

# Counting the cost of alien invasions

## VIEWPOINT

Achim Steiner

**Far too many governments have failed to grasp the scale of the threat from invasive species, warns UN Environment Programme's executive director Achim Steiner. In this week's Green Room, he issues a call to arms to halt the alien invasion.**

**" Far too many countries have failed to grasp the scale of the threat, or are far too casual in their response "**

Ask an Asian rice farmer about a brown or green-coloured snail, some 10cm in length, and you could well be asking about sinister creatures from Mars.

The golden apple snail has become a scourge in the paddy fields, damaging a staple crop as a result of its voracious appetite and costing a small fortune to control via environmentally questionable chemicals.

The mollusc is among literally tens of thousands of life-forms classed as alien invasive species.

They are thought to be harming the global economy to the tune of \$1.4 trillion (£913bn) a year, if not far more.

Free from natural predators and checks and balances, alien invaders - like the golden apple snail - can experience massive population surges in their new homes.

Native species are ousted, waterways and power station intakes clogged. Aliens also bring infections including viruses and bacteria, while poisoning soils and damaging farmland.

## **Invasive action**

Some governments, such as New Zealand, are facing up to the challenge with tough customs controls on foreign plants and animals.

South Africa has well-funded removal programmes aimed at, for example, conserving the unique Cape Floral Kingdom and its economically-important nature-based tourist attractions.

But far too many countries have failed to grasp the scale of the threat, or are far too casual in their response.

In the British novelist HG Wells' celebrated science-fiction saga, *The War of the Worlds*, aliens invaded in space ships to wreak havoc and mayhem.

In the real world they are spread from one continent to another via the global agricultural, horticultural, aquaria and pet trades - or by hitchhiking lifts in ballast water and on ships' hulls.

The rice-consuming golden apple snail is thought to been brought to Asia from Latin America in the 1980s as an aquarium pet and a gourmet food.

After the snails proved less than popular for diners, importers released the creatures and perhaps their eggs into Asia's rivers and lakes, from where they spread to about a dozen countries including Japan.

## **True cost**

The "red tides" seen, for example, in Europe's North Sea and linked with fish kills are blooms of algae brought accidentally in ballast water from the seas off China.

Alien invasive species also challenge the UN's poverty-related Millennium Development Goals.

Take water hyacinth as one example; a native of the Amazon basin, it was brought to continents like Africa to decorate ornamental ponds with its attractive violet flowers.

But there is nothing attractive about its impacts on Lake Victoria, where it is thought to have arrived in about 1990, travelling down the Kigera River from Rwanda and Burundi.

Hyacinth can explode into a floating blanket, affecting shipping, reducing fish catches, hampering electricity generation and human health.

The plant has now invaded more than 50 countries around the world and annual costs to the Ugandan economy alone may be \$112m (£73m).

In sub-Saharan Africa, the invasive witchweed is responsible for annual maize losses amounting to \$7bn.

Overall losses to aliens may amount to more than \$12bn in respect to Africa's eight principle crops.

Damage to river banks in Italy by the introduced copyu rodent, brought in from Latin America for fur, is estimated at \$2.8m annually, according to data compiled by the Global Invasive Species Programme (GISP).

In the Philippines, the golden apple snail causes damage to the rice crop of up to \$45m.

The challenge is both a developed and developing economy one, but perhaps the true scale is perhaps only now unfolding.

Scientists with the Delivering Alien Species Inventories for Europe (DAISIE) say there are now 11,000 invaders in Europe, of which 15% cause economic damage and threaten native flora and fauna.

Meanwhile, climate change is also likely to favour some alien species currently constrained by local temperatures.

Scientists have termed them "sleepers" - foreign agents who become embedded in a community to be activated some years later. Rainbow trout, introduced into the UK, is a case in point.

In the War of the Worlds, the Martians were defeated by an Earthly infection - perhaps a bout of flu - to which they had no resistance. Real world aliens are often made of sterner stuff.

## **Fighting back**

Improved international co-operation is needed alongside support for initiatives, such as GISP, and the work of organisations like the International Union for the Conservation of Nature (IUCN).

It is important too to boost the capacity of the responsible national customs, quarantine and scientific institutes able to provide early warning, especially in developing countries alongside strengthening agreements under the UN's International Maritime Organization (IMO).

Improved management of affected habitats can also assist. There is some evidence that introducing a variety of native freshwater plants into a golden apple snail-infested site can reduce impacts on the rice crop.

This year, the Japanese government will host the Unep-linked Convention on Biological Diversity (CBD).

2010 is when the international community is supposed to have reduced the rate of loss of the world's biodiversity. Raising awareness among policymakers and the public, and accelerating a comprehensive response via the CBD, when governments meet in Nagoya later this year, is long overdue.

As the economy recovers, global trade including via shipping, will resume the risk of further invasions.

Alien invasive species are part of the overall biodiversity challenge; for too long they have been given an easy ride.

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*The Green Room is a series of opinion articles on environmental topics running weekly on the BBC News website*

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