Invasive Species

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KNOWLEDGE FOR LIFE

CABI

CABI and Invasive Species

- A focus since CABI originated >100 years ago
- Member countries repeatedly identify Invasive Species as a priority
- CABI's strength: biological control, following due diligence in regard to Nagoya protocol
- Collaborative applied research on Invasive Species prevention and management core to CABI's Science Strategy
- Expertise and resources in knowledge management and dissemination: www.cabi.org/isc
- Convening capability facilitates cooperation and collaboration amongst stakeholders
- Member of the Inter-Agency Liaison Group on Invasive Species (www.cbd.int/invasive/lg)
- New "Action on Invasives" programme aims to protect and improve the livelihoods of over 50 million poor rural households

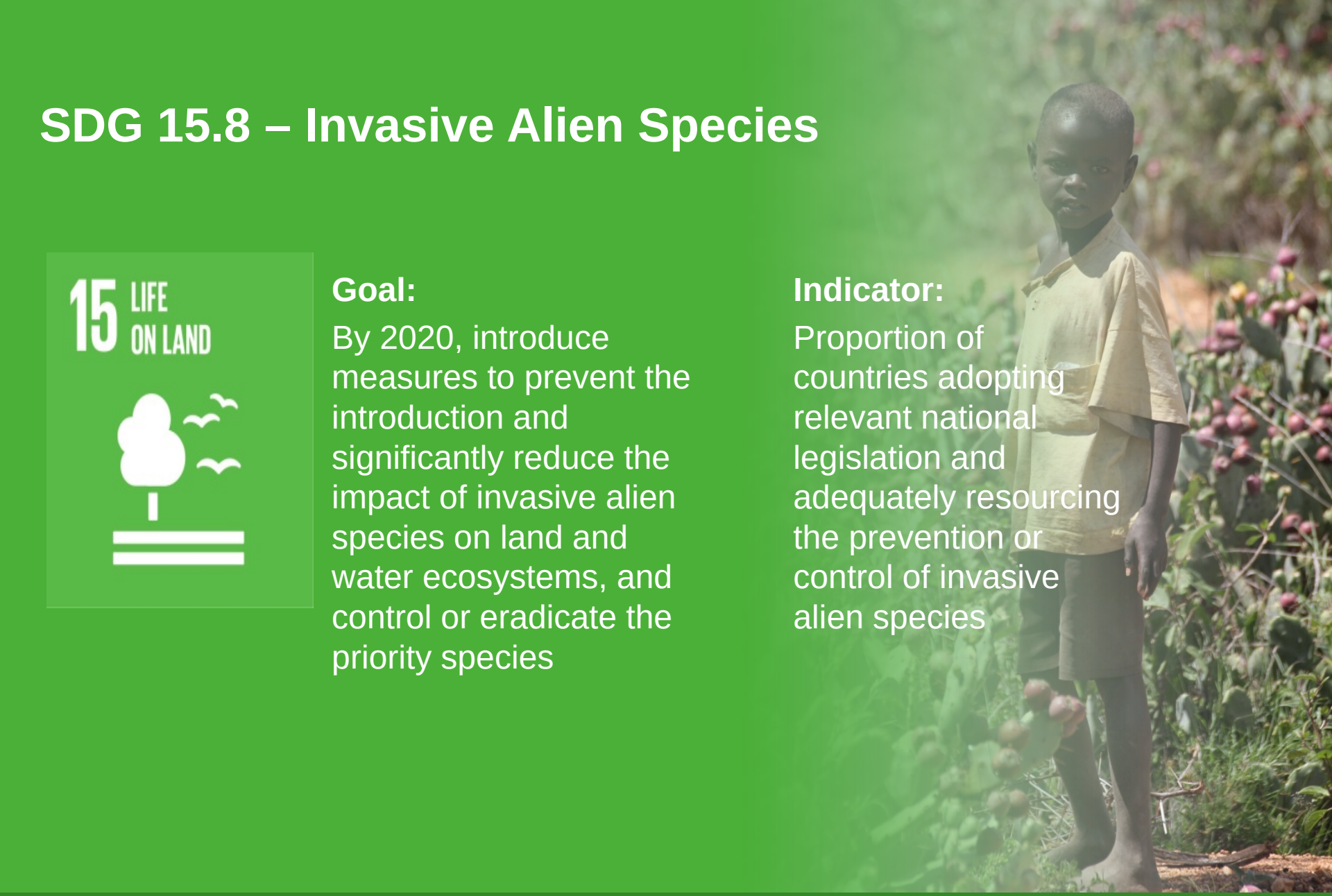
SDG 15.8 – Invasive Alien Species

Goal:

By 2020, introduce measures to prevent the introduction and significantly reduce the impact of invasive alien species on land and water ecosystems, and control or eradicate the priority species

Indicator:

Proportion of countries adopting relevant national legislation and adequately resourcing the prevention or control of invasive alien species



CABI's goals and activities in Invasive Species

1. Increased awareness of the risks and costs of Invasive Species
2. Enhanced capacities of countries to respond to the threat of Invasive Species
3. Strengthened policies and plans for Invasive Species management
4. Effective prevention and management of Invasive Species

- Action on Invasives (AoI) programme contributes to all goals
- Specific projects contribute to one or more goals

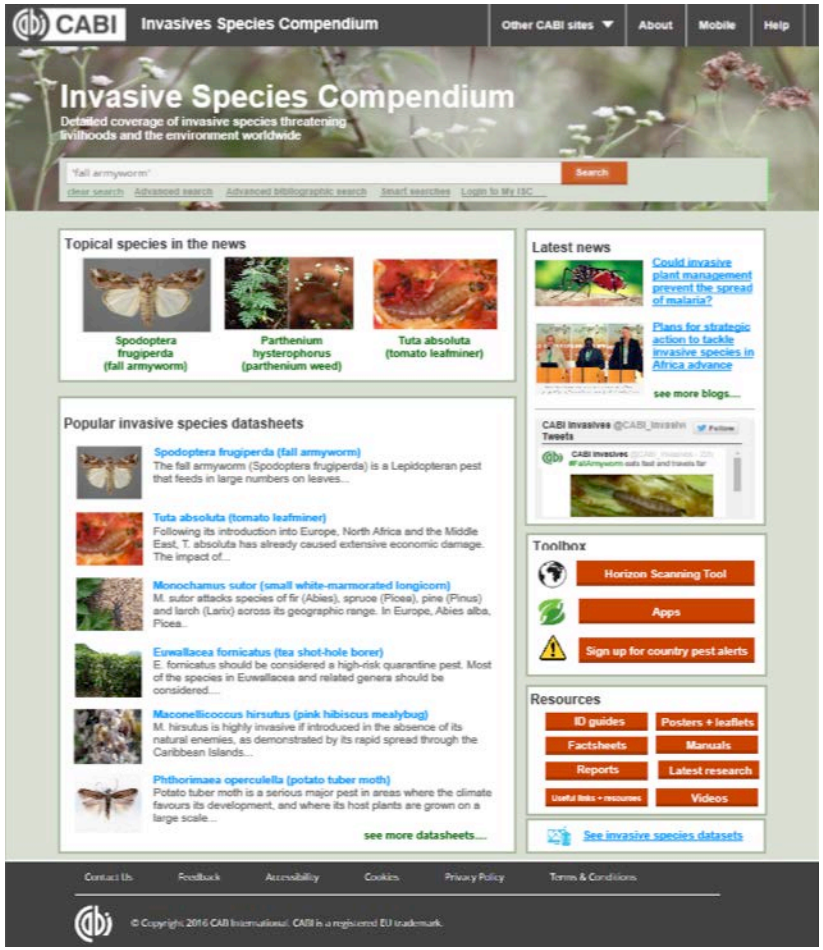
1. Increased awareness of the risks and costs of Invasive Species

- Develop, implement and evaluate communication campaigns
- Develop and apply methods for assessing and communicating the risks and costs
- Strengthen areas of
  - Monitoring and evaluation
  - Gender and diversity
  - Management and analysis of big data sets

2. Enhanced capacities of countries to respond to the threat of Invasive Species

- Facilitate national and regional cross-sectoral cooperation, building on Plantwise achievements
- Further develop knowledge and information resources and tools to support decision-making
- Provide training to national agricultural and environment organisations

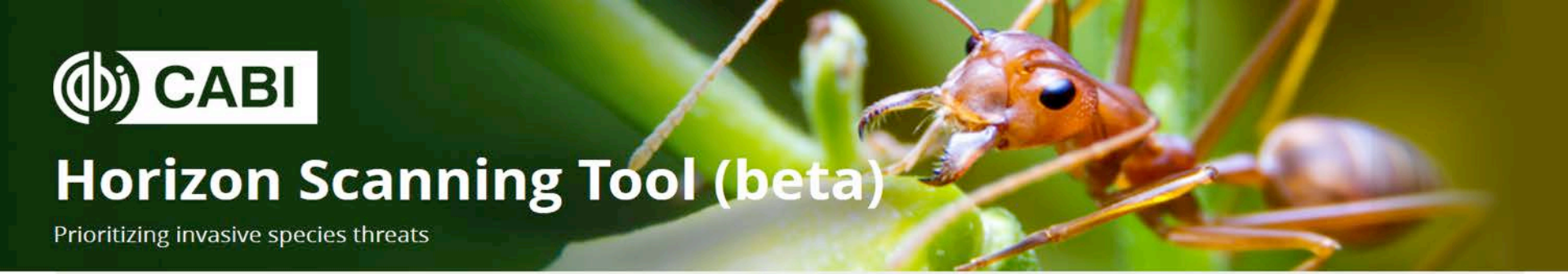
Enhanced Invasive Species Compendium



www.cabi.org/isc

Enhancements

- Species “portals”
- Improved mapping
- Toolbox
  - Horizon scanning
  - Pest risk analysis (PRA)
- Resources
  - Diagnostics
  - Communication materials
  - Data
- Abstracts
- News

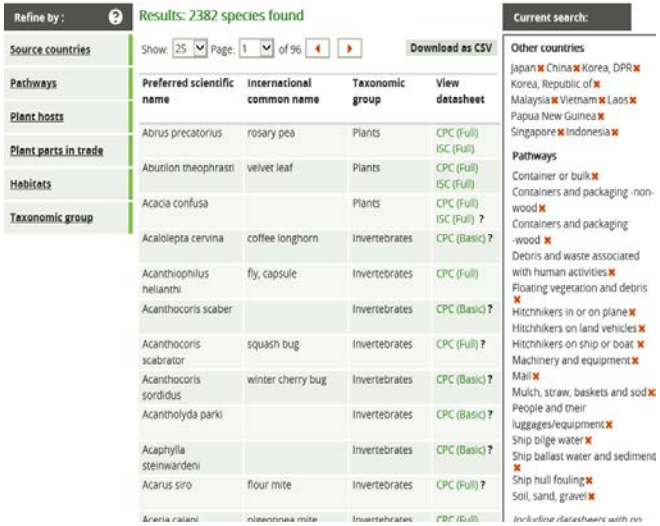


Horizon Scanning Tool (beta)

Prioritizing invasive species threats

The Horizon Scanning Tool is a decision support aid that helps you identify and categorize species that might enter a particular country from another country.

Using the Horizon Scanning Tool



Targeted users: risk assessors, plant protection officers, quarantine officers, protected area managers and researchers

Potential threats can be prioritised by:

- Habitats
- Pathways
- Plant hosts
- Plant parts in trade
- Taxonomic group

Results output as a list with links to datasheets in the ISC and CPC. Exportable as .csv for analysis

https://www.cabi.org/horizonscanningtool

Supported by USDA

3. Strengthened policies and plans for Invasive Species management

- Assist countries to develop and implement national Invasive Species strategies and action plans (NISSAPs), ecosystem management plans and biosecurity plans

- Assist countries to strengthen regulatory frameworks for prevention and management of Invasive Species

Australia-Africa Plant Biosecurity Partnership (AAPBP)

- Funded by ACIAR, led by PBCRC and CABI
- Focus on capacity development
  - 10 countries in E & S Africa
  - 15 Senior Fellows (NPPOs)
  - 30 Associates (NPPOs, private sector)
  - Six week study tour in Australia
  - Series of four training workshops
  - Mentoring, building networks

Impact pathway

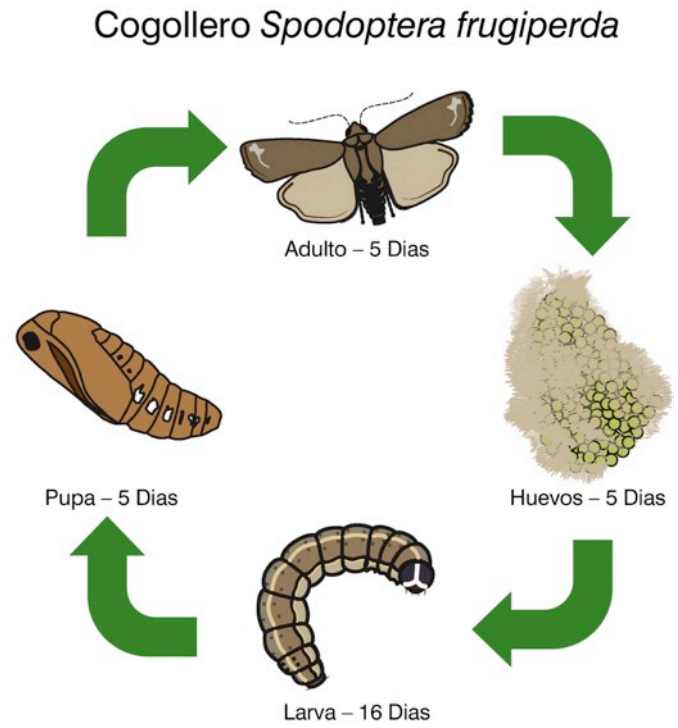
Activities	Outputs	Outcomes	Impacts
Workshops Training courses Mentoring	More knowledge Improved skills More “Capacity”	Using knowledge, skills, capacity New measures Better P-P cooperation	More trade Fewer interceptions More productivity “Development”

4. Effective prevention and management of Invasive Species

- Support national and regional prioritisation of risks and threats from Invasive Species in agriculture and the environment
- Undertake collaborative research on improved methods for the prevention and management of prioritised species
- Provide the information needed by stakeholders (particularly the men and women most impacted) to take action against Invasive Species
- Promote the implementation of biological control and other low-risk methods for integrated management of Invasive Species

Example: Biological control of Brown Marmorated Stink Bug

- Native to East Asia, it has become a global invasive pest since its introduction to the United States (1996), Switzerland (2004), Canada (2010), France (2013), Germany (2012), Italy (2013), Hungary and Georgia (2014), and Chile (2017)
- >120 host plants including economically-important crops and ornamentals, such as kiwifruit, apple, etc
- Caused US$37 million in losses in apple in the Mid-Atlantic region, with some growers losing over 80% of their crop
- Biological control research conducted by CABI and the Joint Lab team revealed the dominant egg parasitoids in northern China, its host range and potential application in the field to control BMSB



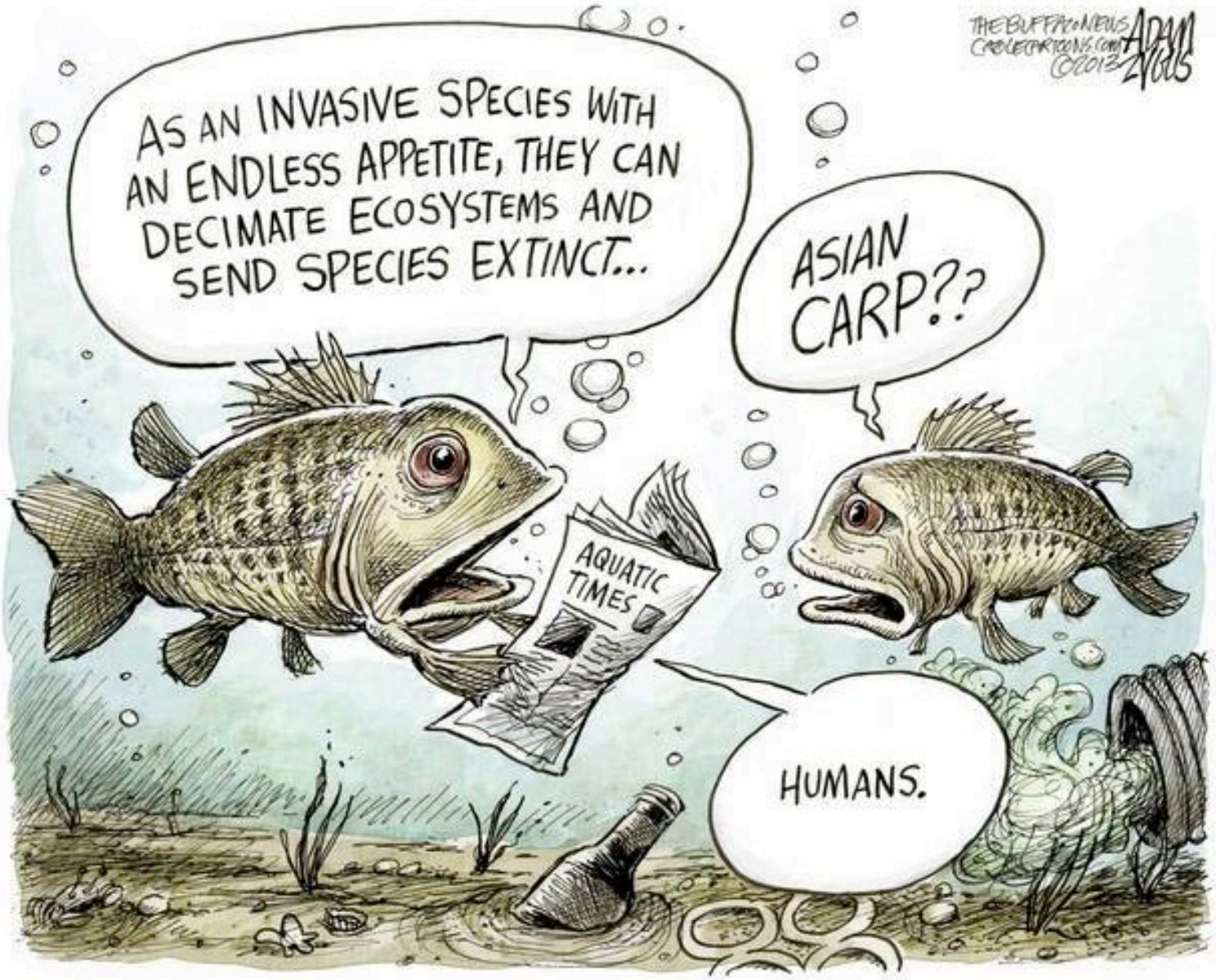
Potential for biological control of fall armyworm (FAW) in Africa

- FAW originates in South/Central America and has become a major invasive species in Africa and has now also reached Asia (India)
- Crop losses in key crops, especially maize
- Search for classical biological control agents in South America have started for eventual export to Africa
- Classical biocontrol approach relies on free exchange of genetic resources
- Experience on the management of these species from LAC
- **South – South Cooperation**

Review Article

REVISÃO DA BIOLOGIA, OCORRÊNCIA E CONTROLE DE *Spodoptera frugiperda* (LEPIDOPTERA, NOCTUIDAE) EM MILHO NO BRASIL

BIOLOGY REVIEW, OCCURRENCE AND CONTROL OF Spodoptera frugiperda (LEPIDOPTERA, NOCTUIDAE) IN CORN IN BRAZIL


AS AN INVASIVE SPECIES WITH AN ENDLESS APPETITE, THEY CAN DECIMATE ECOSYSTEMS AND SEND SPECIES EXTINCT...
AQUATIC TIMES
ASIAN CARP??
HUMANS.

CABI is an international intergovernmental organisation, and we gratefully acknowledge the core financial support from our member countries (and lead agencies) including:

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Australian Government
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Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra
Swiss Agency for Development and Cooperation SDC