seize items being imported in contravention of the Act and to dispose of them.

Part III of the Act (sections 13-17) makes it an offence punishable on conviction to a fine not exceeding 100 cedis²⁴ or to a term not exceeding 3 months to contravene a direction, requirement, condition or

prohibition imposed under the Act. Provision is also made for compensation to occupiers of land or importers who may suffer pecuniary losses as a result of measures taken under the Act.

Enforcement

As noted, within MOFA the Plant Protection and Regulatory Services Department (PPRSD) is responsible for plant protection, plant quarantine, seed quality control and pest management. Officers of the PPRSd carry out phytosanitary inspections at all border points including the ports and the international airport. In those regions without borders, there is one officer stationed at the post office in the regional capital, tasked with the responsibility of inspecting imports of plant and plant materials by mail.

At the borders, the Plant Quarantine Officers carry out inspections of all imported goods thought to consist of plants and plant materials. The PPRSd has 44 entry points round the country where their personnel are located. The Customs, Excise and Preventive Service (CEPS) Officers, also stationed at the borders, are required to notify the Plant Quarantine Officers if they notice any plant materials in imported shipments or baggage which they (CEPS) have inspected in the first instance. Unfortunately, this procedure works more or less well (or not at all), depending on the particular border post. At Kotoka International Airport (the only international airport), the two services work well together. At Tema Port (the major seaport) by contrast, large shipments of plant materials are released into the country without PPRSd inspecting the shipments or even being informed that the shipments have arrived. Another problem facing both CEPS and PPRSd is that there are dozens, possibly hundreds, of unapproved entry points into the country. Because of colonial borders, the same ethnic group may be on both sides of an international border, and people are accustomed to taking paths through the fields to go from one country to the other.

²³ Act 307.

²⁴ The cedi is the currency. Currently 1 US\$ is equivalent to 9200 cedis approximately.

At the PPRSD head office in Pokuase, some 18 kilometers from Accra, exporters bring their materials to be inspected and treated if necessary. If the export is approved, PPRSD issues the relevant phytosanitary certificate. Importers, too, request PPRSD to approve items to be brought into the country. Such requests for inspection are infrequent, averaging approximately once per month. Inspections and issuance of phytosanitary certificates may also take place in each of Ghana's ten regions.

The Department of Agricultural Extension Services of MOFA, with 1500 Extension Officers in the 110 districts, is responsible for overseeing growing crops and disseminating technology to farmers. Extension Officers who notice plant pests first notify the District Office, and if no solution is forthcoming, questions are referred to the subject matter specialist in the regional office. Any necessary laboratory work would be forwarded to be carried out at the PPRSD head office in Pokuase. The members of the Faculty of Agriculture, University of Ghana, have an informal working relationship with the PPRSD. Owing to personal contacts made through shared study and training, individual members of the Faculty are generally receptive to carrying out occasional examinations as a favour for colleagues at the PPRSD. However, at present, because PPRSD has more funding, the Faculty charges PPRSD for any examinations made, such as categorizing a new pest discovered by a Plant Quarantine Officer during a border inspection.

The situation does not exploit the talent and experience of the members of the Faculty of Agriculture, who, along with the staff of the research institutes, are more highly trained than the Plant Quarantine Officers doing the front-line work at the borders. A collaborative relationship would unquestionably improve the plant protection system in Ghana. It has been suggested, for example, that the university lecturers could be called upon to assist in activities including the training of Plant Quarantine Officers, development of up-

to-date lists of quarantine pests and development of educational pamphlets to inform the public of the dangers of travelling with plants and plant materials. Requests for assistance from PPRSD could be formalized as part of a joint project to improve plant protection and plant quarantine in the country.²⁵

Proposal for Reform of the Law

The legal regime for plant protection is outdated, and the legislation has several drawbacks. These include low financial penalties for violations; absence of provisions on international co-operation, exchange of information, risk analysis and exportation of plants; lack of adequate provisions on the duties of Plant Quarantine Officers and on co-ordination among the various institutions implicated in plant protection in the country.

Under the FAO Technical Co-operation Programme, a project, "**Strengthening Plant Quarantine Capabilities: Republic of Ghana**", was initiated in 1996.²⁶ The main output of the project, a **Draft Quarantine Act**, was presented to the GOG for consideration and adoption. The draft Act seeks to repeal the Plant Protection Regulation Act, 1965²⁷ and replace it with a modern Plant Quarantine Act that will prevent the introduction and spread of plant pests in Ghana in consonance with the IPPC. The Draft Act is in four parts: Part I deals with the requirements for the importation and exportation of material; Part II deals with the duties of owners and occupiers of land and the powers of the Minister in relation to these; Part III establishes the Plant Quarantine Board, a technical advisory body to the Minister on matters of plant quarantine; and Part IV provides for miscellaneous matters including offences and penalties and the power of the Minister to make regulations.

²⁵ Vapnek 1996.

²⁶ This part of the article draws on the FAO legal consultant's reports for the project. See Vapnek 1996 and Vapnek 1997.

²⁷ Act 307.

The Act provides that the appropriate import licence and/or phytosanitary certificate shall accompany all imported plant materials from the exporting country regardless of the purpose of the importation. This provision addresses the problem of importers refusing to pay for the treatment or destruction of imported plant materials because the goods are imported for charitable purposes. No such exception, nor any exception for plant materials imported for research purposes, is recognized under the Act (sections 1 & 2). Persons receiving plant material, CEPS Officers and Ghana Post Officers controlling consignments of imported plant material are under a duty to notify PPRSD when such materials arrive. As noted above, under current practice, at some border points, the co-ordination is lacking between CEPS Officers carrying out their tasks and Plant Quarantine Officers exercising theirs. The affirmative duties in the draft Act should ameliorate the situation.

Once notified of the arrival of plant materials, the Plant Quarantine Officers may, under section 5 of the Act, take certain actions at the cost of the importer if imported material is found to be infected or infested with plant pests, including disinfection or even destruction. Exporters must submit plant material to PPRSD for inspection and in the event of any eventual treatment and re-inspection, the exporters shall bear any associated costs.

The enforcement of the Act is entrusted to Plant Quarantine Officers, who have wide powers of enforcement under the Act. They may search persons, conveyances and containers without a warrant if they suspect that plant pests are present, carry out searches on suspicion that the person has imported or is transporting a plant pest in contravention of the Act, etc. A person aggrieved by the decision of a Plant Quarantine Officer or the Director of PPRSD may appeal to the Minister who, under the Act, has broad powers including the power to prevent traffic in plant materials for the good of the public health, agriculture and environment of Ghana. Under section 12 of the Act, the GOG has

no liability for any material disposed of or destroyed because it was improperly imported.

Part II of the Act concerns the duties of landowners and occupiers and the powers of the Minister where pests are present on any land. Under section 14 these individuals are under a duty to notify a Plant Quarantine Officer of any infection or infestation. The Minister may declare a particular land or area of Ghana to be under quarantine, and may notify landowners or occupiers of specific measures to be taken. Under section 18 of the Act the Minister is enjoined to regularly review any quarantine measures imposed, and under section 17 he or she may authorize a Plant Quarantine Officer to take measures where the landowners have not done so. Section 19 requires the GOG to pay compensation if crops are harmed or destroyed under the authority of the Act, and outlines the procedures for settling the amount of any such compensation.

Section 20 establishes the Plant Quarantine Board, which advises the Minister on matters of plant quarantine. Membership of the Board comprises representatives from the PPRSD, Agricultural Extension Services, University of Ghana Faculty of Agriculture, Crops Research Institute of CSIR and farmers. Section 24 gives the Minister power to delegate his or her powers under the Act, and also to make regulations to give effect to the provisions of the Act. Section 26 provides a list of offences under the Act, including trafficking in plant material or other items which may harbour plant pests, interfering with any person exercising lawful powers under the Act, failing to comply with directions, providing false information in order to obtain a permit or certificate or altering any document issued under the Act. The penalties provided for are a fine of up to 500,000 cedis, imprisonment for up to six months or both.

Section 27 lists the definitions of terms used, drawn largely from IPPC standards. The final section 28 repeals the Plant

Protection Act of 1965 but allows its subsidiary legislation to remain in force until revoked or amended. Space is allotted for two Schedules to the Act: Imported Items Prohibited without Phytosanitary Certificate, and Quarantine Pests for Ghana. The draft Act adopts the definition of "pest" as contained in the IPPC: *any species, strain or biotype of plant, animal or pathogenic agent injurious to plant or plant products*. Accordingly, when implemented, the Act would cover the control of IAS. As the draft itself is now 7 years old, it needs to be updated to incorporate provisions and concepts in the New Revised Text of the IPPC, including those on international co-operation. It also needs to explicitly designate PPRSD as the NPPO with a clear-cut mandate in consonance with the IPPC.

7. METHODOLOGY FOR THE DOMESTICATION OF IAS TREATIES

7.1. Introduction

In the light of the Ghanaian experience, this part of the article proffers a methodology that could be employed by states for the implementation of treaty norms for the control of IAS. The discussion entails an examination of instruments on IAS, an assessment of existing legislation in the country in the light of these instruments, the adoption of the required legislation to fill the gaps and the nature or form of legislation to be implemented. The various elements of the methodology may be summarized as follows:

- Identification of the nature and sources of introduction of IAS.
- Identification of the applicable global and regional instruments.
- Determination of the ratification status or otherwise of the instruments.
- Identification of the existing relevant legislation and institutions.
- Assessment of the existing legislation in the light of the international instruments.

- Determination of the form and content of the legislation.
- Evaluation of the capacity for implementation.

7.2. Elements of the methodology

1) *Identification of the nature and sources of introduction of IAS*

Identification of the nature and sources of introduction of IAS is of paramount importance. There is the need to assess the nature and sources of the IAS problem in the country so as to identify the priority areas of concern for action. In this regard, it may be recalled that the causes or sources of introduction of IAS could be either intentional or unintentional and through various pathways, including air, land and sea (travel, trade, tourism, etc). The provision of accurate information on the plant health status in a country is of crucial importance since, *inter alia*, it provides an informed basis for the provision of preventive or eradication measures under the legislation.

2) *Identification of the applicable global and regional instruments*

The major global instruments that address IAS have been noted in this article. It is the provisions of these instruments that constitute the norms, benchmarks or standards against which national standards may be enacted and measured. The focus of this article has been on the IPPC. Accordingly, the methodology adopts the IPPC as the model for domestication, although the ideas presented here could, subject to the necessary modifications, be adopted for the domestication of any other instrument on IAS. In this regard, the CBD and the Guidelines, the IPPC and the ISPMs are of paramount importance.

3) *Determination of the ratification status of the instrument*

As noted, in general in the common law jurisdictions, treaties entered into by states are not directly enforceable in the courts unless enacted as legislation at the

domestic level. This contrasts with the situation in other jurisdictions where treaties form part of the law. The treaty-making or ratification power is governed by the constitutional order or arrangement. In Ghana, for example, the treaty-making power is the prerogative of the President under and by virtue of Article 75(1) of the 1992 Constitution. However, a treaty executed by the President shall be subject to ratification by Parliament. Ratification is usually on the basis of a resolution adopted by Parliament after a review or examination of the relevant treaty.

Once ratified, an instrument of ratification must be deposited with the designated depository under the convention. A treaty ratified by a state is binding on that state under the principle of *pacta sunt servanda*. Accordingly, the state would be enjoined, where the treaty is not directly applicable at the domestic level, to enact appropriate legislation to give force and effect to the provisions of the treaty. This is usually the case with common law jurisdictions.

4) *Identification of the existing relevant legislation and institutions*

Throughout the legal systems in all jurisdictions, there are sources of law from which to ascertain the relevant legislation on a subject. In the common law tradition these include the constitution, parliamentary enactments, subsidiary legislation and the common law. The constitution is the fundamental law of the land and all laws or enactments inconsistent with the constitution are null and void. The constitution, in the majority of cases, is captured in a written document or documents as in Ghana, India or, in rare instances, may be unwritten as in the United Kingdom. The Constitution also usually indicates which the sources of law are in a particular jurisdiction. Article 11 of the 1992 Constitution of Ghana, for example, provides the following as sources of law:

- The Constitution.
- Enactments made by or under the authority of the Parliament established by the Constitution.
- Orders, rules and regulations made by any person or authority under a power conferred by the Constitution.
- Existing law.
- The common law.

In many jurisdictions, **legislative enactments** provide the main corpus of rules or law on many subjects including the environment. There could be a single legislature as is the case with unitary states, or a two-tier system of legislation, i.e. federal laws and state laws in federal states. **Subsidiary legislation** in the form of **regulations** is most often employed as a means of providing detailed implementation of the law in environmental legislation. Regulations are of great importance since they provide a flexible means for the review or update of the law in line with changing circumstances. The use of regulations provides the relevant sector Minister or authority with a convenient tool for the review or update of the legislation without recourse to the amendment of the parent enactment at Parliamentary level. The amendment process is comparatively cumbersome, time-consuming and therefore ineffective in coping with the desired changes in legislation demanded by changing times or circumstances, including the emergence of new technology or scientific data. There are also **codes of practices, directives or standards**. These are not legally binding *per se*, but serve as guides to actors or operatives in a given sector in the performance of their functions.

Having ascertained the various sources of law, there will be the need to carry out an in-depth examination or analysis of each of the sources to ascertain whether or not they address the subject of invasive alien species. For example, does the constitution make express reference to the environment, biodiversity, agriculture etc. i.e. those subjects that are likely to impinge on or address the subject? If the

Constitution does not expressly address the subject, could it be interpreted to apply to the control of IAS? For example, even though the Ghanaian Constitution does not expressly refer to biodiversity or IAS, Article 36(9) which enjoins the state to protect the environment, could provide a basis for action on the subject of control of IAS.

The examination of legislation could be an arduous task since there could be numerous pieces of legislation; running into hundreds or thousands, in many a jurisdiction. These may be scattered throughout the statute books. A good guide is the **Index to Statutes** or **Index to Subsidiary Legislation** published in several jurisdictions. In some jurisdictions, the legislation is captured in electronic form such as CD-Rom. Where this is the case it facilitates research. In the absence of a specific enactment on IAS, the legislation could be examined on a sectoral basis, for example, forestry, game and wildlife, wetlands, marine environment, plant protection, etc. The legislation in each of these sectors could be examined in turn to ascertain whether or not it addresses or has an impact on the control of IAS.

With regard to institutions with responsibility for the control of IAS or whose activities impinge on the subject, several of these may be identified. The list could include Ministries/Departments of State for Agriculture, the Environment, Health, Interior, Justice, Trade and Transport. Other relevant agencies or departments include the EPA, Customs and Immigration. The sheer size of numbers of relevant MDAs in the field of control of IAS is such as to lead to conflicts, overlaps and gaps in the regime. This may require the strengthening of the lead agency or the creation of a co-ordinating body within the existing regime to address the problems posed by a multiplicity of institutions. Whatever arrangement(s) is preferred will influence the form of legislation to be adopted.

5) *Assessment of the existing legislation in the light of the international instruments*

At this stage, the inventoried national legislation must be examined in the light of the various international instruments to ascertain their conformity or otherwise with the rules provided for in the international instruments. The gaps or inconsistencies would especially be noted. In this regard, it is of note that many of these instruments are framework instruments that provide in general terms the measures to be adopted by states for their implementation, while others provide for specific measures for adoption. The IPPC for example, enjoins parties to establish national plant protection organizations with specified functions.

6) *Determination of the form and content of the legislation*

The content of legislation will be driven by several factors including the political, economic and social circumstances of the state or entity, the constitutional and institutional set-up, the existing legislation on the subject (if any) and the obligations assumed under the instrument or instruments sought to be domesticated.

The constitution of a state is the fundamental law of the land. Accordingly, in providing for an enactment on invasive species, care must be taken to ensure that its provisions conform to, or are consistent with, the constitution of the land. For example, if powers of enforcement are to be accorded officials, these must be consistent with the fundamental human rights provisions of the constitution. Where there is existing legislation on the subject, this must be assessed in the light of the international instruments, so that the gaps or shortcomings may be addressed. For example, the Ghanaian legislation on plant protection, the Prevention and Control of Pests and Diseases Act, 1965, when examined in the light of the IPPC, reveals several shortcomings outlined earlier.

Where there is no existing legislation, recourse may be had to experiences from other states, especially those with similar situations or circumstances. Moreover, since the purpose of the proposed legislation is to give force and effect to the international instruments, the legislation must reflect the relevant provisions of these instruments. For example, the CBD and IPPC contain provisions on definitions and objectives, and in the case of the IPPC, the establishment of a national plant protection organization. These should be reflected in the legislation. In the preparation of the legislation, one of three identified approaches could be adopted:

- a review of existing laws and their consolidation into a single piece of legislation;
- the enactment of framework legislation under which the various existing laws would be implemented; and
- the harmonization of all relevant laws to address conflicts, gaps and overlaps.

In general, legislation on the control of IAS would contain, among other things, the following:

The **Scope** of the legislation: what the law covers and its stated objectives. This must be precise and concise; for example, “An Act for the prevention of the introduction and spread of pest of plants, plant products and related matters”.

The **Definitions** could be adopted from the relevant instruments, especially the CBD and the IPPC. The IPPC's definition of “pest”, for example, is wide enough to encompass IAS.

The law will establish or empower **Institutions** for the control of IAS: for example, provision could be made for an NPPO or a Board. The latter would serve as a technical advisory body to the minister on the implementation of the legislation. Where several institutions already exist to deal with IAS, it would be ideal to designate a lead Ministry, for

example, Agriculture, and vest Ministerial responsibility for the implementation of the Act in the Minister. The composition of the board, however, should be drawn in such a manner as to ensure representation from the relevant MDAs, including Agriculture, Trade (Customs), Transport, academia, research Institutions and farmers, to ensure co-ordination and representation of relevant concerns and viewpoints. To avoid conflicts and overlaps where several institutions are involved, a committee of the board could be established to deal with the subject.

Provision should be made for **Enforcement** of the law. This would include:

- Precise powers and functions for enforcement officers, including the power to search persons, premises and conveyances and to detain, destroy or disinfect infested articles.
- Terms and conditions for the importation and exportation of affected products.
- Quarantine provisions.
- Controlled areas and control measures.
- Duties of owners and occupiers of lands.
- Application of principles and concepts, including, the precautionary and protective principles, impact assessments and risk analysis.

The law will have to provide for **Offences and Penalties**. Penalties must be deterrent enough to prevent violations. A schedule(s) to the Act could be provided for a list of prohibited items or items that cannot be imported without certificates.

Next there should be **Financial provisions** regarding the implementation of the law, power to levy fees and, if legally possible, financial autonomy for the institutions charged with enforcement.

Legislation addresses other **Special procedures** including immunity for official acts done in good faith and appeals for those aggrieved by official decisions taken under the legislation.

The control of IAS has international dimensions as the cause of the problem is from external sources. This calls for close cooperation and collaboration, especially with neighbouring states. Provision should thus be made to cater for the requirement of **International cooperation** in the legislation, including the establishment of official contact points and reporting, such as required under the provisions of the IPPC and ISPM 7.

Provision should be made to give the Minister or relevant authority **Power to make regulations** to enable the law meet changing circumstances or demands.

7) *Evaluation of the capacity for implementation*

Law does not operate in a vacuum. The best laws when enacted will not achieve the desired objectives unless they are backed by adequate resources for their implementation. National capacity requirements for the implementation of the legislation would include:

- Legal authority: an established ministry or agency with clearly defined powers and functions.
- Organized inspection services and facilities.
- Effective and efficient quarantine measures and procedures including emergency response measures.
- Training and development of staff (capacity building).
- Monitoring and evaluation.

Governments therefore have an obligation to provide the implementers of the legislation with the requisite resources, both human and material, for its implementation. This is a challenge for

governments and policymakers. Where there is an absolute lack of capacity or resources for the implementation of the legislation, the actions to be adopted to resolve the problem could include prioritizing, cost recovery, regional and sub-regional cooperation and the sourcing of donor support or assistance. In this regard, the financial mechanisms provided for under some of the global instruments such as the CBD and the SPS Agreement could be a source of assistance for developing countries. FAO and IPPC technical assistance could also be sought, *inter alia*, for the preparation and implementation of the legislation.

8. CONCLUSION

The control of IAS is an international problem with international dimensions. Accordingly, the international community has addressed the subject through treaties, notably the CBD and the IPPC. Ghana as a member of the international community is a party to these treaty arrangements. Ghana is thus enjoined to enact such treaty norms into domestic legislation so as to give force and effect to them, and also to provide the necessary institutional and administrative frameworks for the implementation of the law.

In the light of the Ghanaian experience, a methodology that could be employed by states, especially those which adhere to the common law tradition, for the implementation of treaty norms for the control of IAS has been proposed. The methodology may not be applicable in all jurisdictions, but it is certainly food for thought, especially for developing states that adhere to the common law tradition.

ANNEXURE
INVENTORY OF INTERNATIONAL INSTRUMENTS AND CORRESPONDING DOMESTIC LEGISLATION ON
BIODIVERSITY/BIO TECHNOLOGY

| SUBJECT | INTERNATIONAL/REGIONAL INSTRUMENTS | STATUS (R=ratified) (NR=not ratified) | DOMESTIC LEGISLATION |
|-------------------------|--|--|---|
| BIODIVERSITY /BIOSAFETY | 1. CONVENTION ON BIOLOGICAL DIVERSITY, 1993 (CBD) 2. INTERNATIONAL TREATY ON PLANT GENETIC RESOURCES (ITPGR) 3. CARTAGENA PROTOCOL ON BIOSAFETY, 2000 (CARTAGENA PROTOCOL) 4. CONVENTION ON CLIMATE CHANGE, 1994 (UNFCCC) 5. VIENNA CONVENTION ON PROTECTION OF THE OZONE LAYER (VIENNA CONVENTION) 6. MONTREAL PROTOCOL ON SUBSTANCES THAT DEplete THE OZONE LAYER (MONTREAL PROTOCOL) 7. KYOTO PROTOCOL ON GREEN HOUSE GASES, 1997 8. CONVENTION TO COMBAT DESERTIFICATION 1996 (CCD). 9. CONVENTION ON WETLANDS OF INTERNATIONAL IMPORTANCE 1971 (RAMSAR CONVENTION) 10. CONVENTION ON INTERNATIONAL TRADE IN ENDANGERED SPECIES OF WILDLIFE (CITES) 11. CONVENTION CONCERNING THE PROTECTION OF WORLD CULTURAL AND NATURAL HERITAGE, 1972 (PARIS CONVENTION) 12. CONVENTION ON CONSERVATION OF MIGRATORY SPECIES OF WILD ANIMALS, 1979 (BONN CONVENTION) 13. AFRICAN CONVENTION ON CONSERVATION OF NATURE AND NATURAL RESOURCES 1968 (ALGIERS CONVENTION) 14. AGENDA 21 15. NON-LEGALLY BINDING AUTHORITATIVE STATEMENT OF PRINCIPLES FOR GLOBAL CONSENSUS ON MANAGEMENT, CONSERVATION AND SUSTAINABLE DEVELOPMENT OF ALL TYPES OF FORESTS (FOREST PRINCIPLES) 16. DRAFT OAU MODEL LAW ON BIOSAFETY 17. AFRICAN MODEL LAW FOR THE PROTECTION OF THE RIGHTS OF LOCAL COMMUNITIES FARMERS AND BREEDERS AND FOR THE REGULATION OF ACCESS TO BIOLOGICAL RESOURCES 18. | R N/R R R R R N/R R R R R R R R R R R R R R | 1. FORESTRY - FORESTRY ORDINANCE, 1957 - FOREST PROTECTION DECREE, 1974 - TREES AND TIMBER DECREE, 1974 - TIMBER RESOURCES MANAGEMENT ACT, 1997 2. CONTROL AND PREVENTION OF BUSH FIRES: CONTROL AND PREVENTION OF BUSH FIRES LAW, 1990 3. WETLANDS: WETLANDS MANAGEMENT (RAMSAR SITES) REGULATIONS, 1999 (LI 1659) |
| MARINE ENVIRONMENT | 1. UNITED NATIONS CONVENTION ON THE LAW OF THE SEA, 1982 (UNCLOS) 2. STRADDLING FISH STOCKS AND HIGHLY MIGRATORY FISH STOCKS CONVENTION 1999 (SFSHMF CONVENTION) 3. CONVENTION ON FISHERIES CO-OPERATION AMONG AFRICAN STATES BORDERING THE ATLANTIC OCEAN, 1991 (DAKAR CONVENTION) | R N/R R | 1. 1992 CONSTITUTION ARTICLE 269 2. FISHERIES ACT 2002, (ACT 625) 3. FISHERIES REGULATIONS, 1979 (LI 1235) 4. OIL IN NAVIGABLE WATERS ACT, 1964 (ACT 235) 5. MARITIME ZONES (DELIMITATION) LAW 1986 |

| | | | |
|---------|--|---|---|
| | <ol style="list-style-type: none"> 4. CARTAGENA PROTOCOL ON BIOSAFETY, 2000 (CARTAGENA PROTOCOL) 5. INTERNATIONAL AQUATIC ANIMAL HEALTH CODE. 6. AGREEMENT TO PROMOTE COMPLIANCE WITH INTERNATIONAL CONSERVATION AND MANAGEMENT MEASURES BY FISHING VESSELS ON THE HIGH SEAS, 1994 (FAO COMPLIANCE AGREEMENT) 7. CODE OF CONDUCT FOR RESPONSIBLE FISHERIES, 1995 (THE CODE) 8. AGENDA 21 9. KYOTO DECLARATION ON AQUA CULTURE (KYOTO DECLARATION) 10. BANGKOK DECLARATION AND STRATEGY: AQUA CULTURE DEVELOPMENT BEYOND 2000 (BANGKOK DECLARATION) | R | (PNDCL 159) |
| FOODS | <ol style="list-style-type: none"> 1. AGREEMENT ON THE APPLICATION OF SANITARY AND PHYTOSANITARY MEASURES (SPS AGREEMENT) 2. AGREEMENT ON TECHNICAL BARRIERS TO TRADE (TBT AGREEMENT) 3. CODEX ALIMENTARIUS (CODEX) 4. CODEX GUIDELINES FOR PRODUCTION, PROCESSING, LABELLING AND MARKETING OF ORGANICALLY PRODUCED FOOD. 5. CODEX REGIONAL GUIDELINES ON STREET FOODS FOR AFRICA, 1997 6. CODEX GENERAL STANDARDS FOR LABELLING PREPACKAGED FOODS 7. PROPOSED GUIDELINES | | <ol style="list-style-type: none"> 1. FOOD AND DRUGS LAW, 1992 (PNDCL 305B) 2. FOOD AND DRUGS (AMENDMENT) ACT 1996, (ACT 523) 3. DRAFT FOOD AND DRUGS REGULATIONS 2000 4. STANDARDS DECREE, 1973 (NRCD 173) 5. STANDARDS (AMENDMENT) DECREE, 1979 (AFRCD 44). 6. GHANA STANDARDS (CERTIFICATION MARK) RULES 1970 (LI 662) 7. GHANA STANDARDS (CERTIFICATION MARK) (AMENDMENT) RULES 1970 (LI 664) 8. GHANA STANDARDS BOARD (FOODS, DRUGS AND OTHER GOODS) (GENERAL LABELLING) RULES, 1992 (LI 1541) |
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