

## Rural farming communities are not getting the help they need to control rodents



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## Policy Discussion Paper

### Statement of proposition

Better communication and coordination between communities, different levels and departments of government, researchers and the pest control industry would promote a more coordinated rather than individual-based response to rodent problems in rural agricultural areas and households.

### Explanation

Rodent-related health and food security problems experienced by small-holder farming communities are conveyed by communities to local offices of the relevant government departments and levels but these are not taken up further to regional and national offices, nor are they communicated to the private sector that are willing to assist with the problem.

### Evidence

Collaboration between researchers and communities have repeatedly shown that rodents are a serious and neglected problem for quality of life, food security and health.<sup>1-3</sup> The StopRats project demonstrated that improved communication and coordination can result in reduced rodent damage to crops, stored food, clothes and household goods.

### Assumptions and their implications

Reduced rodent numbers will translate into reduced levels of zoonotic infections and improved food safety, security and nutrition. Reduction in rodent numbers will lead to reduced crop and stored food damage. Reducing rodents will lead to attainment of SDGs 2, 3, 6 and 15. Implementing ecologically-based rodent management will reduce risks to environmental and human health through reduced dependency on harmful chemicals.<sup>4</sup> There is recognition by all stakeholders that rodents are a major priority in the public health and agricultural sectors.<sup>5</sup> There is strong evidence that over-reliance on rodenticides leads to rodenticide resistance and further increases in rodent pest numbers.<sup>6,7</sup> Changes in farmer practices may exacerbate rodent pest issues.<sup>8</sup> Rodent control and emerging zoonotic diseases play a key part in the growing interest in the One Health movement.<sup>9</sup>

### Counterviews and their implications

- Some countries do not acknowledge the scale of the rodent problem
- Reliance on “silver bullet” solutions, especially poisons
- Needs assessments with communities typically overlook rodents, i.e. international organisations and NGOs overlook rodents
- The effectiveness of communication networks vary considerably between countries



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### Food security and public health consequences

Meerburg et al.<sup>10</sup> conservatively estimated that if rodent losses to rice production could be reduced by 5% this would save 70 million tonnes of rice, which is sufficient to provide the annual food consumption for almost 280 million people in developing countries, i.e. enough to feed 34% of the total undernourished people in the world. Thus, controlling rodent numbers to prevent subsequent losses remains one of the key strategies to secure long-term food security, agro-ecological sustainability and economic development, especially in small-holder systems.

### Project design considerations

- Convincing stakeholders to take an evidence-based approach is critical
- Engaging a representative range of stakeholders and using a clear impact pathway approach is vital
- Good M&E system to ensure rigour



### Knowledge gaps and research opportunities

- Given the multiple impacts of rodents (different crops, diseases etc.), more evidence of rodent impact in different contexts and ecosystems is urgently required
- Need for risk analysis framework for the allocation of resources. This could take the form of a decision support system
- Need to know the distribution of pest communities specific to different regions and basic rodent ecological knowledge
- Better technology (fertility control, biological control)

### References

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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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