

Newcastle Disease Control

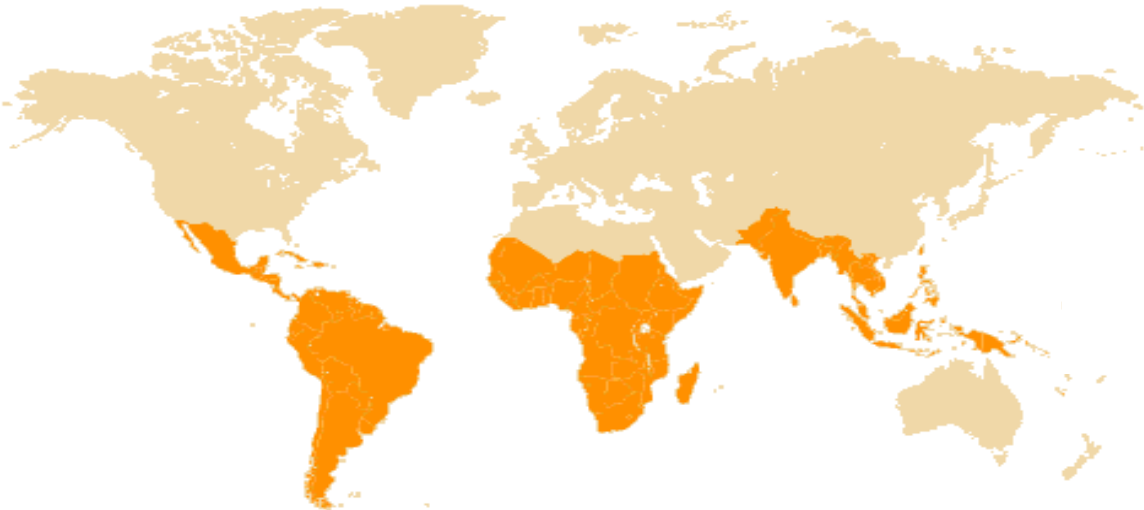
ECHO Symposium, ARUSHA

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E.Africa**

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- An **Animal health Product development & adoption Partnership** organisation
- A not-for-profit **Public-Private Partnership** – registered charity
- Projects sponsored by the UK **DFID**, **BMGF** and **EC**.
- **Pro-poor focus:** working with key partners to make a **sustainable** difference in access to animal health products for poor livestock keepers



- 3 offices: Edinburgh, Nairobi & New Delhi
- Approx. 30 staff

Vision, Mission and Purpose

Purpose of GALVmed

Protecting Livestock, Improving Human Life

Mission

To make a real difference to the livelihoods of resource-poor livestock keepers by facilitating provision of animal health tools, within a sustainable economic framework.

Vision

Better livestock health contributing to a transformational improvement in the livelihoods of poor livestock keepers.



Cattle

- East Coast Fever
- Contagious Bovine Pleuropneumonia
- Hemorrhagic septicaemia
- Trypanosomosis

Sheep and goats

- Peste des petits ruminants
- Contagious caprine pleuropneumonia
- Sheep & goat pox

Others: Brucellosis, Fowlpox

Pigs

- Porcine cysticercosis
- African swine fever
- Classical swine fever

Poultry

- Newcastle disease
- Highly pathogenic Avian Influenza

Multi-species

- Rift Valley fever



Protecting Livestock – Improving Human Lives

Newcastle Disease (ND)

Newcastle Disease and its impact

ND is a contagious and often fatal viral disease affecting all species of birds. Avian strain of *paramyxovirus 1*”

There are several strains of the virus, and the severity of disease depends both upon the virus strain and the species of birds, as well as general state of health of the birds, concurrent disease and pre-existing immunity.



ND is present almost worldwide, but it is more prevalent in the developing world village backyard chickens, where it is the most common disease.

There are an estimated 1.38 billion chickens in Africa, and approx 70% are in villages (900M), many at risk of ND

Challenges to Current ND control

- Many forms of vaccine available in commercial poultry sector. Large pack-size (in-use stability), cold chain requirements, delivery systems, lack of trained vaccinators and lack of awareness remain the major barriers for poor livestock keepers

GALVmed Approach

1. Vaccines / technologies
 - a) Support I-2 vaccine (Africa)
 - b) LaSota thermostable (India)
 - c) Fast Dissolving Tablet
 - d) Pellet vaccine (D-58 – India)
2. ND vaccine Adoption
 - a) Distribution models (→ Pilot projects)
 - b) Cold chain



Current ND vaccine technologies



Vaccine	Key characteristic	Strain	Target region	
ND I-2 vaccine	-Thermostable ND virus vaccine - Freeze-dried & liquid form	ND I-2	Africa, South Asia outside India	Veterinary Microbiology 68 (1999) 131-139
ND D-58 vaccine	-Thermostable ND virus vaccine - Pelletized oral vaccine	ND D58, isolated in India	India (and South Asia?)	Ananth et al. 2008. Int. J. Poult. Sci., 7: 368-373
Tablet ND vaccine	-Fast dissolving tablet (FDT) - Vaccine Platform technology	Evaluated on Lasota strain	Global	http://www.path.org/publications/
Thermostabilised ND Lasota vaccine	- Platform technology for thermostabilising normal ND vaccines	Evaluated on Lasota vaccine	India but targeting global access	Vaccine 19 (2001) 834-839

Example – Pilot Studies - LaSota thermostable (Hester)

1. Serological results indicate vaccine at 40°C for 1 week, good sero-conversion

2. Challenge studies:

Trial 1

Groups	Name of the vaccine	Protection after challenge		
		survived	Total	% Protection
1	Control	0	10	0
2	Thermo stable vaccine stored at 2 to 8 °C for 10 days	9	10	90
3	Thermo stable vaccine exposed at 40 °C for 10 days	7	10	70

Groups	Name of the vaccine	Protection after challenge		
		survived	Total	% Protection
1	Control	0	10	0
2	Thermo stable vaccine stored at 2 to 8 °C for 10 days	10	10	100
3	Thermo stable vaccine exposed at 37 °C for 10 days	10 One bird was dull after 2 days of challenge, but became normal on 6 th day post challenge.	10	100
4	Thermo stable vaccine exposed at 40 °C for 7 days	9	10	90

Trial 2



NATIONAL LEVEL



VACCINE DISTRIBUTION CHAIN
Partner organisation

VACCINE IMPROTTERS

GOVERNMENT LABORATORIES

MAIN CITIES/REGIONS
TOWNS LEVEL



VACCINE DISTRIBUTORS

VACCINE MANUFACTURER

MAIN DISTRICT TOWNS,
WARDS LEVEL



AGROVET SHOPS/ ANIMAL HEALTH CENTRES

DVO/DALDO

VILLAGE LEVEL



COMMUNITY VACCINATORS/CAHW'S

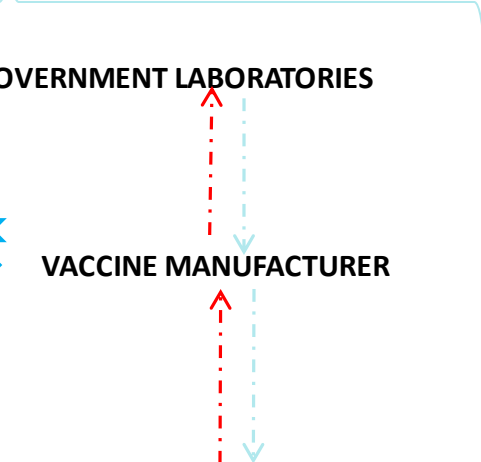
LIVESTOCK EXTENSION WORKERS

HOUSEHOLD LEVEL



BACKYARD POULTRY
FARMERS

Backyard poultry farmers
Associations





Increase households income through improved poultry and poultry products markets in the project areas to sustain the program.



AFRICA NEWCASTLE DISEASE CONTROL PROJECT

Current running projects in Africa

1. Burkina Faso
2. Cameroon
3. Democratic republic of Congo
DRC
4. Tanzania Northern and central
5. Tanzania Eastern (New)
6. Kenya (Kevevapi & AWAPH projects)
7. Uganda (Eram and Scopevet)



CHALLENGES AND OPPORTUNITIES

- Limited awareness of farmers on animal health products and its uses
- Occurrence of other poultry diseases
- Manufacturers producing vaccine are not selling full pack of vaccine, droppers and their diluent.
- Unreliable source of vaccines from Government Laboratories/facilities.



One major issue was the availability of vaccine in the target countries due to:

- **Bureaucratic and length registration processes**
- **Unrealistic prices of vaccines.**

- **Capacity and irregularities on vaccine production.**

- **Packaging problem for most vaccine that comes to Africa**
 - **Most thermolabile comes in large doses 500 to 1000**
 - **They don't sell diluent with their vaccine**
 - **Unavailability of quality droppers in the market**

- **Registration issues of partner organization**
- **Majority don't understand the concept of sustainability they look for money only.**
- **Private major distributors have multiple products hence can not give enough weight to our products.**

Current working principles

Work closely with various public and private partners

- government and
- commercial manufacturers

Strong collaboration with distributors to open new areas.

Work closely with livestock keepers to create local structures such as vaccinators.

Use of various tools to create awareness to livestock keepers

- Radio
- Posters and Calendars
- Meetings and general gatherings



THANK YOU!!