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# Village Chickens, Food Security and Poverty Alleviation: The Benefits of Newcastle Disease Control in Southern Africa

Robyn Alders

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## **Village chickens: an introduction to an undervalued household member**

Village chickens can be found in all developing countries and play a vital role in many poor rural households. They provide scarce animal protein in the form of meat and eggs and can be sold or bartered to meet essential family needs such as medicine, clothes and school fees. Village poultry are active in pest control, provide manure, are required for special festivals and are essential for many traditional ceremonies. The output of village poultry is lower than that of intensively raised birds but it is obtained with minimal input in terms of housing, disease control, management and supplementary feeding. They are generally owned and managed by women and children and are often essential elements of female-headed households.

In many countries, social goodwill is created by offering guests a meal containing meat; more often than not, poultry. Honoured guests can be given a live bird to take home as a mark of respect. Poultry and poultry products can be sold to obtain items that enable families to participate fully in community activities. Village poultry have many advantages in mixed farming systems as they are small, reproduce easily, do not need large investment and can scavenge for food. They thrive on kitchen waste, broken grains, earthworms, snails, insects and vegetation.

## **Problem solving R&D in collaboration with farmers**

Newcastle disease (ND) is considered the most important poultry disease worldwide and is one of the major constraints to production of village chickens. Newcastle disease belongs to the same family of viruses that causes measles in humans and distemper in dogs. There are many different strains of ND that can cause a range of clinical signs from sudden death (very virulent strains) to greenish diarrhea (strains with a preference for the gastrointestinal tract), coughing (those with a preference for the respiratory tract) and twisted necks (neurotropic). Many of the clinical signs of ND are indistinguishable from those of avian influenza. This has delayed the detection of outbreaks of highly pathogenic avian influenza, as producers in countries where ND is not controlled are used to seeing high mortality in their chickens.

**“Newcastle disease is considered the most important poultry disease worldwide...”**

In countries where ND is widespread, outbreaks of this disease regularly result in 50 to 100% of birds dying. In developing countries where ND is not endemic, outbreaks may occur less frequently but potential losses due to the disease make vaccination mandatory

Collaborative research funded by the Australian Centre for International Agricultural Research (ACIAR) on the control of ND in village chickens in Asia and Africa has resulted in a cost-efficient model for ND control in village chickens. Despite the need to control ND in village chickens, it has been difficult to achieve. Experience has shown that a sustainable ND control program is composed of five essential elements:

- An appropriate vaccine, vaccine technology and vaccine distribution mechanisms
- Effective extension materials and methods that target veterinary and extension staff as well as community vaccinators and farmers
- Simple ways to monitor and evaluate the technical, social and economic aspects of the program
- Economic sustainability based on the commercialization of the vaccine and vaccination services and the marketing of surplus chickens and eggs
- Support and coordination by relevant government agencies for the promotion of vaccination programs.

All of these issues are covered in a series of manuals published by ACIAR that are available for free download. The series includes a field manual, training manual, laboratory manual and an extension manual. Examples of the practical issues associated with implementing successful ND control programs that can be found in these manuals include: tips for administering the vaccine at the household and community level; basic details about record keeping; and preparing for other production constraints that will become more evident once mortality due to ND is reduced.

The implementation of effective ND control programs funded by the Australian Agency for International Development (AusAID) in countries such as Mozambique, Malawi, Tanzania and Zambia has resulted in increased chicken numbers, increased household purchasing power, increased home consumption of chicken products and increased decision-making power for women. In the south of Mozambique, women have been able to sell excess chickens in order to buy goats and eventually cattle, thus giving them access to resources previously denied to them, as ruminants have been traditionally raised by men. Where families allocate chickens to children, the children may sell their chickens to buy school supplies.

The Kyeema Foundation is working with the African Union (AU) Pan African Veterinary Vaccine Centre (AU-PANVAC) to develop a multi-year project to expand this successful ND control model to other AU member states with support from AusAID. The multi-year project will include support for the training of AU-accredited field and laboratory ND control master trainers who will be able to support improved ND control activities across the continent. Countries interested in

participating in the project should encourage representatives of national veterinary services to contact the Director of AU-PANVAC.

The Australian International Food Security Centre (AIFSC) is also funding the design of a new research project that will strengthen food security through family poultry and crop integration in Eastern and Southern Africa. The design team brings together international experts in anthropology, ecology, economics, agricultural value chains, veterinary science, human and veterinary epidemiology, communications and human nutrition at the Kyeema Foundation Australian National University, the Royal Veterinary College in London, the University of Witwatersrand in Johannesburg and the School of Public Health at the University of Sydney. The international team is working with colleagues at the East African Community and the Southern Africa Development Community and in Tanzania and Zambia.



Village chickens can contribute enormously to food security in poor rural households. Photos (this and on facing page) by Alyssa Nicol, used with permission.

## For Further information

Australia Centre for International Agricultural Research: [aciar.gov.au/publication/mn086](http://aciar.gov.au/publication/mn086) (<http://aciar.gov.au/publication/mn086>)

Australian International Food Security Centre: <http://aciar.gov.au/aifsc/>

International Rural Poultry Centre, Kyeema Foundation: [www.kyeemafoundation.org](http://www.kyeemafoundation.org) (<http://www.kyeemafoundation.org/>)

Faculty of Veterinary Science, University of Sydney: [sydney.edu.au/research/opportunities/opportunities/1618](http://sydney.edu.au/research/opportunities/opportunities/1618) (<http://sydney.edu.au/research/opportunities/opportunities/1618>)

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