



Lessons learned in promoting rural poultry systems and Newcastle disease control

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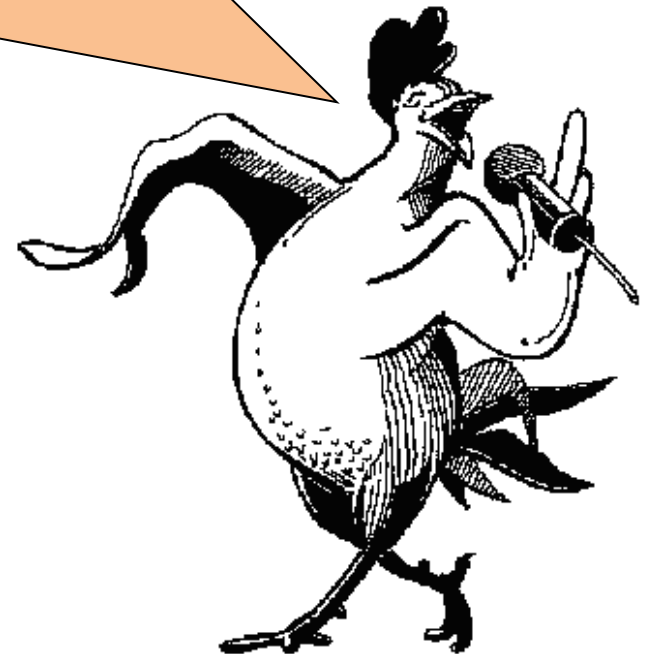
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Family poultry: three production systems under one umbrella

Family poultry is defined as small-scale poultry keeping by households using family labour and, wherever possible, locally available feed resources.

Family poultry employs one of three different production systems and may involve chickens, muscovy, pigeons, mallard ducks, Guinea fowl, quail, turkeys or geese.

Increasing inputs



Why start with village poultry?

- Universally owned livestock species
- Lack of essential inputs in rural areas
- Village poultry production is efficient in terms of costs, labour inputs and environmental impact
- Vital role in rural families as they provide:
 - petty cash
 - high quality protein and micronutrients
 - pest control
 - manure for vegetable gardens
 - social credit – ceremonies & rituals, and
 - assets for women and children



Eggceptional value!

One egg contains:

- 315 kilojoules of energy
 - high quality protein
- rich in essential amino acids)
- Vitamins including Vit. A, B12, K and choline
- minerals

Sterile inside

Easy to store

Easy and quick to cook



Improving village chicken production

- Interventions must be **cost efficient**
- Basic inputs include:
 - **management**
 - **husbandry** – disease control
supplementary feeding, shelter
 - **marketing**
 - **group formation**
- Should **complement other farm activities**



Newcastle disease control

- History
 - ND endemic in many countries
 - Australian Poultry Industry
 - Strain NDV4-HR
 - Strain I-2



Direct annual cost of uncontrolled ND assuming 30% mortality and sale price of USD 2 per bird

Country	Village chicken population	Annual cost of ND (USD)
Malawi	8,000,000	4,800,000
Mozambique	26,000,000	15,600,000
Tanzania	27,000,000	16,200,000

Components of a sustainable ND control program in rural areas

- **Coordination of activities,**
- **Appropriate vaccine and vaccine technology,**
- **Efficient extension material and methodologies,**
- **Simple M&E systems** with both technical and socio-economic indicators, and
- **Economic sustainability** – commercialization of the vaccine (~USD 1.00/250 doses) and vaccination services (community vaccinator charges ~USD 0.02/bird), and marketing of surplus birds and eggs.

Stimulating local economies



Best results in mixed farming communities

Moving from subsistence to income generation



Lao PDR



Tanzania

Women and children are usually responsible for the care of village poultry



Women and children are the major beneficiaries



Approximately 50% female vaccinators



Cost efficient approaches to ND control

- Targeted epidemiological studies
- Cost and cost efficiency studies
- Strategic vaccination
- Participatory impact assessment of ND vaccination program



Strengthening laboratory capacities



Extension materials

- **Field manual** – veterinarians & supervisors
- **Training manual** – trainers of community vaccinators, 3-day training course
- **Laboratory manual** – vaccine production and quality control staff
- **Improving village chicken production:** a manual for field workers and trainers
- **Extension worker & vaccinator manuals**
- **Flip chart** – extension workers, vaccinators & farmers
- **Vaccination calendar**
- **Radio programs, posters, pamphlet & video**

General extension/ communication materials

- **Rural poultry eNewsletter**
– information sharing and networking
- **“Healthy chickens, healthy people” flip chart**
- **“Chicken reproduction” flip chart**
- **HIV/AIDS information**
- **Download from ACIAR and KYEEMA websites**



Mozambican village chicken farmers: problem ranking

	2003	2003	2005	2005
Problems	Men	Women	Men vaccinating	Women vaccinating
ND	1	1		4
Predators	2	2	5	1
Fleas	3	4	1	3
Internal parasites		3		5
Thieves	4	0	3	2
Snakes			4	5
Feed shortage			2	

What can families do with extra chickens?

- Send their children to school
- Buy (or barter) clothes
- Buy salt, oil, soap, etc
- Sell five roosters & buy one goat
- Buy medicine
- Offer a good meal to important visitors
- Barter for work on farm
- Eat chicken stew or boiled eggs

Direct outputs of ND control

- Vaccination against ND every 4 months significantly reduced mortality
- Improved participation & knowledge of male & female farmers
- Improved food security & wellbeing in target areas

ND control in Singida, Tanzania

- Video:
<http://www.youtube.com/watch?v=Nr5e0HMn7l4>
- Thanks to Dr Msami (TVLA), ACIAR and Crawford Fund

ND Control, village chickens & HIV/AIDS mitigation in Mozambique

Senhora Joaquina Guente
(Grandmother with three grandchildren)

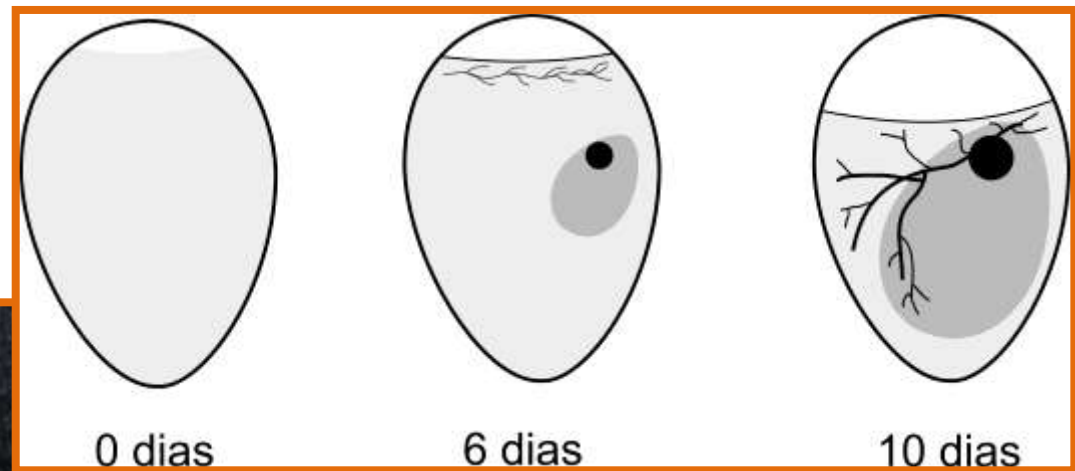


Community-based ND control & village chicken restocking of HIV/AIDS affected households

- ND control program at village level implemented by community vaccinators (who are also volunteer carers) with vaccination vouchers for vulnerable HHs
- Restocking of vulnerable HHs with one rooster & three hens purchased in the local area
- Poultry for restocking were held in quarantine for one week & vaccinated against ND prior to distribution
- Beneficiaries received training in ND control & low cost village poultry husbandry
- Funded by FAO (Mozambique) with contributions by individuals to support restocking
- Significant increase in flock sizes

Village chickens & HIV/AIDS mitigation in Mozambique

What's happening here?



Candling eggs using a torch and paper to make a candling lamp

Triple benefits of the village chicken & HIV/AIDS project

1. Direct support to the people affected or infected by HIV/AIDS
2. Income generation for the carers and the community-based organizations
3. An increase in the carrying capacity of the communities in terms of supporting welfare activities

Village chickens & wildlife conservation in Zambia

Farmers and their chickens



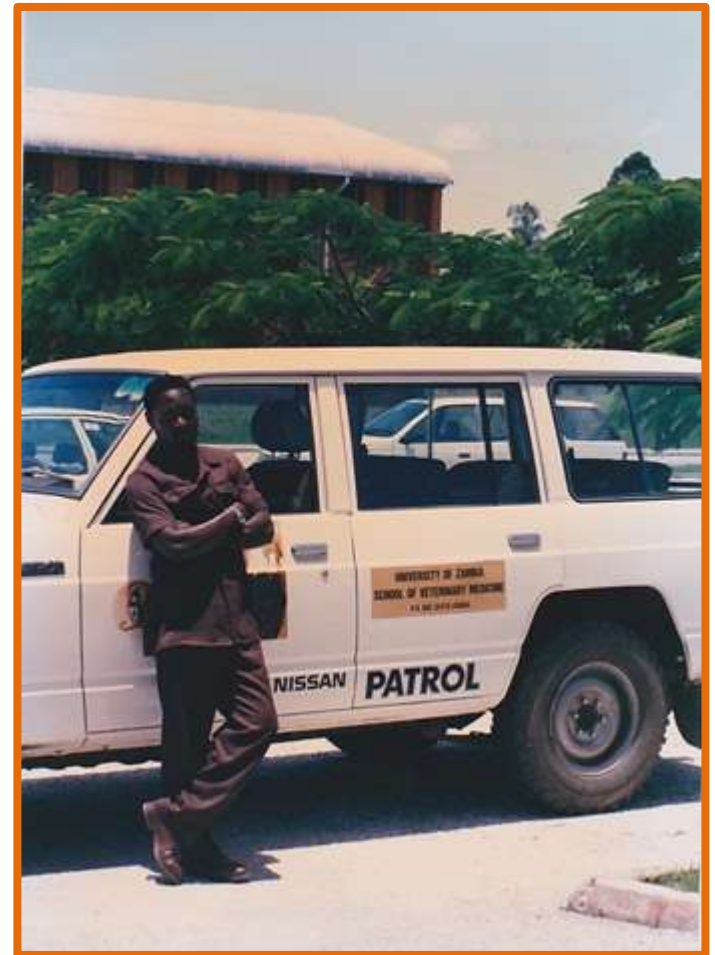
Village chickens & wildlife conservation in Zambia

... and the wildlife



Wise words from Mr Banda UNZA Driver (Translator & Philosopher)

“Anyone who looks at a wild
animal & sees beauty ...
has already eaten enough.”



Improvement of village poultry production by communities surrounding South Luangwa National Park

- Tsetse fly infested area → No cattle; very few goats; village chickens are very important
- ND outbreaks occur most frequently from August to October
- Pilot project commenced in May 2007 in five Chiefdoms funded by WCS & implemented in collaboration with COMACO & SANREM/Cornell
- ND vaccination campaigns implemented by community vaccinators in 2007, 2008 and 2009
- COMACO promotes biodiversity conservation by promoting sustainable development

South Luangwa: Preliminary Data

Month and Year	Mean No. birds per vaccinating household
June 2007	7
March 2009	14

Data collated by Michelle Kneeland, V'12, Tufts

Outcomes

- **Significant contribution to MDGs**
- **Everyone loves a winner!**
ND control part of Mozambique's ruling party's political platform
- **Endorsement by national bodies**
Scaling up of Thermotolerant Vaccine Technology for the control of Newcastle disease in Tanzania funded by the Tanzania Commission for Science and Technology
- **Recognition by other donors**
Collaboration with GALVmed and other NGOs
- **Recognition by the African Union**
Phase 3 proposal to AusAID to expand ND prevention and control in Africa in collaboration with the African Union's Panvac

I-2 ND vaccine availability

- Cameroon
- DR Congo
- Ethiopia
- Ghana
- Kenya
- Malawi
- Mozambique
- Senegal
- South Africa
- Tanzania
- Uganda
- Zambia
- Zimbabwe

Further information

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Healthy poultry, healthy people, healthy communities

Thank you !

Kanimambo !

Zikomo kwamberi !

Asante santa !

Obrigada !

