

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

Tanzania's Action on IAS

Description¹

The United Republic of Tanzania is a sovereign state in central East Africa bordered by Kenya and Uganda to the north, Rwanda, Burundi and the Democratic Republic of the Congo to the west, and Zambia, Malawi and Mozambique to the south. The country's eastern borders lie on the Indian Ocean. The terrain changes from the coastal plains to central plateau and highlands, especially the north. The climate varies from tropical along coast to temperate in highlands.

Shortly after achieving independence from Britain in the early 1960s, Tanganyika and Zanzibar merged to form the nation of Tanzania in 1964. Tanzania has a population of about 41 million. One-party rule came to an end in 1995 with the first democratic elections held in the country since the 1970s. Tanzania's economy depends heavily on agriculture, which accounts for more than 40% of GDP, provides 85% of exports, and employs 80% of the work force. Topography and climatic conditions, however, limit cultivated crops to only 4% of the land area. Industry traditionally featured the processing of agricultural products and light consumer goods.

Overview of Biodiversity

As of 2003 the numbers and distribution of species found in Tanzania is: 10,008 plant species, 316 mammals, 229 breeding birds, 335 reptiles, 116 amphibians and 331 fish species. The status and trends of some components of biological diversity in the country include: the Indian Ocean Dugong (*Dugong dugon*) at the brink of extinction; the number of elephants has increased from 88,000 in 2000 to 120,000 in 2004; number of wildlife researchers has increased from 40 to about 105 by 2004; and there are 79 indigenous horticultural plant species (including 48 introduced fruit trees, 37 introduced vegetable crops and 40 indigenous vegetable crops).

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

Legislation relating to IAS³

- National Fisheries Policy and Strategy Statement of 1998
- Fisheries Act No 22 of 2003 section 22 (1) (d)
- Forest Act No 14 of 2002 Article 69
- Marine Parks and Reserves Act No 29 of 1994 Articles 10 (a & f)
- [Plant Protection Act of 1997](#)
- [Environmental Management Act, No 20 of 2004](#)

Government Agencies/Programs dealing with IAS

[The Ministry of Agriculture, Food Security and Cooperatives](#) (MAFSC)

Major Invasive Alien Species^{2&3}

<i>Acacia mearnsii</i> (tree)	<i>Maesopsis eminii</i> (tree)
<i>Argemone mexicana</i> (plant)	<i>Micropterus salmoides</i> (fish)
<i>Bidens pilosa</i> (herb)	<i>Oncorhynchus mykiss</i> (fish)
<i>Cedrela odorata</i> (tree)	<i>Opuntia monacantha</i> (cactus)
<i>Corvus splendens</i> (bird)	<i>Phenacoccus manihot</i> (insect)
<i>Dalbergia sissoo</i> (tree)	<i>Prosopis spp.</i> (tree, shrub)
<i>Datura stramonium</i> (plant)	<i>Prostesphanus truncates</i> (insect)
<i>Eichhornia crassipes</i> (aquatic plant)	<i>Psidium guajava</i> (tree, shrub)
<i>Lantant camara</i> (plant)	<i>Rubus niveus</i> (shrub)
<i>Lates niloticus</i> (fish)	<i>Salvinia molesta</i> (aquatic plant, herb)
<i>Leucaena leucocephala</i> (tree)	<i>Setaria verticillata</i> (grass)

Native Species Exported/Introduced to Non-Native Environments²

<i>Achatina fulica</i> (mollusc)	<i>Pennisetum clandestinum</i> (grass)
<i>Commelina benghalensis</i> (herb)	<i>Pennisetum polystachion</i> (grass)
<i>Erythrocebus patas</i> (mammal)	<i>Typha latifolia</i> (aquatic plant)
<i>Pennisetum ciliare</i> (grass)	<i>Urochloa maxima</i> (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
Biodiversity	<ul style="list-style-type: none"> The Environmental Management Act, No 20 of 2004 underscores the need for management and to access information on present and future threats to the environment, including invasive alien species.³ Furthermore, section 67(2) of the EMA 2004 provides for the prevention of the introduction, control or eradication of those alien species which threaten ecosystems, habitats or species.⁴ Fisheries Act 2003 that prohibits movement of eggs, fingerlings seed, exotic adult fish, and genetically modified species from water body to another without written permit from the Director of Fisheries.⁴ According to the Third National Report to the Convention on Biological Diversity, the government has identified introduced invasive alien species and has assessed the risk posed to ecosystems, habitats and species. The assessment includes: <ul style="list-style-type: none"> - Depletion of species in Lake Victoria ecosystem as a result of invasion of water hyacinth and Nile perch. - Invasion of the Indian house crow which has reduced other bird species.

	<ul style="list-style-type: none"> - Invasion of <i>Prostesphanus truncates</i> (grain borer), <i>Phonococcus monihot</i> (cassava mealy bug) and <i>Cinara cupressiviora</i> (cypress aphid). - Some of the risks associated with the use and release of biological agents, such as wasps for cassava mealy-bugs, TECOBLAX for black-quarter and anthrax in livestock; Mexican poppy and adoption of indigenous knowledge. - Use of biological control for Cassava mealybug (<i>Phonococcus monihot</i>) by using <i>Hyperaspis notate</i>; Cassava green mite (<i>Mononychellus tanajoa</i>) by using <i>Typhlodromalus aripo</i>; Citrus wool flies (<i>Aleurothrixus floccosus</i>) by using <i>Cales mocki</i>; and forest insects such as Pine woolly aphids, <i>Leucaena psyllid</i>, and Cypress aphid, on forest trees such as <i>Maesopsis eminii</i>, <i>Acacia mearnsii</i> and <i>Sena spectabilis</i>.⁴ <p>Tanzania has established some projects and programs which are being implemented pursuant to ecosystem approach and precautionary and bio-geographical approaches as appropriate in its work on alien invasive species. The programmes are :</p> <ul style="list-style-type: none"> - Water hyacinth control (<i>Eichhornia crassipes</i>) by using <i>Neochetina</i> species which is implemented under Lake Victoria Environmental Management Programme which involves Kenya, Uganda , Rwanda and Tanzania; - Introduction bio-control agents against <i>Leucaena psyllid</i> using <i>Heteropsylla cubana</i> in 1996/97 - FISNA - Forest Invasive Species Network for Africa –where Tanzania is a member. This initiatives in collaboration with FAO is working on action plans for some serious invasive species in the region.⁴ <p>Constraints or impediments encountered by your country include:</p> <ul style="list-style-type: none"> - Inadequate financial resources: More financial resources are needed for putting in place control measures of Alien Species; capacity building at all levels to ensure efficient and effective implementation of this article. - Inadequate extension services: Due to vastness of the country, the number of extension workers does not meet the demand. - Inadequate expertise: There is shortage of expertise in the field of Invasive Alien Species. This contributes to difficulty in carrying out the research and assessment, early detection, monitoring and eradication of Invasive Alien Species. - There is an absence of a comprehensive strategy for the management of Invasive Alien Species in the country.⁴ <ul style="list-style-type: none"> ● Darwin Initiative Project: Combating Invasive Alien Plants Threatening The east Usambara Mountains (2007) The project will undertake the following urgent key actions: <ol style="list-style-type: none"> 1. Rigorous systematic surveys of the size and distribution of IAP populations to establish the scale of the problem, identify
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	<p>priority problem species and target populations for management. Integration of these data within the EUCAMP GIS will enable analysis of environmental drivers of invasions, e.g. land use, topography, soil type.</p> <ol style="list-style-type: none"> 2. Determination of IAP impacts (both positive and negative) on biodiversity and ecosystem processes (decomposition, nutrient cycling) to assess the most deleterious species. 3. Experimental assessments for each priority problem species of the life-history parameters responsible for the rate of spread (e.g. dispersal, growth rate, habitat requirements) in order to identify the most appropriate management strategies, e.g. habitat and/or species management. Development, deployment and review of management strategies are directed at priority problem species, ensuring optimal cost effectiveness, efficiency and long-term results.⁵ <ul style="list-style-type: none"> • PAMS Foundation: An Invasive Alien Species Control Program The main objectives of the project will be: <ul style="list-style-type: none"> - <u>Ecological</u>: To improve the ecological integrity of the natural systems through the control of invasive alien plants - <u>Hydrological</u>: To enhance water security; - <u>Socio-economic</u>: To provide social upliftment and economic benefits through the control of invasive alien plants and jobs creation; - <u>Agricultural</u>: To restore and rehabilitate degraded land in order to secure the productive potential of land; and - <u>Institutional</u>: To provide the framework and capacity for ongoing management of significant alien species problems and develop structures for multi level and multi dimensional cooperation of actors with different goals. The main outcomes of the project will be to have: <ul style="list-style-type: none"> - all significant invasive alien plants within the project areas either eradicated or at a maintenance level within 5 years; - the necessary measures in place to prevent further introductions of invasive alien species into the project areas; - accomplished the above whilst contributing to economic empowerment, social equity and ecological integrity; - improved and more reliable streamflow from wetlands and river catchments; and - diminished threat to biodiversity and agriculture.
Human health	<ul style="list-style-type: none"> •
Economic	<ul style="list-style-type: none"> • The Ministry of Agriculture, Food Security and Cooperatives (MAFSC) maintains the regulatory control of imported plants and plant materials through inspections at all points of entry i.e. harbours and ports & border.³

Table 2 Action on IAS in cooperation with other countries

Bilateral agreement/ Organization	Countries/ Member	Action
Ecological Society for Eastern Africa	Ethiopia, Uganda, Kenya and Tanzania	<p>The society is a membership-based professional body. Members stem from various ecological backgrounds who can effectively contribute to our vision. The members are selected basing on their qualifications, experience, interest or passion in the ecological field or its relevance. We are housed by the National Museums of Kenya at the Natural Science Building, Mammalogy section.</p> <p>ESEA seeks to promote sustainable development through wise use of the natural resources for prosperity and future of the people of Eastern Africa. This is to be achieved through high quality research, education, technological innovations, information and resource sharing. ESEA also coordinates the collation and dissemination of information relating to ecology, natural resource management and biodiversity conservation in eastern Africa.</p> <p>Our activities:</p> <ul style="list-style-type: none"> • Capacity building in ecological issues • Harnessing and disseminating ecological information by organizing scientific conferences. • Networking ecologists in the eastern Africa region. • Partnering in projects and activities that are consistent with our objectives. <p>(Organization website hosted “Status, Impact and Management of Invasive Alien Species in Tanzania” report—see reference 3)</p>
Lake Victoria Environmental Management Programme GEF Web Project Web Page	Republic of Kenya, the United Republic of Tanzania and the Republic of Uganda	Lake Victoria Environmental Management Project is a comprehensive regional development programme that covers the whole of Lake Victoria and its Catchment areas. The overall project level vision is: A stable Lake Victoria ecosystem capable of meeting demand for food, income, safe water, employment, disease free environment and a conserved biodiversity. In order to achieve this level vision, the project has the following

		development objectives: to maximize the sustainable benefits to riparian communities of the lake basin from using resources within the Catchment to generate food, employment, income, supply safe water and sustain a disease free environment; to conserve biodiversity and genetic resources for the benefits of both the riparian and global communities; and to harmonize national and regional management programmes in order to achieve to the maximum extent possible the reversal of environmental degradation. ⁶
Forest Invasive Species Network for Africa (FISNA)	Kenya, Uganda, United Republic of Tanzania, Malawi, South Africa, Zambia, Ethiopia, the Sudan	<p>The African Forest Pest Management Network was created in April 1995 during a workshop held in Kenya, organized by the Kenya Forestry Research Institute (KEFRI), in collaboration with the International Institute of Biological Control (IIBC) and FAO, and funded by the Canadian International Development Agency (CIDA) and FAO.</p> <p>Three objectives were discussed and agreed for the initial network:</p> <ul style="list-style-type: none"> • Reduce the damage to trees, forests, and forest products by pest contained within economically, socially and environmentally acceptable levels. • Contribute to effective and sustainable forest pest management. • Work as a regional coordination mechanism for pest management.
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 –</p>

		<p>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 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</p>
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References

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