



Credit: FAO/C. Dy

Community capacity building on biosecurity in Cambodia

## THE ISSUE

Animal diseases that spread through human activities can be prevented, controlled and even eliminated through the application of biosecurity measures along production and marketing chains. Biosecurity training coupled with hygiene education focuses on the modification of habits and behaviours of people to

progressively reduce the risk of disease transmission. Better prevention and control of transboundary animal diseases (TADs) can be achieved when public services and producers work together to include practical and cost-effective biosecurity measures in all good animal production management practices.

## THE FACTS

Biosecurity principles encompass all of the measures taken to keep pathogens from entering clean populations (bioexclusion) and to prevent pathogens from spreading from an infected site (biocontainment). The first priority is bioexclusion, as prevention is the most efficient and effective form of control. If that fails, and an outbreak occurs, the rapid and vigorous application of biocontainment becomes the most significant activity.

Biosecurity has many forms and the measures taken need to be commensurate with the risk for which they are developed, and appropriate for the situation in which they are used.

- ▶ Large-scale commercial farms in developing countries should be encouraged to strengthen biosecurity as a good management practice to protect assets and consumers.
- ▶ Some frequently recommended practices may be difficult to implement or inappropriate for small-scale commercial or village production systems in resource-poor settings.
- ▶ Biosecurity measures need to be adapted to incorporate key actors in the market chain, including intermediaries, traders and marketers.
- ▶ Some biosecurity systems for large-scale commercial production farms in developed countries require considerable investment and rigorous regulation by the operators.
- ▶ Compartmentalisation - the application of a common biosecurity management system to a whole animal production sub-population - makes it possible to continue safe trading from "disease free compartments" of a country or zone regardless of the disease status "outside" the compartment.

## CHALLENGES AND GAPS

Although it is known that biosecurity is critical for the prevention and control of animal diseases, good biosecurity is not universally practiced. A better understanding of the motivations and incentives for people to adopt or reject these measures is needed. An understanding of risk perceptions, risk constructs and risk mitigation alternatives is important in designing strategies to promote better biosecurity to improve production and reduce disease.

Incorporating socio-economic analysis into biosecurity planning enables us to assess the social and cultural acceptability of measures; costs in relation to what people can afford to pay; as well as the incentives and penalties that may be appropriate to induce behaviour change. Stakeholder dialogue is also critical to understand who keeps animals, where they are kept and how important it is for people's

livelihoods; what might they be willing to do and invest to improve biosecurity; and whether the costs of implementing biosecurity measures should be borne only by the producer or supported by public funds.

Although the biosecurity chain is only as strong as its weakest link, there are measures that are more critical than others, and identifying these can prove invaluable, as they address the issues of greatest risk. Participatory approaches to research would provide better understanding of important questions, such as:

- ▶ Which biosecurity measures should be prioritised if only a limited set can be implemented?
- ▶ What is the impact of implementing only a limited number of biosecurity measures, and which measures are most effective in a given situation?

## FAO'S POSITION

The Food and Agriculture Organization of the United Nations (FAO) recognises that biosecurity is essential for safe and healthy animal production. FAO advocates for strengthened animal disease prevention, detection and control systems involving three steps, which can be described as:

- (i) finding it fast;
- (ii) eliminating it rapidly; and
- (iii) stopping its spread.

All three must be achieved simultaneously for disease to be effectively prevented and controlled. Biosecurity must be

practical and sustainable for all three steps. Towards this, understanding how people perceive their own situation and the environment in which they live is essential.

The implementation of biosecurity measures is an integral part of good management practices on farms and along marketing chains. Uptake will be strengthened when such measures are presented as an opportunity to improve income through reduction of losses, rather than as a required measure to mitigate risk, usually imposed by an outside regulatory authority.

## RECOMMENDATIONS

To enable producers to protect their animals themselves, good biosecurity practices should be encouraged. To ensure successful uptake and implementation:

- ▶ Measures must be easy to comply with and difficult to avoid.
- ▶ Measures must be designed with the involvement of all stakeholders.
- ▶ Public funds should contribute to introducing or improving biosecurity measures in animal production systems. However, private investments will facilitate sustainability.
- ▶ Governments should strengthen incentives for producers and sellers to adopt measures, with an emphasis on sector regulations. Such incentives could include facilitated access to loans and markets when biosecurity measures are in place.
- ▶ Specific and adjusted awareness messages designed for stakeholders must aim for a balance between creating understanding of risk, explaining the value of improved biosecurity for the common (public) interest, and, most importantly, the financial benefits it can bring for producers.

### References and Resources:

- *Biosecurity for highly pathogenic avian influenza. Issues and options paper.* FAO, OIE, WB. 2008  
[www.fao.org/docrep/011/i0359e/i0359e00.htm](http://www.fao.org/docrep/011/i0359e/i0359e00.htm)
- *Good practices for Biosecurity in the Pig Sector. Issues and options paper.* FAO, OIE, WB. 2010

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