

## Rodent Research and Capacity Building at NRI

Rodents are perhaps the most successful mammal group second only to humans. There are more species of rodent than all other groups of mammal combined, and a handful of these species can cause serious agricultural and health problems for people. Scientists at NRI have led more than seven rodent projects since 1998, working in collaboration with researchers and local communities in many countries of Africa and Asia. These projects share the common objective of generating knowledge on rodent ecology, behaviour, population dynamics and habitat utilisation to improve the way we manage rodent pests. Ecologically-based rodent management is increasingly seen as more sustainable, both economically and environmentally, than the traditional use of acute poisons.

One of the big problems in developing better rodent management strategies is to understand their true impact on people's livelihoods. Although many farmers will understand that rodents are a problem and damage their growing crops, stored food and personal possessions, awareness among farmers about the level and scope of damage is often underestimated. For example, rodents can transmit more than 60 different diseases, the symptoms of many may be confused with other diseases (e.g. malaria, dengue) where awareness is higher. It is, therefore, important to raise awareness and generate accurate information about the multiple damages caused by rodents, producing data that show true levels of loss and contamination, and disease risks. Providing people with the true cost of rodents on their livelihoods allows them to consider how much they can invest (traps, poisons, labour) in controlling rodents.

NRI staff have been encouraging local agricultural and health scientists in Africa to work together to improve our understanding of rodent pest problems. In the RATZOOMAN project, African scientists (veterinarians, clinicians, agriculturists and ecologists) from Tanzania, Mozambique, Zimbabwe and South Africa came together to investigate zoonotic diseases carried by rodents (e.g. plague, leptospirosis, toxoplasmosis) and find ways of reducing the risk of disease transmission to people. Not only was scientific capacity strengthened, but the outputs were readily adopted by local government authorities, building capacity and coordination of rodent pest management between government environmental health officers and private pest control companies (see Durban article under further reading for more information).

A new project led by NRI, the ECORAT project, brings together scientists from Swaziland, Namibia, Tanzania and South Africa to look at the agricultural pest problems affecting small-scale farmers. This project won funding through the Competitive Regional Agricultural Research Fund (CRARF) as part of the Implementation and Coordination of Agricultural Research and Training (ICART) Programme in the Southern African Development Community. A major objective of the ICART programme is to strengthen the capacity of agricultural scientists to deliver research and technology that can meet the needs of small rural farmers. The experience of NRI will be used to improve the knowledge and tools made available to rural communities facing the multiple impacts caused by rodent pests on their lives.

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P. Taylor (2006) [Managing urban rats and rodent-borne diseases in a squatter camp - the Cato Crest Model](#). Palmnut Post, 9(2): 18-20. Durban Natural Science Museum. Durban, South Africa.

[BBC World Service, One Planet Series. Rats!](#) a two-part radio programme broadcast internationally in June 2005 and January 2006. The [second 30 minute programme](#) contains much material derived from the RATZOOMAN project and scientists involved.

The RATZOOMAN website <http://www.nri.org/ratzooman/>

The ECORAT website <http://www.nri.org/ecorat/>

Managing Rats in Rural Villages of Bangladesh: A training video for agricultural extension and farming communities produced in three 15-minute parts. [Part 1](#), [Part 2](#), [Part 3 \(short video introduction\)](#)



Rodents bites are common in some parts of Africa (up to 10% of people in some communities) and can lead to serious infection or disease transmission.



Agricultural damage by rodents can happen to nearly all crops people try to grow, making rodents one of the biggest pest problems faced by farmers.



Learning about rodent biology in African communities means that farmers can make better decisions about their rodent pest control options.