Pest risk analysis decision support

This publication is a summary of new developments from CABI in pest risk analysis decision support prepared by Katherine Cameron, Washington Otieno, Gareth Richards, MaryLucy Oronje, Roger Day, Lucinda Charles

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Background

CABI's Action on Invasives programme, which is funded by UK Aid (DFID) and the Directorate-General for International Cooperation (DGIS, Netherlands), aims to protect and improve the livelihoods of 50 million poor rural families impacted by invasive species through an environmentally sustainable, regional approach to comprehensive management of biological invasions. The programme's goal is to protect and restore agricultural and natural ecosystems, reduce crop losses, improve health, promote safe trade and reduce degradation of natural resources and protected areas in three stages:

Prevention – development and implementation of biosecurity action plans, raising awareness of threats at the local level (including through mass media campaigns), and preventing arrival and spread of invasive species;

Early detection and rapid response – development and implementation of surveillance and emergency action plans for detecting and containing priority species, and building capacity of national plant health systems to implement these plans; and

Control and restoration – evaluating and scaling up existing management solutions for invasive species, and developing and scaling up new solutions to ensure those living in rural communities have best practice and locally adapted solutions.

New developments

In line with these goals the programme is developing tools for analysing the risk of invasive pests to countries and regions. CABI's focus in 2019 is the development of an online pest risk analysis (PRA) decision support tool. Development of the tool started in 2018. Phase 1, incorporating a workflow for plant commodity-initiated PRA, has concluded with a beta version of the tool made available to subscribers to the Crop Protection Compendium (CPC, www.cabi.org/cpc, contact PRA@cabi.org to join the trial). The tool will be fully launched in the final quarter of 2019 with the incorporation of a pest-initiated PRA workflow and other features.

The PRA Tool supports the analysis of risk associated with pests (any species, strain or biotype of plant, animal, or pathogenic agent, injurious to plants or plant products). It forms a framework for conducting PRA in accordance with international standard for phytosanitary measures (ISPM 11): Pest risk analysis for quarantine pests, in a format that is accessible for risk assessors in low and medium income countries who often lack access to resources and tools for thorough risk analysis.

The new tool reflects the functionality of the PRA module previously included in the CPC CD-ROM (last published in 2007) but will be available online and link to the latest relevant information. In the full-launch version, users will be able to initiate a PRA for a commodity or a pest pathway and collaborate with their team members to complete the analysis. The tool will:

1. Enable users to produce and refine a list of pests that pose a risk

2. Facilitate individual pest risk assessments for each pest following four criteria:

   - probability of introduction
   - probability of establishment
   - probability of spread
   - potential consequences

3. Provide a template for recording risk management actions

4. Export a PRA report for sharing and printing

CABI has engaged risk assessors from twelve countries across Africa at two workshops, one in June and one in December 2018, to identify user requirements for the new tool. Through its launch at the second workshop, the plant commodity-initiated PRA workflow feature was evaluated.

Access

To ensure maximum use of the PRA Tool in low income countries, CABI will provide gratis access to both the CPC and the PRA Tool to the registered NPPOs of 92 countries identified on the basis of UN Index Number. A list of these countries is provided in Appendix 1. A project to ensure that CABI actively engages with the relevant NPPOs is now underway. NPPOs within the countries listed can expect to be contacted by CABI to progress this objective within the next few months. They are also welcome to contact CABI via the PRA@cabi.org email to request access.

The PRA Tool is the second decision support feature to be launched as part of the implementation of the Action on Invasives programme. The Horizon Scanning Tool (www.cabi.org/HorizonScanningTool) was launched in November 2018 (after a beta version in March 2018). This provides decision support to help risk assessors, plant protection and quarantine officers, protected area managers and researchers identify potential threats of invasive

species to a country, state or province. The tool was also supported by the US Department of Agriculture (USDA) and UK Aid (DFID). Since launch, it has had over 5,000 users from 169 territories recognised by Google Analytics. It provides a quick and user-friendly means of accessing a large volume of relevant data for categorizing and prioritizing potential invasive species for focused / better adoption of preventative measures.

The Horizon Scanning Tool can be accessed via CABI's Invasive Species Compendium (ISC, www.cabi.org/isc) or CPC. Information from these compendia is used to generate a list of invasive species that are absent from the selected 'area at risk' but present in 'source areas', which may be relevant because they are neighbouring countries, are linked by trade or transport routes, or share similar climates. The list of invasive species can be filtered using various criteria (e.g. pathways, habitats and taxonomy) to focus on sets of potential invasive species that may require surveillance, more detailed risk assessment,

public awareness or direct action to prevent their introduction and spread. The list can also be output to a CSV file for analysis outside the Tool.

The Tool provides links to corresponding invasive species datasheets with information on detection and identification, means of entry, requirements for establishment and spread, and documented negative impacts (required for horizon scanning), and also methods for prevention and control (for response planning).

All users can access the filters (for pathways, habitats and taxonomic group), view the full species results list, output a CSV file of the results, and open ISC datasheets to access further information. The premium version for subscribers to the CPC provides two extra filters (for plant hosts and for plant parts in trade) and links to additional pest datasheets. User assessments and feedback collection will continue to identify and implement further improvements to the Horizon Scanning Tool.

Eligibility

CABI will undertake to provide gratis access to both the CPC and the PRA Tool to the registered NPPOs of the following 92 countries*

Afghanistan	Cyprus	Lesotho	Somalia
Angola	Cuba	Liberia	South Sudan
Antigua & Barbuda	Djibouti	Madagascar	Sri Lanka
Armenia	DPR Korea	Malawi	St Helena
Azerbaijan	DR Congo	Maldives	St Kitts & Nevis
Bahamas	Equatorial Guinea	Mali	St Lucia
Bangladesh	Eritrea	Mauritania	St Vincent & the
Barbados	Ethiopia	Mauritius	Grenadines
Belize	Gabon	Mongolia	Sudan
Benin	Gambia	Mozambique	Swaziland
Bhutan	Georgia	Myanmar	Syrian Arabic Republic
Botswana	Ghana	Namibia	Tajikistan
Brunei Darussalam	Grenada	Nepal	Tanzania
Burkina Faso	Guinea	Niger	Timor-Leste
Burundi	Guinea-Bissau	Nigeria	Togo
Cambodia	Guyana	Pakistan	Trinidad &Tobago
Cameroon	Haiti	Papua New Guinea	Turkmenistan
Cape Verde	Jamaica	Philippines	Uganda
Central African Republic	Kazakhstan	Rwanda	Uzbekistan
	Kenya	Sao Tome & Principe	Vietnam
Chad	Kosovo	Senegal	Yemen
Comoros	Kyrgyzstan	Seychelles	Zambia
Congo	Lao People's Democratic Republic	Sierra Leone	Zimbabwe
Cote D'Ivoire		Solomon Islands	

*This list is provisional and may change over time as the situation of countries changes.

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To find out if your organisation is eligible for gratis access, please contact:

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