

How to control rodent pests effectively and sustainably



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Policy Discussion Paper

Statement of proposition

Successful rodent control is possible. Most failures are due to poor application, lack of tools and technology, and poor understanding by end users about rodents and control methods. More interdisciplinary integration is needed which includes all stakeholders to develop appropriate management strategies based on costs and benefits.

Evidence

Rodent control has three components: monitoring, interventions and communication. Surveys and monitoring of rodent populations and the damage caused is required to form the basis of any management strategy. Rodent populations, including their habits and preferences, must be known in order to build efficient control programmes. Monitoring continues throughout any intervention in order to understand whether the intervention is actually working. Interventions to manage rodent populations include killing them (trapping, poisoning) as well as improving sanitation and prevention (rodent-proofing granaries, removing rubbish). Any sustainable intervention will require multiple activities and tools.

The final component for sustainable rodent control is to establish effective communication and feedback between all the stakeholders. These stakeholders include the individuals and communities suffering from rodent problems, and those who can help them resolve the problems (scientists, government officials, businesses, knowledge providers). Poor communication among these groups is often the reason why rodent pest issues remain unresolved.

Assumptions and their implications

- All stakeholders are willing and able to cooperate.
- Can the solutions be made socially acceptable? For example, accepting and promoting owls, snakes and other wild predators in the environment.
- End users have a good awareness of the economic costs of rodents and are willing to invest time and money to control rodents.
- Existing service providers are able to respond appropriately to community needs for rodent control.
- Affected communities must realise that rodents are a shared problem and can only solve the issues through cooperation with each other and by involving other stakeholders



How to control rodents

Counterviews and their implications

- Many communities have tried and failed to control rodents and eventually give up saying “rodents are too clever to control”
- Most people don’t know about all the problems rodents cause (diseases) or underestimate the problem (crop and stored food losses) and are thus less motivated to control rodents

Food security and public health consequences

- Successful rodent management will increase harvests, reduce stored food losses.
- Seed for the next year will have improved germination and survival.
- Higher yields means more profit and less need to expand the land under cultivation to meet household needs
- Fewer rodents will reduce the risks of disease transmission to domestic livestock and people

Project design considerations

- All stakeholders including affected communities and service providers should be involved in research to develop sustainable rodent control.
- Communication with end users and service providers is essential to raise awareness about basic rodent biology and the way management tools and technology work.

Knowledge gaps and research opportunities

- Quantified data on the impact of rodents is lacking, both for crop losses and health problems
- Cost-benefit analyses on rodent control strategies
- The effectiveness of biological control, both domestic predators such as cats and dogs and wild animals such as owls and small carnivores, is generally poorly understood for rodent pest management
- Impact pathways for stakeholder engagement in rodent management

Tools to consult

The StopRats project created short videos on “how to control rodents” that target African farming communities and service providers. The video is free to watch and download and is available in English, French and Kiswahili. Links to the video are found on the Youtube channel: Steven Belmain
<https://youtu.be/sGjL544acCM> in English
<https://youtu.be/uYB3pluS1Fw> in French
<https://youtu.be/6NT3rhFp6L8> in Kiswahili

Links to further information on how to control rats can be found through the StopRats project website <http://projects.nri.org/stoprats>

StopRats is a project funded by the European Union through the African, Caribbean and Pacific Science and Technology Programme. The project is about rodent pests and the damage they cause in crop production, the loss and contamination of stored food after harvest and the many health problems inflicted on people and domestic animals through the transmission of rodent-borne diseases. StopRats is officially led and managed by Professor Steven Belmain from the Natural Resources Institute of the University of Greenwich, United Kingdom and involves the following partner organisations: Sokoine University of Agriculture, Tanzania; University of Swaziland; University of Namibia; University of Venda, South Africa; Agricultural Research Council – Plant Protection Research Institute, South Africa; the Vahatra Association, Madagascar and Concern Worldwide, Sierra Leone. More about the project can be obtained by contacting the project leader, Prof Steven Belmain via Email: s.r.belmain@gre.ac.uk and through the project website <http://projects.nri.org/stoprats> More about the ACP S&T programme can be found at <http://www.acp-hestre.eu>



Sustainable Technologies to Overcome Pest Rodents in Africa through Science



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