

Bioinvasion and Global Environmental Governance: The Transnational Policy Network on Invasive Alien Species

Uganda's Action on IAS

Description¹

The Republic of Uganda is a landlocked country in East Africa. It is bordered on the east by Kenya, on the north by Sudan, on the west by the Democratic Republic of the Congo, on the southwest by Rwanda, and on the south by Tanzania. The southern part of the country includes a substantial portion of Lake Victoria, which is also bordered by Kenya and Tanzania. Uganda's climate is tropical; generally rainy with two dry seasons (December to February, June to August); semiarid in northeast. The terrain is mostly plateau with rim of mountains.

The rule of Yoweri MUSEVENI since 1986 has brought relative stability and economic growth to Uganda. During the 1990s, the government promulgated non-party presidential and legislative elections. In January 2009, Uganda assumed a nonpermanent seat on the UN Security Council for the 2009-10 term. Uganda has a population of about 33.2 million with about half being 0-14 years of age. Uganda has substantial natural resources, including fertile soils, regular rainfall, and sizable mineral deposits of copper, cobalt, gold, and other minerals. Agriculture is the most important sector of the economy, employing over 80% of the work force. Coffee accounts for the bulk of export revenues.

Overview of Biodiversity

Uganda covers an area of 236,000 km² out of which 194,000 km² is dry land, 33,926 km² open water and 7,674 km² permanent wetlands. Uganda is a country of exceptional diversity because of its position in the zone of overlap between the East African savannah and the West African rain forests. There are varied habitats supporting a diversity of life. Uganda is thus ranked among the top ten countries in the world in terms of animal and plant diversity, and specifically, diversity of mammalian species. The major natural ecosystems are: forests, woodlands/savannas, wetlands, open water and mountain ecosystems.

- [CBD Country Profile](#)
- [Earth Trends Country Profile on Biodiversity and Protected Areas](#)

Legislation relating to IAS²

- National Environment Management Policy (1994)
- National Environmental Act Cap 153 (1995)
- Uganda Forestry Policy (2001)
- National Forestry Plan (2002)
- National Forestry and Tree Planting Act (2003)
- National Wetlands Policy (1995)
- National Water Policy (1999)
- The Plant Protection Act Cap 31 (1962)
- The Plant Protection and Health Bill (2003)

- Wildlife Policy (1999)
- Wildlife Act Cap 200 (1996)
- Fisheries Policy (2000)
- Agriculture Policy (2003)
- Tourism Policy (2002)

Government Agencies/Programs dealing with IAS

- [National Agriculture Research Organization](#) (NARO)
 - [Forestry Resources Research Institute](#) FORRI
 - Zonal Agricultural Research and Development Institutes
- Minister of Agriculture, Animal Industry and Fisheries
 - National Fisheries Authority
- Ministry of Water, Lands and Environment
 - National Water Management Authority
 - National Environmental Management Authority
 - Wetland Inspection Division
 - National Forest Authority
- Ministry of Local Government
- Ministry of Tourism, Trade and Industry
- Uganda Wildlife Authority

Major Invasive Alien Species³

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|--|--|
| Bidens pilosa (herb) | Oncorhynchus mykiss (fish) |
| Corvus splendens (bird) | Prosopis spp. (tree, shrub) |
| Dalbergia sissoo (tree) | Psidium guajava (tree, shrub) |
| Eichhornia crassipes (aquatic plant) | Rubus niveus (shrub) |
| Leucaena leucocephala (tree) | Salvinia molesta (aquatic plant, herb) |
| Micropterus salmoides (fish) | Setaria verticillata (grass) |

Native Species Exported/Introduced to Non-Native Environments³

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|---|---|
| Achatina fulica (mollusc) | Pennisetum polystachion (grass) |
| Commelina benghalensis (herb) | Oreochromis aureus (fish) |
| Erythrocebus patas (mammal) | Typha latifolia (aquatic plant) |
| Pennisetum ciliare (grass) | Urochloa maxima (grass) |

Table 1 Action to prevent, detect and management invasive alien species based on three areas: biodiversity, human health, and economic

Note: Many actions including projects, publications and programs that fit into one area may also fit the dimensions of another; where available project links and funding (in brackets) is provided.

Area	Action
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Biodiversity	<ul style="list-style-type: none"> • The National Biodiversity Strategy and Action Plan (2002) explicitly mentioned invasive species throughout the document as a major threat to biodiversity conservation especially under Objective 3 on the reduction and management of the negative effects on biodiversity. There are sectoral strategies in the NBSAP, which deal with some invasive species issues. In the Open Water Resources Sector, for example, the strategy is concerned with problems of introduction and management of invasive flora and fauna. In the Forest Sector, it is concerned with diminishing diversity through dominance of invasive species. It also talks about cross breeding and erosion of indigenous species and increased colonisation by alien species.² • The Forestry Resources Research Institute lists the objectives of the unit, which are to: <ul style="list-style-type: none"> - gather information on the occurrence and types of forest pests and diseases in Uganda. - develop control measures against pests and diseases of forests, agroforestry trees, and poles, furniture and timber. - maintain and expand the forest insect museum at Nakawa for future reference. <p>In addition, the following achievements are listed:</p> <ul style="list-style-type: none"> - distribution of the cypress aphid and extent of damage caused by the aphid on cypress plantations has been determined. - population of the cypress aphid in the most affected forests has been determined. - distribution of the leucaena psyllid and its impact on leucaena cultivation countrywide has been determined. - information on pests and diseases has been gathered and is now available. - chemicals effective in controlling termites on timber and fence posts have been tested and recommended. - biological control of the cypress and pine wooly aphids using a parasitoid and predator respectively, has been initiated. - reference collection of forest insect pests has been made and is available at Nakawa. <p>The current research activities are:</p> <ul style="list-style-type: none"> - Monitoring the impact of the introduced biological control agents on the agents on the cypress and pine wooly aphids. - Investigations into management of the leucaena psyllid using cultural methods (crop mixtures). - Survey of forest insect pests and diseases countrywide. - Collection of insect pests of forests and trees for expansion of the insect museum at Nakawa. • In accordance with the National Environment Management Policy (1994), control of water hyacinth (<i>Eichhornia crassipes</i>) on Lake Victoria was subjected to Environmental Impact Assessment as
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	<p>required by the policy. This made it possible to put in place measures to address potential impacts of the methods used for the control of the invasive plant which involved biological and physical (manual and mechanical) methods of control. The biological control involved use of weevils (<i>Neochetina eichhorniae</i> and <i>Neochetina bruchi</i>) which are alien species in Uganda. Under forest conservation and management, it provides, among others, the following strategies for the conservation and management of forests:</p> <ul style="list-style-type: none"> - Subjecting the introduction of exotic species (possibly including invasive species) to an Environmental Impact Assessment (EIA) and developing institutional capacity to carry out the process; - Monitoring and controlling if necessary the spread of invasive exotic vegetation.² <ul style="list-style-type: none"> • The National Environment Act Cap 153 (1995) explicitly mentions invasive species in some sections. Section 34 prohibits the introduction of alien species in any riverbank or wetland, while Section 42 requires NEMA, in consultation with lead agencies, to prepare and issue guidelines for controlling the introduction of alien species. These guidelines have not yet been prepared and the Invasive Plants Project could make a significant contribution to their preparation during project implementation.² • The Plant Protection Act Cap 31 (1962) was revised under the Plant Protection Ordinance Legal Notice no. 51 of 1956 to include water hyacinth as a pest whose harvesting, use and cultivation was prohibited and was to be destroyed on site (Bikangaga <i>et al.</i>, 1999). The Act, therefore, recognised the water hyacinth as a pest and an invasive species and regulation for its control in Uganda has existed for about half a century. The revised Act also provides for the prevention of introduction of and spread of pests and diseases destructive to plants in any part in Uganda.² • Uganda's Fourth National Report to CBD states that biodiversity has for many years been negatively impacted on by alien invasive species including the Nile perch since the 1950s and the water hyacinth in the 1990s. The Nile perch (an introduced species) continues to be a threat to various fish species in Lake Victoria. An assessment has been carried out in the forestry, wildlife and agricultural sectors to identify key invasive alien species in Uganda and the areas that are affected. However, not much has been done yet regarding measures to eradicate them although some progress has been made through a GEF-UNEP regional project 'Removing Barriers to Invasive Plant Management in Africa' which is implemented by NARO. Through this project, an IAS Training Manual has been developed, efforts to manage/control several species such as <i>Cymbopogon nardus</i>, <i>Senna spectabilis</i>, <i>Lantana camara</i> and <i>Parthenium hysterophorus</i> are on-going, extensive awareness on the impact of invasive alien species on biodiversity
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	<p>has been created and a National Invasive Species Strategy, Action Plan and Policy Guidelines for Uganda has been prepared.⁴</p> <ul style="list-style-type: none"> • In the development of the National Invasive Species Strategy, Action Plan and Policy Guidelines for Uganda a workshop was held. The report, entitled Key Issues from the Workshop on the National Invasive Species Strategy, Action Plan and Policy Guidelines, summarizes the discussion of the draft strategy. This workshop was meant to stimulate stakeholder discussion from the academia, research institutions, local government among others, on the content and layout of the Draft National Invasive Species Strategy, Action Plan and Policy Guidelines.⁵
Human health	<ul style="list-style-type: none"> • See table 2
Economic	<ul style="list-style-type: none"> • In the Forestry Policy (2001), invasive species issues are inferred in the Policy Statement Number 7 which states that Uganda's forest biodiversity will be conserved and managed in support of local and national socio-economic development and international obligations. No specific action is being undertaken under the policy to address invasive species. More sensitization about the Forest Policy and its implications in the management of invasive species should be promoted.² • One goal of the Fisheries Policy (2001) is to promote fisheries management in a sustainable manner involving participation of stakeholders at all levels. As one of the strategies of this goal the policy explicitly emphasises the control and prevention of the spread of aquatic weeds.² • Section 26 of the Wildlife Act Cap 200 (1996) explicitly mentions invasive species through a provision for making regulations to control the introduction of alien species of animals or plants in a wildlife conservation area. It is implemented by the Ministry of Tourism, Trade and Industry.² • The Plant Protection and Health Bill (2003) seeks to <i>inter alia</i>, consolidate and reform the law relating to the protection of plants against destructive diseases, pests and weeds, to prevent the introduction and spread of harmful organisms that may adversely affect Uganda's agriculture, the natural environment and livelihood to the people and for other related matters. The Bill also provides for enforcement of phytosanitary standards in relations to international trade. The Bill seeks to repeal the Plant Protection Act.²

Table 2 Action on IAS in cooperation with other countries

Bilateral agreement/ Organization	Countries/ Member	Action
Invasive Alien Plant Species Management in Africa	Implementing agency: CABI Ethiopia, Ghana,	Project Title: Removing Barriers to Invasive Plant Management in Africa (GEF Grant \$5.725US m.)

	Uganda, Zambia.	<p>Prevention and mitigation of the effects of IAS is particularly challenging in Africa, impeding sustainable development as well as threatening biodiversity. This project aims to reduce and possibly remove barriers to the management of IAS through effective implementation of CBD Article 8(h) in 4 pilot countries (Ethiopia, Ghana, Uganda, Zambia) over four years, using a multisectoral ecosystem approach. In each country an enabling policy environment will be promoted through the establishment of appropriate institutional arrangements to ensure that IAS strategies are mainstreamed; stakeholder awareness of IAS issues will be raised and access to necessary information provided; prevention and control programmes will be established, including ecosystem management at pilot sites where IAS threaten biodiversity; capacity for sustainable IAS management will be built. Lessons learned will be disseminated for replication in other countries in Africa. Click to view the detailed Project Document and the Semi-Annual progressive Report No.3 (January-June 2007)</p> <p>See case studies section below for details on Uganda (footnote 5).</p>
East African Community (EAC)	The Republics of Kenya, Uganda, the United Republic of Tanzania, Republic of Rwanda and Republic of Burundi	<p>EAC Health Division Avian Influenza Project: Though presently there is no reported case of Avian Influenza in East African countries; the EAC acknowledges there is a real risk of possible spread of this infectious disease to the region. As such, the EAC Secretariat has developed a 3- year strategy for a comprehensive avian influenza (bird flu) public awareness campaign at community, national and regional levels to compliment national efforts. In addition the EAC agreed to establish an EAC Technical Working Group on Avian Influenza that is composed of nine members and approved its Terms of Reference.⁷</p> <p>Regional Plan of Action for the Prevention & Control of Human & Animal TBDs in EA 2007 – 2012: Realising the magnitude of the problem, the EAC’s Regional Plan of Action for the Prevention and Control of Human and Animal Transboundary Diseases in East Africa was established. Largely</p>

		based on the recommendations by the World Health Organization (WHO), Office Internationale des Epizooties (OIE) and Food and Agriculture Organization (FAO), the action plans seeks to establish a Regional mechanism to coordinate Human and Animal Transboundary Diseases. The Plan's goal is to safeguard human and animal health and also protect the socio- economic welfare of the East African people. To this effective, the overall objective of the plan is to harmonise and synergise the national plans and enhance their capacities to prevent and manage RVF. ⁸
Lake Victoria Environmental Management Program (LVEMP) GEF Web Project Web Page	Kenya, Tanzania, and Uganda	<p>Three national projects (LVEMP/Uganda, LVEMP/Tanzania and LVEMP/Kenya) and under six legal agreements.</p> <p>Technically, the LVEMP in Uganda consists of ten components that include fisheries management, fisheries research, wetlands management, land use management, catchment afforestation, water quality and quantity monitoring, water hyacinth control, industrial and municipal waste management, university capacity building and micro-projects with local communities. There is also a significant effort to develop both institutional and staff skills.</p> <p>Natural resource management laws and regulations are being strengthened and harmonised between and among the riparian countries. All these have considerable relevance to the Invasive Plants Project. LVEMP has a component of control of water hyacinth.²</p>

Case Studies

[The Cost of Invasive Alien Species to Uganda](#)⁵ A briefing paper

Summary

This short paper illustrates the serious economic consequences of invasive alien species (IAS) for Uganda. It is likely that IAS are already costing the Ugandan economy hundreds of millions of dollars a year. If systematic management efforts are not implemented to tackle IAS issues as a whole the situation will almost certainly get worse. Such action has so far not been possible because of barriers to the management of invasive species. Under a proposed GEF project national stakeholders in Uganda will be teaming up with CAB International and IUCN to address

these barriers. It is likely that this intervention will achieve rapid and very tangible economic benefits for Uganda.

The Enabling Policy and Institutional Environment for Invasive Plant Management in Uganda^{2&5}

National Agriculture Research Organization 2006

Summary

The current report is an updated version of a report produced during the Project Preparation (PDF-B Phase) of the Project. Project activities are described under four components envisaged, namely:

1. Strengthening the enabling policy environment for invasive plant management;
2. Provision and exchange of critical information amongst key stakeholders in invasive plant management;
3. Implementation of invasive prevention and control;
4. Building capacity for sustainable invasive plant management.

This report dwells on the first component, strengthening the enabling policy environment for invasive plant management, which covers policies, legislation, national strategies and plans as well as the stakeholder institutions relevant to invasive species management in Uganda.

The report contains a review and analysis of existing plans and policies, legislation and institutions relating to the prevention and control of invasive plants in Uganda. The report highlights where invasive species are mentioned as such, where invasive species are implied (labelled as weeds, pests, etc.) or where invasive species are inferred (e.g. where there is discussion of ‘threats to biodiversity’, negative impacts on the environment, etc.). The analysis identifies gaps and inconsistencies that need to be addressed during the full project.

The report also reviews the current and potential roles of the national stakeholders, and evaluates and assesses the options for institutionalisation of invasive species management in Uganda. The report concludes with a framework of activities that need to be supported during full project implementation.

Capacity Building, Training Needs Assessment, and Dissemination and Replication Strategy for Invasive Plant Management in Uganda⁵

National Agriculture Research Organization 2004

Summary

This report, undertaken as part of the GEF project development phase, addresses one of the four major barriers identified, that of insufficient capacity for IPS management. A capacity building/training needs assessment was undertaken and a dissemination and replication strategy developed. Outputs areas for intervention under the full GEF project were also identified.

There is only a vague awareness of IPS issues among the major training and research institutions in Uganda even if these institutions do undertake some activities related to IPS. There are major capacity needs in the areas of awareness creation and sensitisation, training,

institutional support, communication of IPS issues, advocacy, and monitoring. Makerere University departments (such as Forest Biology, Botany and Mass Communication) as well as other universities will conduct various aspects of capacity building and dissemination during the full project. Training will take account of issues of gender, and a wide range of IPS issues.

The dissemination and replication strategy should focus on mobilisation, information packaging, and information delivery. It will be implemented at local, national, and regional levels. It will be implemented using workshops and a variety of communications media. Organisations such as NARO, NEMA and others will play a vital role in ensuring the success of the strategy. Local communities will be specifically targeted to guarantee the success and sustainability of the project.

The four major areas of capacity to be strengthened by the GEF intervention are: 1) Capacity to teach, impart information and conduct research on IPS; 2) Capacity to develop appropriate policy on IPS issues; 3) Capacity to collect, synthesise, package and disseminate information on IPS; 4) Capacity to create, use and store IPS data and other forms of information.

The Role of the Media and Communication in Removing Barriers to Invasive Plant Management in Uganda⁵

National Agriculture Research Organization 2004

Summary

This report presents findings from a Ugandan stakeholder consultation exercise in six districts on the role that media and communication can play in the management of Invasive Alien Species (IAS). The study was conducted under the PDF-B phase of the UNEP/GEF project *Removing Barriers to Invasive Plant Management in Africa*. The information acquired in this study forms the basis for the future interventions to be undertaken during the full project phase. The emphasis in this study is the management of those IAS that are already causing problems at the grassroots level and less on prevention and early detection.

The majority of respondents said that they did not receive sufficient information on the issue of IAS. Water hyacinth and not generic IAS considerations was the concern of the few communication strategies that touched on IAS issues.

This report highlights three key aspects of media and communication that need to be taken into account for the effective management of information on IAS: target populations; effective channels and countering competing communications.

Implementation of Invasive Plant Prevention and Control Programmes in Uganda⁵

National Agriculture Research Organization 2004

Summary

This report presents findings from a series of studies on the biological and socio-economic impact of several priority invasive plant species in Uganda. The studies were conducted under the PDF-B phase of the UNEP/GEF project *Removing Barriers to Invasive Plant Management in*

Africa. The information acquired in these studies contributed to the prioritisation of pilot species and sites to be worked upon during the full project phase.

Impact assessments were undertaken on *Cymbopogon nardus*, invasive acacias and water hyacinth in the areas around Lake Mbuoro National Park in south western Uganda, on *Lantana camara* in the Pallisa and Iganga districts in the southeast and on *Broussonetia papyrifera* in the Budongo Forest Reserve in the west.

Water Hyacinth in Africa and the Middle East² A Survey of Problems and Solutions

Luis Navarro and George Phiri (editors)

Introduction

Water hyacinth has become a growing problem across Africa and the Middle East (AME). Infestations of this weed are reaching crisis proportions in important freshwater bodies of the region. This is causing environmental, economic, and social problems and accumulated damages that can easily be valued in the order of billions of dollars. It directly affects not only the riparian communities but also all those people who in one way or another depend on environmental services or production from the affected water bodies.

Researchers have been focusing on water hyacinth from various angles of its control and use, and it is apparent that significant knowledge is already available but not used in managing the weed. Early in 1996, responding to requests from across the region for support for research on water hyacinth, the People, Land and Water (PLaW) program of the International Development Research Centre (IDRC) launched an initiative to assess the extent of the water-hyacinth problem across AME and the capacity there to manage it. In particular, the initiative was to explain the apparent lethargy of governments and communities in dealing with impending water-hyacinth infestations in their water bodies. This report summarizes the initiative, its findings, and the recommendations for decision-makers, researchers, and IDRC that emerged from a workshop, Improving Reaction to Water Hyacinth in Affected Countries Across Africa and the Middle East, held in Nairobi, Kenya, in 1997.

References

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