

# Vaccination as a way forward?

A case study on how a poultry vaccination intervention influences poultry keeping in Kenya

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# The importance of poultry in Kenya

- Poultry crucial for the **livelihoods** of rural and urban people all over the developing world
- Poultry is often reared by the **women** in the household
- >20 million poultry in Kenya; Majority small holders

## Why?

Low costs (affordable by the poorest), rapid reproduction and easily marketed

A reliable source of income and protein



# Newcastle disease virus

- Viral disease (Paramyxovirus)
- Highly virulent – disease either silent, or in deadly outbreaks (but often underreported)

## Why does disease matter?

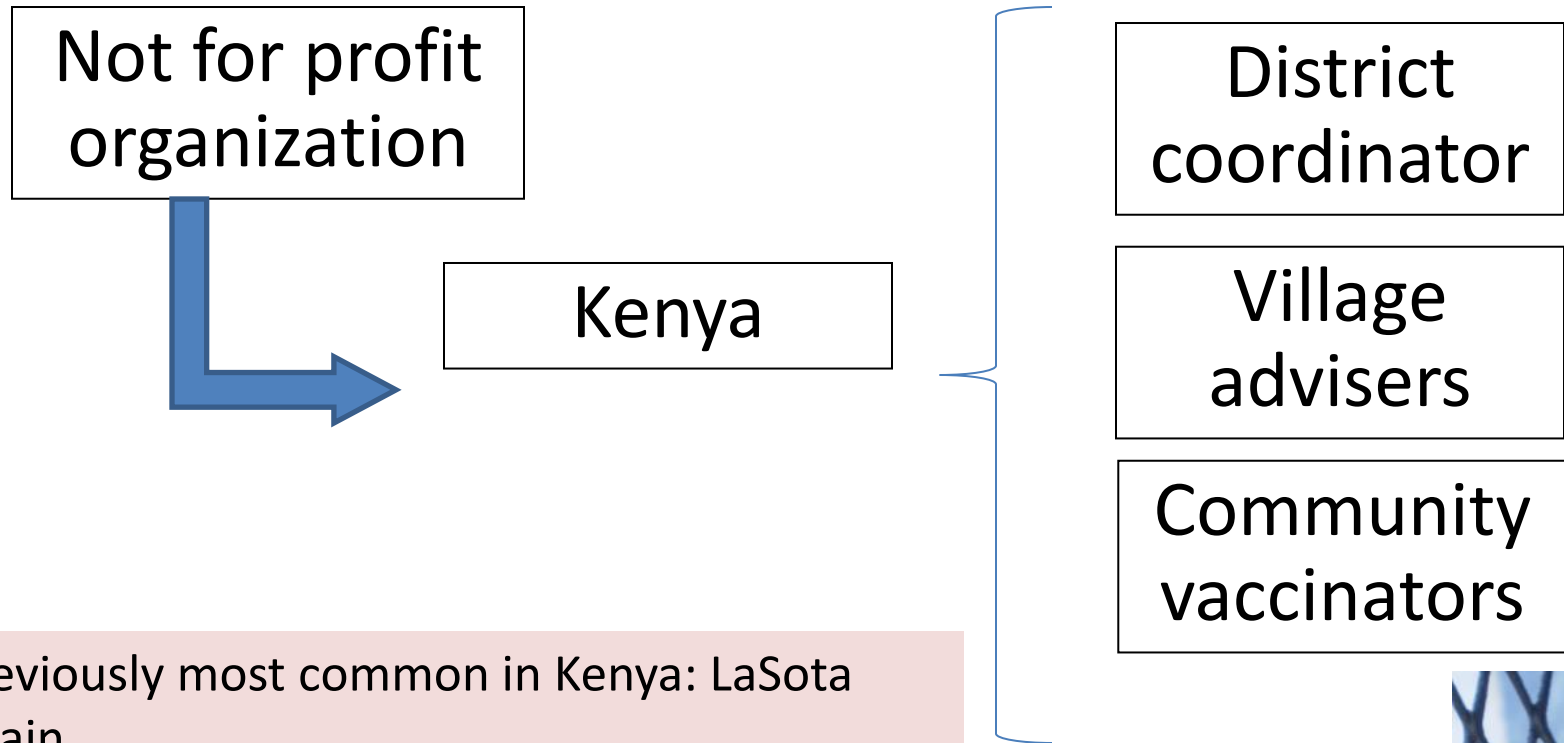
- In commercial production - hamper productivity and financial losses
- In small-holder farming - severely affect the livelihood of families.

# Newcastle disease vaccines

## VACCINATION ONLY MEANS OF PROTECTION IN LOW INCOME COUNTRIES

- Produced for large scale production-many hundred doses per vial
- Requires system for distributing to many farmers
- LaSota strain vaccines- requires cold chain
- I-2 strain vaccine- thermotolerant

# Study background



Previously most common in Kenya: LaSota strain

From 2013, I-2 strain available for distribution through Farm Input Promotions Africa (FIPS-Africa)



# Study objectives

## First study 2011

- See if vaccination uptake differed between villages that had support or not
- Study differences in vaccination uptake and farmers KAP towards vaccination

## Second study 2013

- Follow up on how village vaccinators (and other actors) perceived their work and its effects

# Material and methods- Study 1 2011

## Kibwezi district, Kenya



## Organisation supporting ND vaccination



32 HHs

5 villages  
**with**  
support

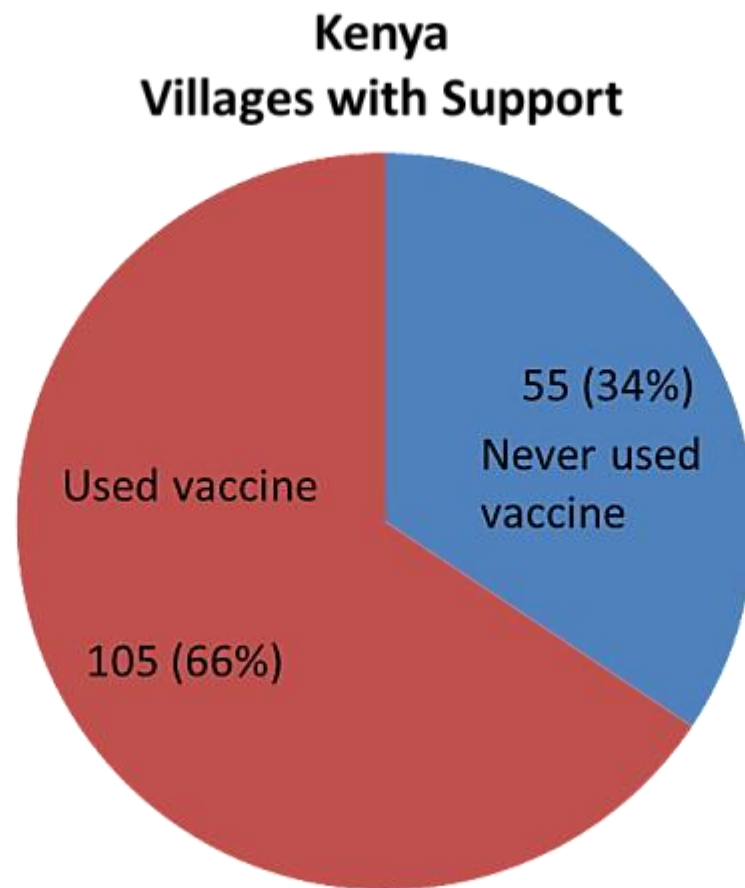
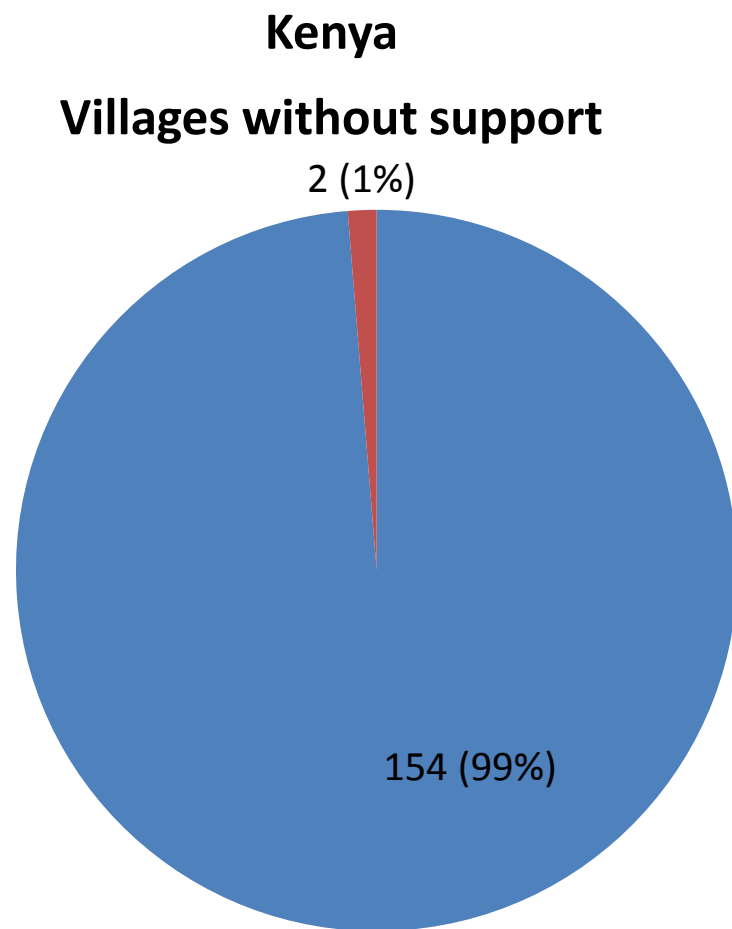
5 villages  
**without**  
support

32 HHs

Chicken shelter in Kibwezi



# Results- farms using vaccine





# Results

- Male-headed households (72.8%) had on average **two more chickens** than female-headed households (13.1 and 10.9 chickens respectively).
- **MORE CHICKENS!** The **average number of chickens** per household was 13.9 in supported villages versus 11.1 in non-supported villages ( $p=0.003$ ).
- Households which had **used the vaccine** had on average 14.6 chickens, versus 11.4 in non vaccinated hhs ( $p=0.001$ ). 72.9% of these hh continued to use it after the first month.
- **MORE KNOWLEDGE!** In the villages that had not received support, 23.1% correctly answered the question about what a vaccine does (“it protects against a specific disease”), whereas in the supported villages, 48.8% knew this ( $p<0.001$ ).
- 73% of the households reported having lost chickens during the last year to what they believed was ND.

# Results- multivariable analyses

<b>Multivariable analyses</b>	<b>Significant</b>
<b>Ever having used the ND vaccine</b>	
<b>Supportive delivery system</b>	✓
<b>Knowing vaccines protect against specific diseases</b>	
<b>Supportive delivery system</b>	✓
<b>Knowledge of clinical signs associated with ND</b>	✓
<b>Positive attitudes towards the ND vaccine, among ever users</b>	
<b>General knowledge about vaccines</b>	✓

# Material and methods 2013

- Follow up on previous study

District coordinator

Village-based advisors (7)

Community vaccinators (3)

KEY INFORMANT  
INTERVIEWS

- Questions about vaccination routines, campaigns and how they perceived the impact of vaccination.

# Results 2013

- In 2011, all vaccinators used La Sota ND vaccines
- When in 2013 the I-2 vaccine became available, all village-based advisors reported using the I-2
- Community vaccinators still acquired La Sota vaccines from the local stores.



# Results- Vaccinators opinions

- (Because of vaccination) fewer chickens were dying of ND
- Farmers are more knowledgeable about vaccinations
- Farmers have more chickens per household.



# How well are chickens vaccinated?

- All village-based advisors knew that chickens should be vaccinated at least three vaccinations per year with I-2.
- When asked to estimate how many households vaccinated at least 90% of the birds at least three times per year, the vaccinators stated between **20 and 94%**, average 57%.



# Conclusions

## **Vaccination support** very important **for uptake**

- Better knowledge about vaccines
- More knowledge, and decreased mortality, gives more positive attitudes

## Vaccinated households have **more chickens**

- Very important for livelihoods and food security

Availability of a thermotolerant vaccine helps facilitating **distribution and access**

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