World Agroforestry Centre

TRANSFORMING LIVES AND LANDSCAPES

ICRAF Policy Guidelines Series

Invasive Alien Species

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World Agroforestry Centre
Policy Guidelines on Invasive Alien Species

ICRAF's mission and invasive alien species (IAS)

ICRAF's mission is to advance the science and practice of agroforestry, and in so doing to transform landscapes and the lives of the rural poor in developing countries. In pursuit of this mission, ICRAF researchers are working with a wide range of tree species, including many that alien and potentially invasive. This policy is intended to help guide all ICRAF researchers on invasive species to prevent, avoid and mitigate the negative effects to biodiversity and human enterprise of the introduction, both intentional and unintentional, of invasive alien species.

Purpose

Describe the principles and protocols ICRAF expects staff, students and consultants to adopt in relation to invasive alien species.

I. Introduction and Scope

1. This policy is informed by national and international expertise and instruments[1].

2. This policy is not intended to cover the safe transfer, handling and use of living modified organisms resulting from modern biotechnology that may also possess "weediness" potential or threaten biodiversity.

3. Nationally and internationally the Centre supports the four major options available for dealing with alien invasive species, namely: prevention, early detection, eradication and control, although is itself only active in prevention and early detection. In cases of accidental introductions it may also be engaged in the early stages with control measures (mechanical, chemical and biological). Prevention is mainly addressed through risk assessment, compliance with phytosanitary best practice and publication of a list of prohibited taxa. The Centre

[1] Specifically, the institutions which have guided the development of the policy include: Global Invasive Species Programme (GISP), United Nations Environment Programme (UNEP), International Plant Genetic Resource Institute (IPGRI), Kenyan Plant Health Inspectorate (KEPHIS), World Conservation Union (IUCN), CAB International (CABI) and the CGIAR Central Advisory Service (CAS), Australian Quarantine Inspection Service (AQIS), World Trade Organisation (WTO) and Food and Agricultural Organisation (FAO). The international instruments which have influenced the policy include: Convention on Biological Diversity and in particular Article 6 (General Measures), Article 8 (In situ conservation), Article 10 (Sustainable use) and Article 15 (Access to genetic resources), International Plant Protection Convention (FAO), Phytosanitary Convention for Africa (AU), and Agenda 21 – UNCED (Paragraphs 11.14, 15.3).

through assessments and scrutiny of vegetation surveys from both on-farm and natural ecosystems to detect potential invaders facilitates early detection.

4. This policy should not be interpreted to imply that ICRAF is against introduction of all exotic species within or between countries. However, recognizing that all alien tree species are potentially invasive, caution is required until risk assessment, contained screening or field-testing is carried out.

5. ICRAF recognizes that in many developing countries in which we operate and in others where we seek to promote agroforestry, national regulations and authorities are not fully developed or adequately supported. Accordingly, the Centre seeks to follow best international practice for invasive alien species rather than minimum legal or regulatory compliance.

6. ICRAF recognizes the importance of correct taxonomic identification and publishes the Botanic Nomenclature Database[2] to assist in identifying invasive alien species.

II. Categories and Definitions

1. The World Agroforestry Centre (ICRAF) uses four categories to classify trees and other plants used or proposed for use in agroforestry systems[3]:

   A. **Prohibited taxa** - species known to be invasive and persistent, and so destructive that their introduction should be prohibited.
   B. **Problematic taxa** – species known to be invasive under certain conditions, or reported to be invasive at particular locations
   C. **Uncertain risk taxa** - the great majority of species whose potential of being invasive weeds in unknown, and may differ in risk between different exotic locations.
   D. **Low risk taxa** – species known to have low potential of being invasive weeds based on ecological criteria and experience.

2. ICRAF maintains three lists of **Prohibited taxa, Problematic taxa** and **Low risk taxa**. All other species which constitute the vast majority of plant taxa are by default in the **Uncertain risk taxa** category.

3. Steps to reduce the uncertainty for taxa in the second category are outlined in the section on risk assessment (Article III).

4. The following definitions are used for terms included in this policy

[2] Available at http://www.worldagroforestrycentre.org/Sites/TreeDBS/Botanic/botanic.htm.
[3] Adapted from Invasive Alien Species Toolkit, GISP, Wittenberg and Cock, 2001

4.1 Alien species – (synonyms: non-native, non-indigenous, foreign, exotic) a species, subspecies, or lower taxon introduced outside its normal past or present distribution; includes any part, gamete, seeds, eggs, or propagules of such species that might survive and subsequently reproduce.

4.2 Casual alien species – alien species that may flourish and even reproduce occasionally in an area, but which do not from self-replacing populations, and which rely on repeated introductions for their persistence.

4.3 Introduction – the purposeful or unintentional movement by humans of a species outside its natural range and dispersal potential.

4.4 Invasive alien species – an alien species whose establishment and spread threaten ecosystems, habitats or species with economic or environmental harm.

4.5 Naturalised species – alien species that reproduce consistently (c.f. casual alien species) and sustain populations over more than one life cycle without direct intervention by humans; they often reproduce freely, and do not necessarily invade natural, semi-natural or human-made ecosystems.

4.6 Phytosanitary measures – any measure applied to: (a) protect human, animal or plant life or health from the entry, establishment or spread of pests, diseases, disease carrying organisms; or (b) prevent or limit damage from the entry, establishment or spread of pests.

4.7 Weeds – Plants (not necessarily alien) that grow in sites where they are not wanted and have perceived negative economic or environmental effects; alien weeds are invasive alien species.

III. Assessment of risk of species being invasive alien species

1. The World Agroforestry Centre (ICRAF) insists that all deliberate introductions of non-indigenous or cryptogenic species by ICRAF projects and staff are subject to import risk assessment.

2. Although most invasive species have a predictable set of life-history attributes, assessment of risk should be carried out on a case-by-case basis whereby the information required, level of detail may vary from case to case depending on the species concerned, its target environment and intended use.

3. Risk assessments undertaken pursuant to this Policy shall be carried out in a transparent, objective and defensible manner, and following recognized risk assessment techniques.

4. Risk assessment can also take into account expert advice of relevant international organizations.

5. Lack of scientific knowledge should not necessarily be interpreted as indicating a particular level of risk, absence of risk or an acceptable risk.

6. The methodology for risk assessment must include the following:
   6.1 identification of any characteristic associated with the species that may have adverse effects on biodiversity and ecosystem function
   6.2 evaluation of the likelihood of these adverse effects being realized
   6.3 estimation of the overall risk posed by the species based on evaluation of the likelihood and consequences of the identified adverse effects
   6.4 recommendation as to whether or not the risks are acceptable or manageable, including, where necessary, identification of strategies to manage these risks
   6.5 that discrimination between species for risk is possible

7. A variety of risk assessment methods may be used or applicable depending on the species, target environment and national regulations[4].
8. Whilst countries which are signatory to the World Trade Organisation (WTO) Agreement on the Application of Sanitary and Phytosanitary Standards (the 'SPS Agreement') can only ban imports of weeds already in a country if their distribution is limited and they are subject to an 'official control program', or if an importer wants to introduce a new strain that differs genetically such that it poses a greater weed risk than existing strains, species on the **Prohibited taxa** list should not be imported, and great caution should be used with species on the **Problematic taxa** list.

IV. Disclaimer

1. This policy is intended to assist to minimizing the probability of harmful introductions although the World Agroforestry Centre (ICRAF) accepts no responsibility or liability for the consequences of using information contained herein or within the species lists of risk.
2. While every effort has been made to ensure accuracy it remains the responsibility of the user to avail themselves of the latest information on national and international regulations, species and risk assessment procedures.
3. In no circumstances will ICRAF, its agents or employees be liable for any special, consequential or indirect loss or damage arising from any use of or reliance on any information contained in this policy.

[4] The Weed Risk Assessment (WRA) system developed in Australia (and now in use in Australia, New Zealand and Hawaii) and the APHIS Risk Assessment guidelines in USA (http://www.aphis.usda.gov/ppq/pra/commodity/cpraguide.pdf) are two good examples to follow.