**Invasive Alien Species – an Action Plan for Namibia**

**Introduction**

The United Nations Convention on Biological Diversity (CBD) lists alien species that become invasive as one of the main drivers of biodiversity loss across the globe. In addition, alien species have been estimated to cost our economies hundreds of billions of dollars each year. For these reasons, the United Nations Sustainable Development Goals (SDGs), under Goal 15 “Life on Land”, requires member states to, “*by 2020, introduce measures to prevent and significantly reduce the impact of invasive alien species on land and water ecosystems and control or eradicate the priority species*.”

Namibia’s Second National Biodiversity Strategy and Action Plan 2013-2022 (NBSAP2), under Goal 8, directs that, “*by 2018, priority measures are in place to control and manage the impact of invasive alien species in Namibia*”. This Goal has received little attention from the designated lead government agency, the Ministry of Environment, Forestry and Tourism.

Invasive alien species, both plants and animals, are of considerable concern in Namibia. They have a significant negative impact on indigenous biodiversity, agricultural production and sense of place. The numbers of invasive alien species in Namibia are increasing, as are population ranges and densities. Despite the introduction of alien species into local ecosystems requiring an Environmental Clearance Certificate under the Environmental Management Act of 20071, in practice there is little control and monitoring of alien species entering the country, being sold, distributed and propagated. The situation regarding invasive aliens is largely unregulated in Namibia. Recent actions to control and monitor invasive alien plants have been driven largely by civil society. These actions include:

1. the physical clearing of mainly cactus species in the Windhoek area;
2. the introduction of biological control agents for three species of cacti, initially in the Windhoek area and more recently in other parts of Namibia; and
3. the mapping of invasive alien plants by citizen scientists on the Environmental Information Service (www.the-eis.com).

The importance of addressing the growing problem of invasive alien species in Namibia and its increasing urgency prompted a group of ecologists and environmentally concerned individuals, from both government (central and local) and civil society to come together for a brainstorming meeting to discuss and debate the issue and to develop a prioritised Action Plan. This Action Plan addresses Namibia’s obligations under the UN’s CBD and SDGs, and builds upon the Strategic Initiative 2.5.1 in NBSAP2 to “develop mechanisms and measures to prevent the establishment and introduction of alien invasive species and to control or eradicate existing alien invasive species”.

**Action Plan**

There are four components to the Action Plan:

1. Prevent the import of potentially invasive alien species into Namibia;
2. Stop the spread of existing invasive alien species within Namibia;
3. Actively manage, control and, where possible, eliminate existing invasive alien species within Namibia;
4. Establish an inclusive institutional mechanism to collectively implement the above Plan.

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| 1. **Prevent the import of potentially invasive alien species into Namibia**
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| 1.1 | All alien species entering Namibia must be screened and approved under a “biosecurity control system” as per Australia and New Zealand.* If the species is/are on an approved list (e.g. approved domestic stock, crops, horticultural species) with no problems of invasion, it/they should then go for phytosanitary review.
* If they are not on an approved list, then they should be subject to an EIA as per the Environmental Management Act of 2007 - they require an Environmental Clearance Certificate together with appropriate technical and public consultations.
* For species that occur naturally in Namibia, no import will be permitted except for approved conservation purposes, as this would potentially risk the integrity of local subspecies and varieties.
* The screening of alien species for invasiveness should not be the task of the Phytosanitary Section in the MAWLR. For plants this should be a designated person with alternative in the National Botanical Research Institute, for animals it should be a designated person in the MEFT Biodiversity Unit and for microorganisms it should be a designated person in Veterinary Services. These designated persons should liaise with specialists both within Namibia and beyond as necessary to ensure sound technical decisions.
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| 1.2 | Lists of all approved alien species should be compiled, covering agricultural animals and crop plants, horticultural species, domestic species, etc. |
| 1.3 | Lists of species, genera and families that will not be approved because of their known invasive characteristics, and for which there is no point in making an application and carrying out an EIA, should be compiled. The purpose of the lists under 1.2 and 1.3 is to make the task of the designated persons easier and more structured. The Global Invasive Species Database of the IUCN provides global information on invasive alien species: <http://www.iucngisd.org/gisd/> |
| 1.4 | Conduct a review of all legislation pertaining to alien species, invasive species, import and export of species, trade, across all relevant ministries and at regional and local levels, and make recommendations for effective legislative reform considering international best practice. This must include clear directives on what applies where and to whom. |
| 1.5 | Prepare background information about invasive alien organisms to share with key stakeholders such as relevant government ministries and agencies, local authorities, agricultural unions, nurseries and pet shops, courier services, the general public, etc. |
| 1.6 | Once all the above has been completed or sufficiently advanced, prepare training materials for priority sectors and organisations, and provide training courses. |

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| 1. **Prevent the spread of existing invasive alien species within Namibia**
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| 2.1 | Prepare a list of invasive alien species already in Namibia that may not be traded, propagated, possessed and must be eradicated. Where appropriate, this may include bioclimatic zones.See example from South Africa, where alien plants are placed in various categories based on their invasiveness: [Henderson L. 2001. Alien Weeds and Invasive Plants. Plant Protection Research Institute Handbook No. 12. ARC, Pretoria: 1-300](https://www.wits.ac.za/media/migration/files/cs-38933-fix/migrated-pdf/pdfs-7/Alien%20Weeds%20and%20Invasive%20Plants%20A%20Complete%20guide%20to%20declared%20weeds%20and%20invaders%20in%20South%20Africa%20Author%20Lesley%20Hendersoncompressed.pdf).See also for categories: <https://www.dffe.gov.za/sites/default/files/docs/henderson_naturalisedinvasive_casualalienplants.pdf>  |
| 2.2 | Gazette the categorised list and required actions per species as Regulations (under the EMA? or Parks & Wildlife?)See the South African Biodiversity Act of 2004 as an example: <https://www.sanbi.org/wp-content/uploads/2018/03/biodiversityact2004pdf-2.pdf>  |
| 2.3 | Develop information and educational material with focussed messages for:* Government ministries and agencies (agriculture, water, environment, parks, forestry, fisheries, customs, defence ..)
* Towns (municipalities, local authorities, regional councils ..)
* Agriculture (unions, farmers, green schemes, conservancies, agronomic board ..)
* Tourism (lodges, privately protected areas, NWR ..)
* Nurseries, landscape and gardening services, architects and pet shops
* University curriculum for agriculture, natural resources, geography, environment …
* School level information
* General public – particularly gardeners
* Include info on how to eradicate different species and prevent further dispersal

All this material could be held on a dedicated website – see example from South Africa: <https://agribook.co.za/natural-resource-management/invasive-alien-species-ias/>  |
| 2.4 | Once the above is in place, set up an anonymous whistle-blower system for reporting the presence of invasive alien species and transgressions. |
| 2.5 | Expand the current monitoring system to all invasive aliens (via the citizen science EIS) and grow participation. |
| 2.6 | Where appropriate, support focussed research on impacts of invasive aliens on ecosystems and the economy, as well as effectiveness of interventions. |

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| 1. **Actively manage, control and eradicate invasive alien species in Namibia**
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| 3.1 | Compile and maintain lists of invasive alien species for which:1. there are biocontrol agents approved in South Africa, and
2. other effective control methods are recommended
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| 3.2 | Develop an ambitious job-creating programme to clear invasive aliens (a good example is the “Working for Water” initiative in South Africa) that includes climate, biodiversity, water, livelihoods, land restoration and the creation of SMEs. Explore funding options via TNC, GEF and GCF. May be options for linking to a basic income grant – cash for work. |
| 3.3 | Explore economic opportunities linked to invasive alien control, e.g. biodigesters for cacti to produce bottled methane for cooking. |
| 3.4 | Support good existing projects and scale up. |
| 3.5 | For some species, and in some contexts (e.g. urban gardens) the responsibility for eradication should be with the land owner. |
| 3.6 | Support the drafting of bylaws for municipalities and local authorities. |

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| 1. **Institutional arrangements and funding**
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| 4.1 | Establish a national Invasive Alien Species Working Group to drive forward this Action Plan. The IASWG should be chaired by someone in MEFT involved with the NBSAP and of a dynamic and collaborative disposition. The WG should include key institutions and individuals, but not be too large (about 12 people). Other organisations and individuals that need to be involved and/or consulted would be on a less formal “Invasive Alien Species Contact Group”.In addition to the MEFT chairperson, key members of the WG should include:* The three designated people in 1.1 above (NBRI, MEFT, Vet Services)
* Head of Phytosanitary unit in MAWLF
* Agronomic Board
* Forestry
* Water Affairs
* ALAN / City of Windhoek
* Education / NEEN
* BotSoc and NNF (Other NGOs, e.g. NEWS, NSS in Contact Group)
* Academia: NUST or UNAM

NCE will provide secretarial support and facilities |
| 4.2 | The implementation of this Action Plan requires investment. To get the process started, NCE has made provision of up to N$100,000 for each of the next two years to support the work of the Invasive Alien Species Working Group. Once the work starts in earnest, it is anticipated that additional match funding will be attracted. |
| 4.3 | There are some early initiatives which could be started now. These include:* A popular article explaining the threats of invasive alien species to Namibia’s environment and economy, what has been done to date, and what needs to be done (see 1.5). Shirley Bethune to start on this now, for Conservation magazine and press release;
* List of alien species that are not of concern – i.e. “Approved List” (see 1.2);
* List of alien species that should never be considered - i.e. “No-no List (see 1.3);
* List of all known invasive alien species already in Namibia and their category of invasiveness / concern (see 2.1); Anyone ready to start on these lists?
* A review of all legislation pertaining to alien species in Namibia with recommendations for reform (see 1.4). Will discuss with Elize at UNAM Law Faculty
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**Next steps**

1. Review this Action Plan and provide feedback using “track change”
2. Submit revised Action Plan to MEFT as the way forward to address invasive alien species under the NBSAP
3. MEFT to approve the establishment of the Invasive Alien Species Working Group for the implementation of the Action Plan
4. MEFT to appoint a suitable person to chair the Invasive Alien Species Working Group

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