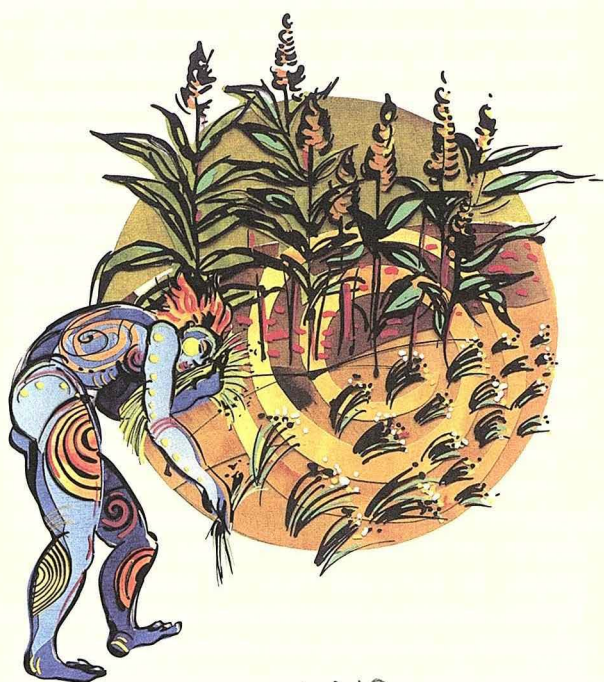


Understanding the risks

associated with invasive species



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22 Invasive species

Once Gondwana had broken up, evolution took place on separate land masses. This separation of continents, islands and seas generated a huge range of diversity and biological originality, particularly on oceanic islands. Now, the globalisation of trade, including trade in living things, has artificially re-connected them. Inevitably, some introduced species make more efficient use of resources than the local species and have become invasive in their new homelands. This planet-wide change has spared no region of the world and endangers both biodiversity and the human populations that depend on biological resources.

Problems arising from the accidental introduction of crop pests and livestock parasites are already being addressed. Now the deliberate introduction of exotic species should be subjected to prior assessment of the economic and environmental risks. These risks are particularly high in agroecology, since introduced species are used in farming for the sake of their rapid growth, nitrogen-fixing properties or

competitive success against other plants. CIRAD is developing methods for monitoring populations of invasive species and is assessing their impact on natural and anthropic ecosystems. It is also developing preventive or curative procedures to address the problem.

The research is mainly being conducted in island environments where the scale of biological invasion is exacerbated by the vulnerability of the ecosystems and high introduction rates. Results concern fruit species (guava), forest species (e.g. acacia), grassland weeds, invasive weeds in forests (e.g. the giant bramble *Rubus alceifolius*), insects (e.g. fruit fly) and large herbivores (*Rusa* deer).

CIRAD plays a part in international structures and networks addressing the problem of invasive species: the Global Invasive Species Programme, Pacific Island Ecosystems at Risk, Indian Ocean Commission regional environmental programme, Invasive Species Specialist Group and IUCN.

