

The Role of Non-Governmental Organisations in Supporting Veterinary Services in Developing Countries: Case Study of a Newcastle Disease Vaccination Program in Malawi

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RSPCA International and Lilongwe SPCA

- RSPCA International works to improve animal welfare in southern Africa, East Asia and Europe through collaborations with NGOs, government and academia.
- Lilongwe SPCA is Malawi's only animal welfare charity and delivers veterinary and education programmes to improve the welfare of dogs, cats and farm animals
- LSPCA's Backyard Chicken Programme was funded by RSPCA International on the strength of its potential to improve the livelihoods of the local community in addition to improving the health and welfare of chickens.

Malawi

- Population: 13.1 million (farming population 76%)
- Area: 94,080 km²
- GDP per capita: \$157
- Livestock contributes: approx 10% of GDP
- Human development index : 165 of 177 countries



Species	1000's
Cattle	983
Sheep & Goats	3868
Pigs	1444
Poultry	57137
Total Livestock Units	6917

Malawi livestock population 2009
(DAHLD Census Report 2009)

Public Veterinary Services In Malawi

- 62 million livestock (6, 917,000 LUs) served by approx 20 veterinarians (1: 346,000 Livestock Units; recommended ratio 1: 100,000)
- **National Veterinary Structure**
 - Ministry of Agriculture: 0
 - Directorate of Animal Health: 3
 - Agriculture Development Divisions: 2 (in FMD risk zones)
 - Academia: 5
 - Private practice: 2
 - Retired: 3
- Approx 183 paravets (487 posts, 62% vacancy rate)

Animal Health Constraints in Malawi

- Government emphasis on crop production at the expense of livestock production
 - Animal health sector is poorly resourced
 - Low-nil coverage across the country of vet & paravet professionals
 - Lack of a veterinary training school or government scholarships
- Lack of extension veterinary services
- Farmers unable to pay for veterinary services
- Two government vets employed in the field
- Endemic diseases are of huge economic significance to local farmers e.g. Newcastle Disease in chickens



Significance of Newcastle disease



- Untreatable, highly infectious viral infection in domestic and wild fowl
- Endemic in Malawi, rampant in free-ranging chickens
- 50-100% mortality rate in birds (periodic epidemics)
- Significant cause of losses in village flocks
- Huge loss to small scale farmers
- Knowledge of Newcastle disease vaccination and vaccine availability is minimal by vulnerable farmers
- Important sentinel for Avian Influenza

Difficulties in delivering Newcastle disease control programmes in Malawi

- Lack of proper transport to reach remote areas
- Limited local production of thermostable I2 vaccine
- Few trained personnel to administer vaccine
- Availability and affordability of the vaccine
- Limited cold chain equipment
- Lack of data on chicken and disease dynamics
- Currently 4 programmes – 3 run by NGOs, 1 government/NGO
– together cover 16.8 % of village chickens



Newcastle Disease Vaccination and Awareness Programme

Aims:

- Improve the health and welfare of village poultry through improved husbandry and vaccination
- Contribute to improved livelihoods of farmers through increased income derived from poultry and egg sales
- Determine the importance of chickens to livelihoods; chicken production dynamics and constraints to poultry production; efficacy of the public awareness programme; efficacy of the vaccination programme



LSPCA Village Chicken Program

Methodology

1. Baseline information collected through 749 household questionnaires
2. Awareness workshops on poultry housing, nutrition, genetic selection, production techniques and Newcastle disease control in 21 Villages in 7 Traditional Areas of Lilongwe
3. Village group coordinators and vaccinators were elected with the area chiefs
4. Starter pack ND (I2) vaccine provided for a small fee

Rationale

1. Lack of adequate veterinary extension
2. ND is endemic, huge losses but vaccine is affordable if farmers purchase collectively
3. Chicken are the smallest and most reliable unit of business transaction in rural communities.

Evaluation

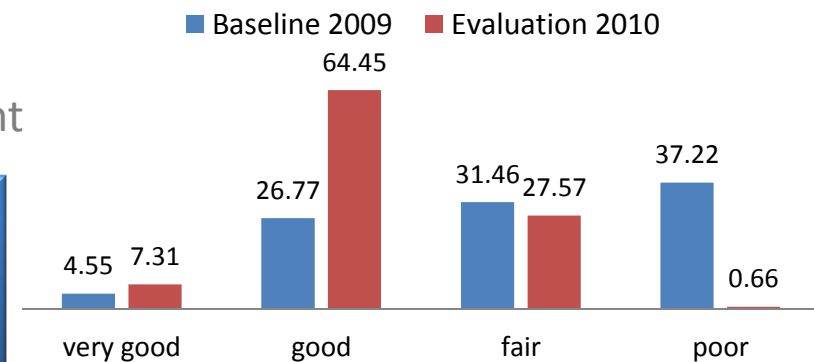
1. 303 post vaccination campaign questionnaires were administered in each project area
2. Comparisons were made with baseline data

Survey results

- Before the workshops, 37% of respondents had no knowledge of ND, only 4.5% had a good understanding
- The majority (71.8%) of respondents had no access to a ND vaccination program
- Majority (74.9%) of respondents had never had a veterinary extension worker visit their farm
- 57.2% of respondents ate chickens which died of ND; 12.1% try to treat; 7.4% sell; 23.3% other
- 70.5 % kept chickens in the family house overnight



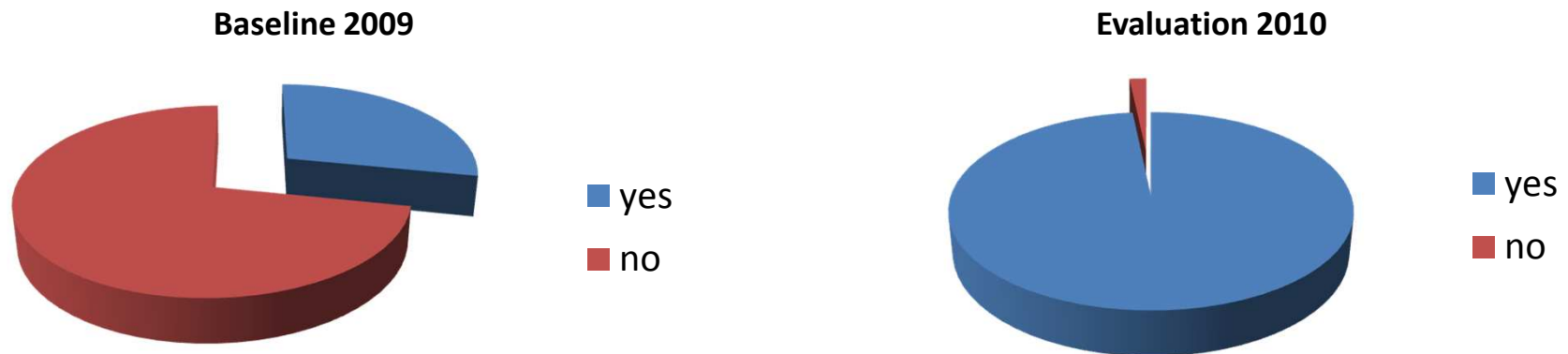
Level of knowledge of ND among households (%)



After one year, the majority of households have access to ND vaccine from LSPCA and above values have improved positively

Access to ND vaccination programs

- LSPCA significantly improved availability and access to ND vaccination program among target villages

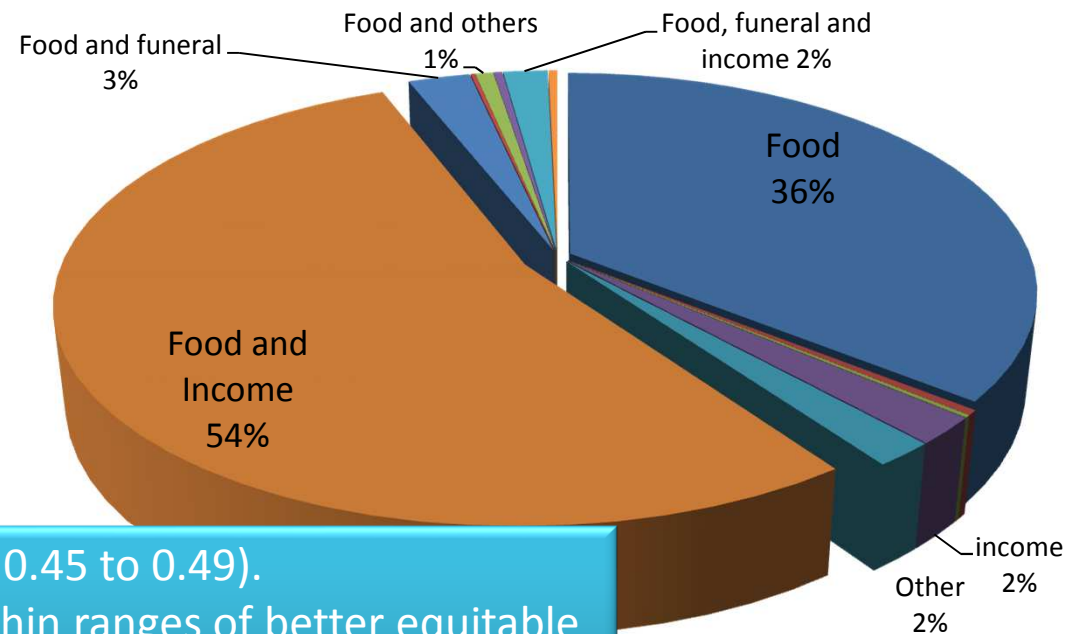
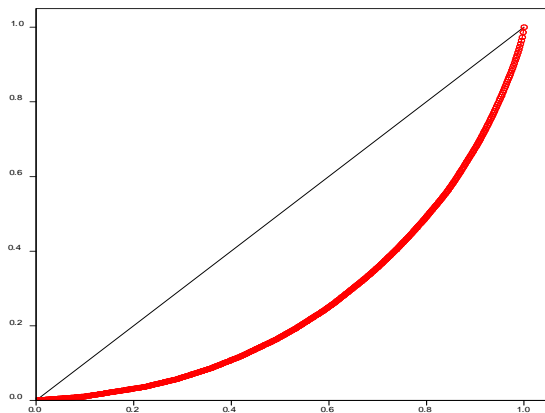


LSPCA covered 99 % of the ND vaccination in the area

Within one year, flock size has increased, but no significant increase in contribution of chickens to TLUs

	Year or period the study was done	N	Mean	Std. Deviation	Std. Error Mean
Number of chickens	Baseline 2009	748	9.74	9.043	.331
	Evaluation 2010	303	11.96	9.836	.565
TLU	Baseline 2009	560	1.24401	2.962656	.125195
	Evaluation 2010	303	1.25295	2.470080	.141902

Multi-usage of village chickens and their distribution (Lorenz Curve and its Gini Value) among households



Gini coefficient = 0.477 (95 % CI of 0.45 to 0.49).
This means village chickens are within ranges of better equitable household assets. Being more equitable signals an important tool to be used to enhance socio-economic status of households.

Conclusions

- Village chickens play a significant role in the livelihoods of rural households
- But chicken production in Malawi is constrained by health related losses – and a critical shortage of veterinary health services
- LSPCA’s community awareness programme was successful in improving knowledge on Newcastle disease, vaccination and general chicken husbandry
- Increased emphasis on public veterinary services in Malawi is necessary for long-term improvements in livestock health and a **One Health** approach is of particular pertinence due to the poorly resourced veterinary and public health services
- Role of NGOs is currently critical to supplement government service shortages and improve the output from village chickens through numbers and productivity



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We would love to hear from anyone who is interested in collaborating on this programme:

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