

# **NEWCASTLE DISEASE VIRUS MAINTENANCE IN VILLAGE CHICKEN/HOW DOES NEWCASTLE DISEASE VIRUS CIRCULATE WITHIN THE FLOCK?**

***PRESENTED AT THE “ENHANCING CHICKEN PRODUCTIVITY  
THROUGH PARASITE MANAGEMENT FOR EFFECTIVE NEWCASTLE  
DISEASE VACCINATION IN KENYA – MBEERE STAKEHOLDERS’  
WORKSHOP HELD AT MASTERS HALL, MUTUOBARE LOCATION,  
MBEERE DISTRICT, EASTERN PROVINCE, KENYA ON 4<sup>TH</sup>  
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# BACKGROUND INFORMATION

- Newcastle disease (ND) is endemic in village poultry.
- Virulent strains found in apparently healthy - appearing chickens
- Mixing different species of birds
- Poor nutrition induce stress
- Other factors
- Where is the virus when there is no outbreak?



**Fig.1:** Village chicken of different ages (Multi-age flock)

# BACKGROUND INFORMATION cont'd

## Objective

- This study was designed to determine the risk factors associated with occurrence of Newcastle disease in village indigenous chickens.
- It was carried out in 2005.

# MATERIALS & METHODS

## Study area

- Carried out in 4 divisions within Embu county as follows:
  - ✚ Manyatta, Runyenjes, Central and Gachoka



**Fig.2:** Manyatta



**Fig.3:**Gachoka - Kiambere

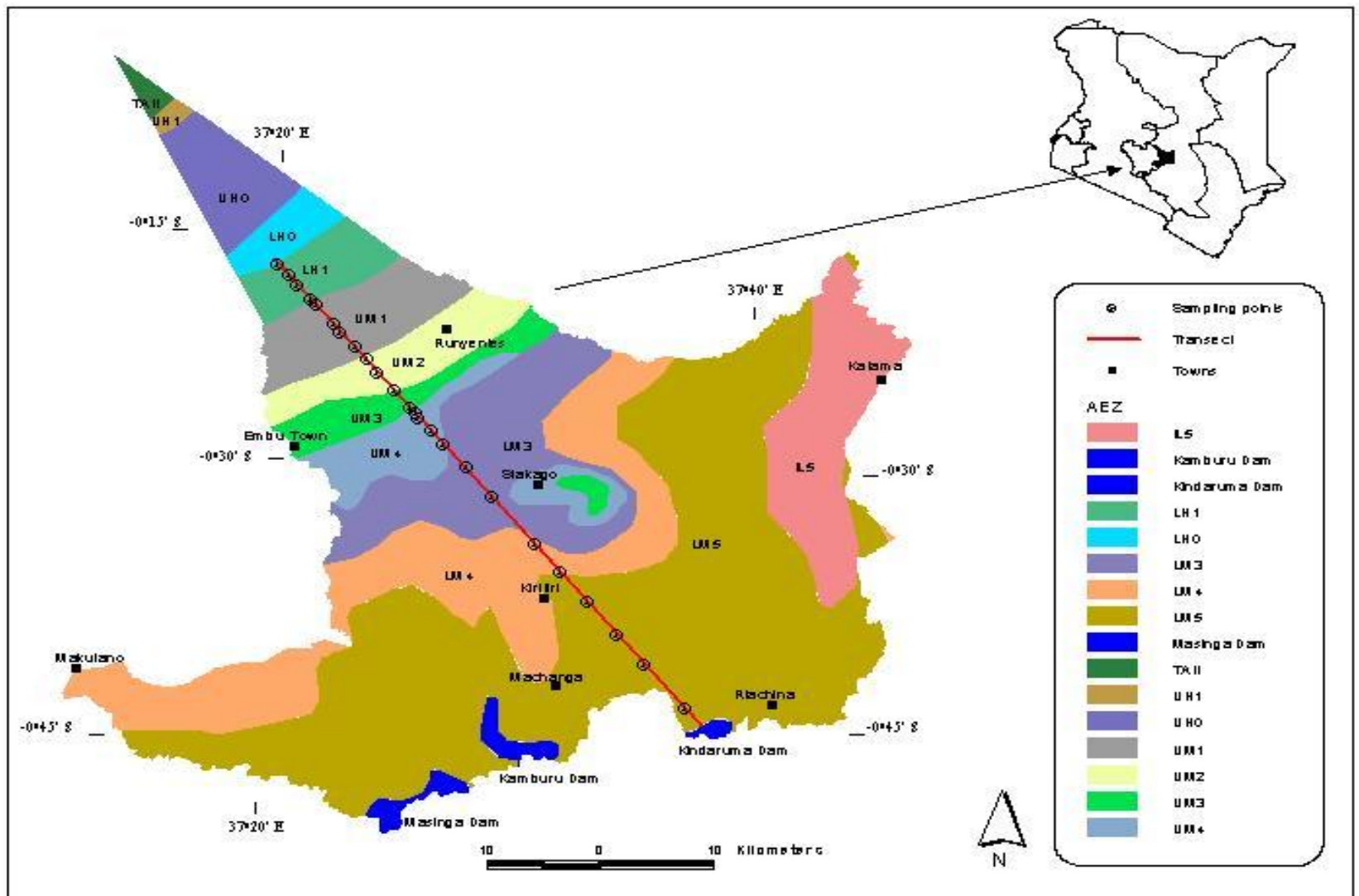
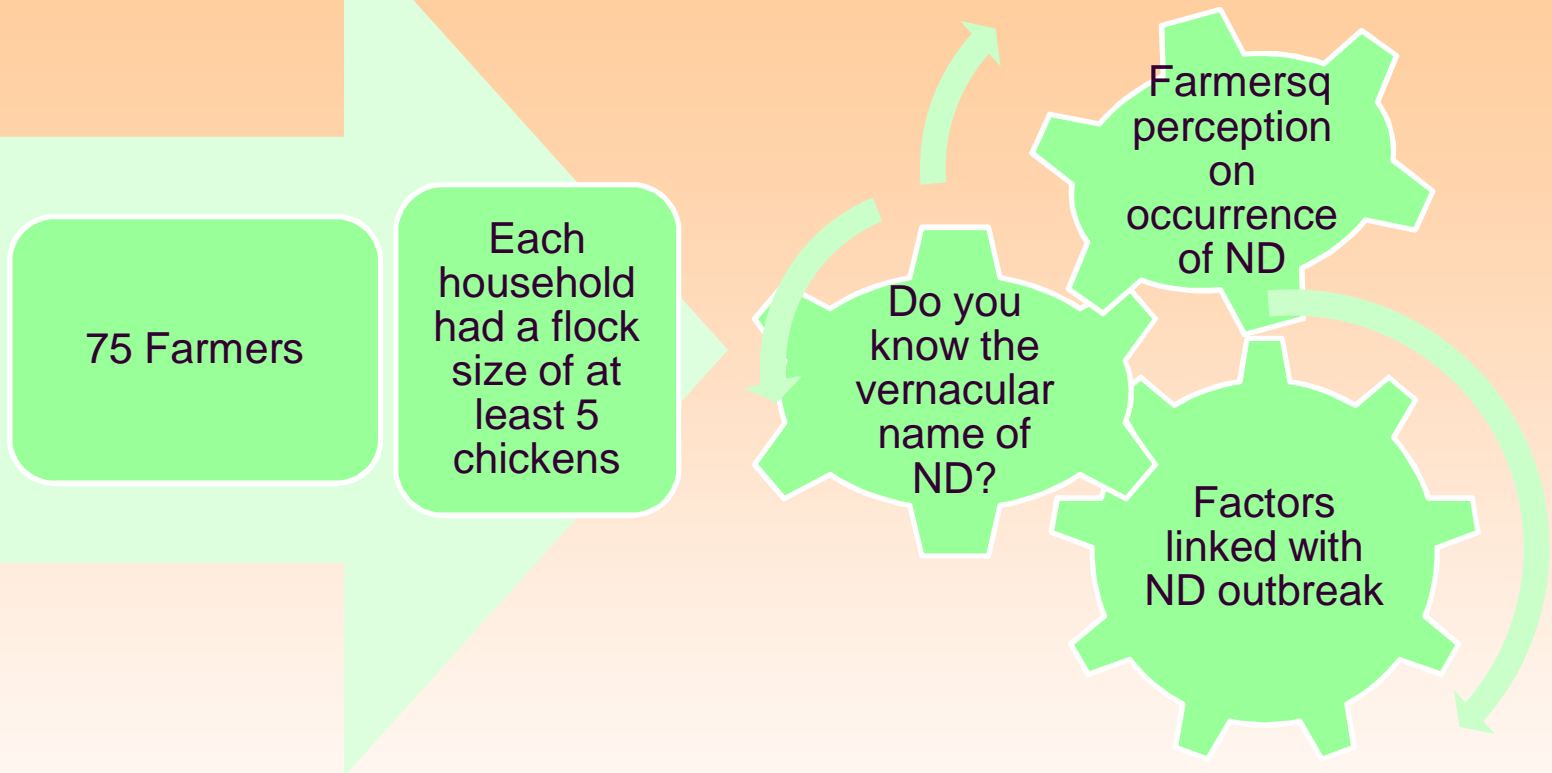


Figure 4: Map of the Embu-Mbeere agro-ecological zones (Source: Jaetzold and Schmidt, 1983)

# MATERIALS & METHODS Cont'd

## Experimental design



# RESULTS & DISCUSSION

## (i) Perception

- All the farmers interviewed showed that they understood ND
- They also described clinical signs, which are usually attributed to the disease very well.
- ND outbreaks were reported in all zones
- [Fig. 5-Prevalence of ND.ppt](#)

# RESULTS & DISCUSSION Cont'd

## (ii) Seasonality

- ND outbreaks were commonest during the wet than the dry season in all agro-ecological zones with exception of LM 5 it was commonest in the dry season.

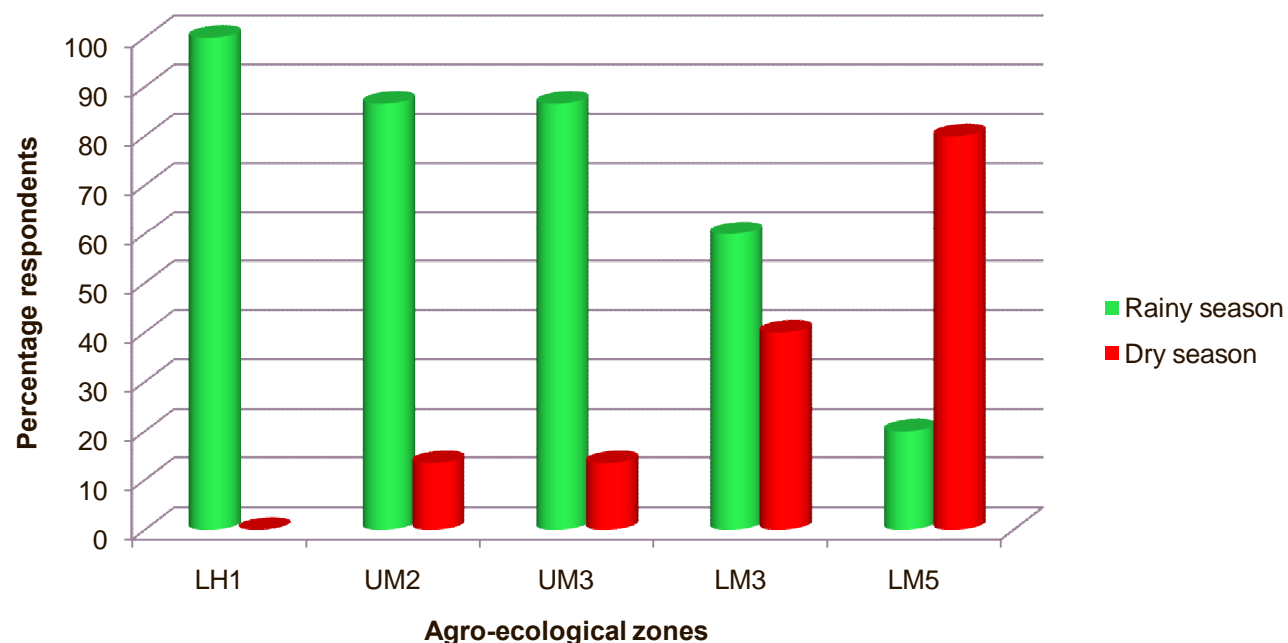


Figure 6: Percentage of farmers indicating the seasonal (wet and dry) occurrence of Newcastle disease in various agro-ecological zones

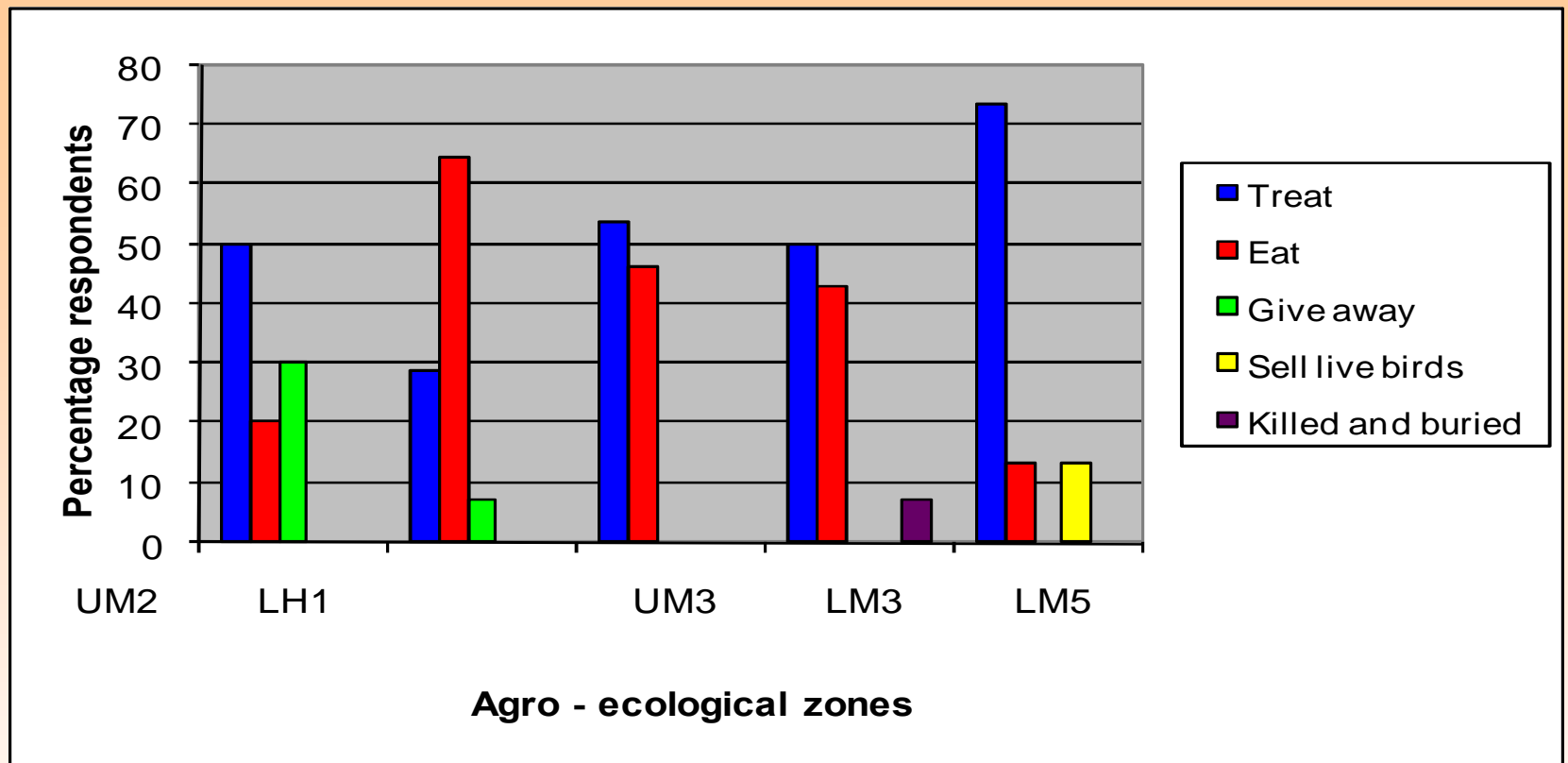


# RESULTS & DISCUSSION Cont'd

## (iii) Confinement

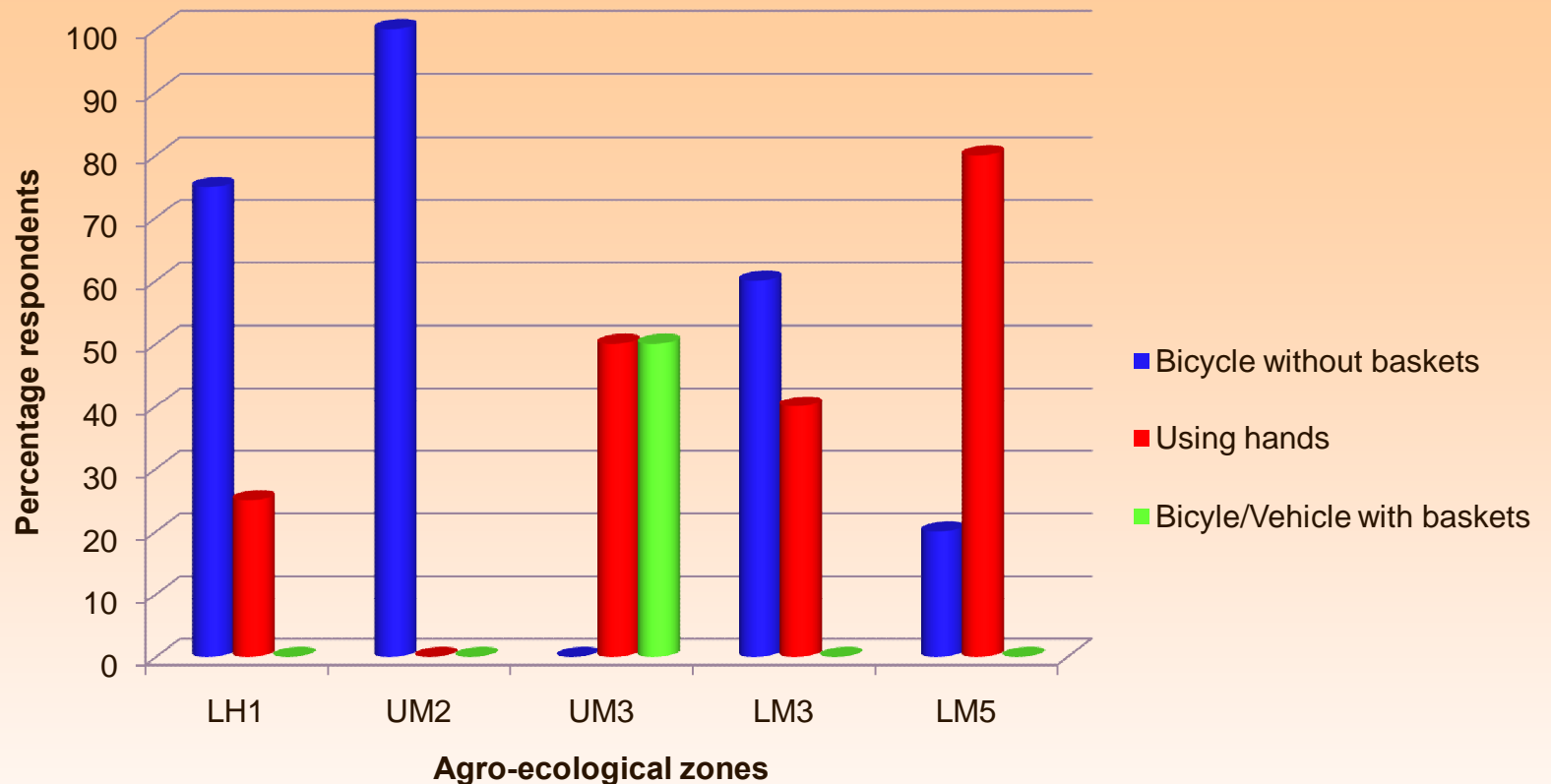
- Ninety-five (95%) percent of all the households confined their chickens at some particular period of the year, mainly during the rainy seasons (April to June and October to December).
- [Fig 7. - Confinement.ppt](#)
- ND outbreaks were common in all the agro - ecological zones during confinement except in the LM5.
- [Fig.8-Confinement and outbreaks.ppt](#)

## (iv) Management and Handling of sick birds & Carcasses



**Fig.9:** Percentage of farmers reporting different management and handling methods of Newcastle disease infected birds in various agro- ecological zones

## (v) Methods of transportation of birds to markets



**Fig.10: Methods of transportation of birds to the market in different agro – ecological zones**

# Preventing the Movement of Infections from Markets to farms – Traffic control

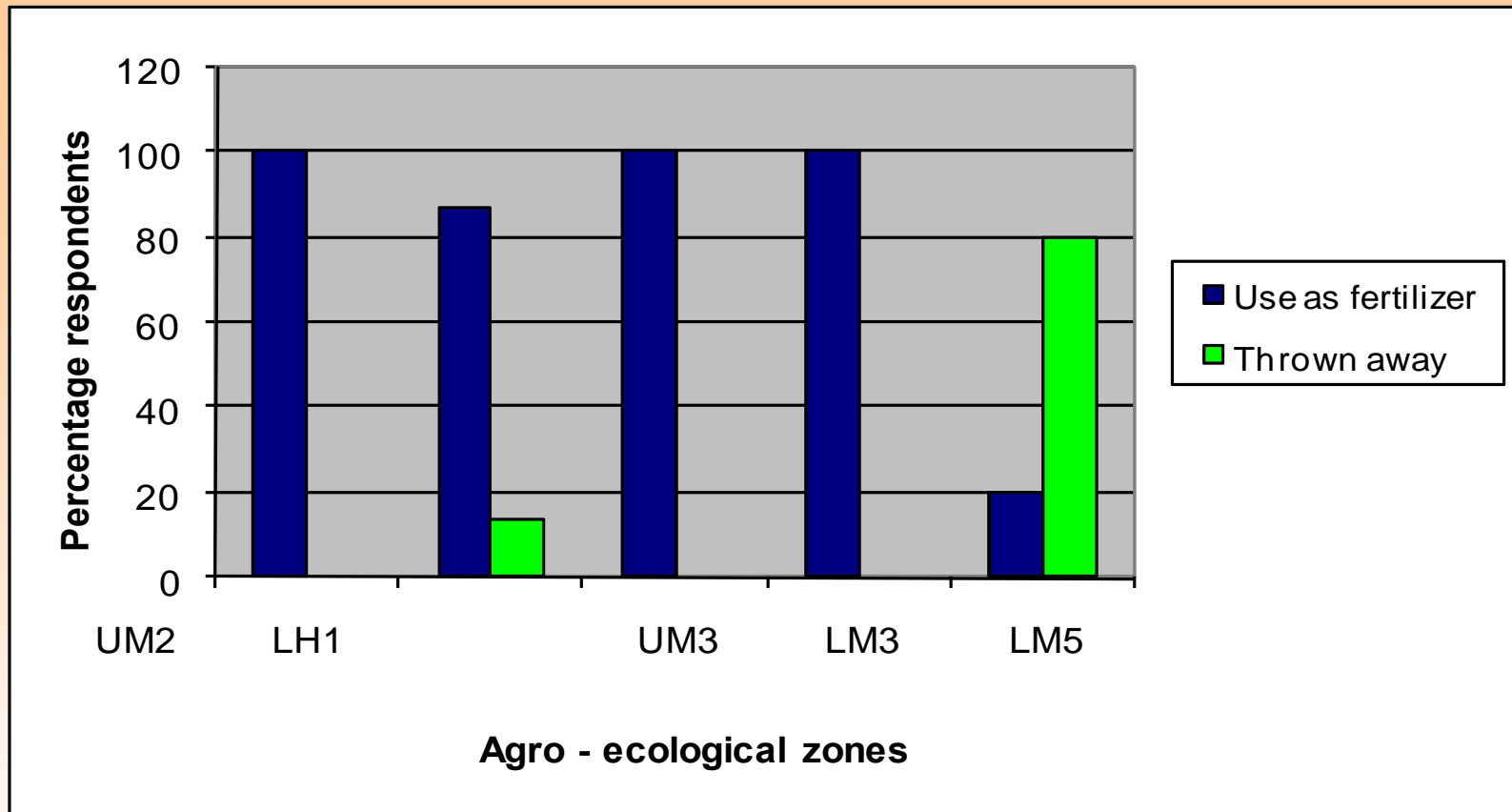


## **(v) Methods of transportation of birds Cont'd**



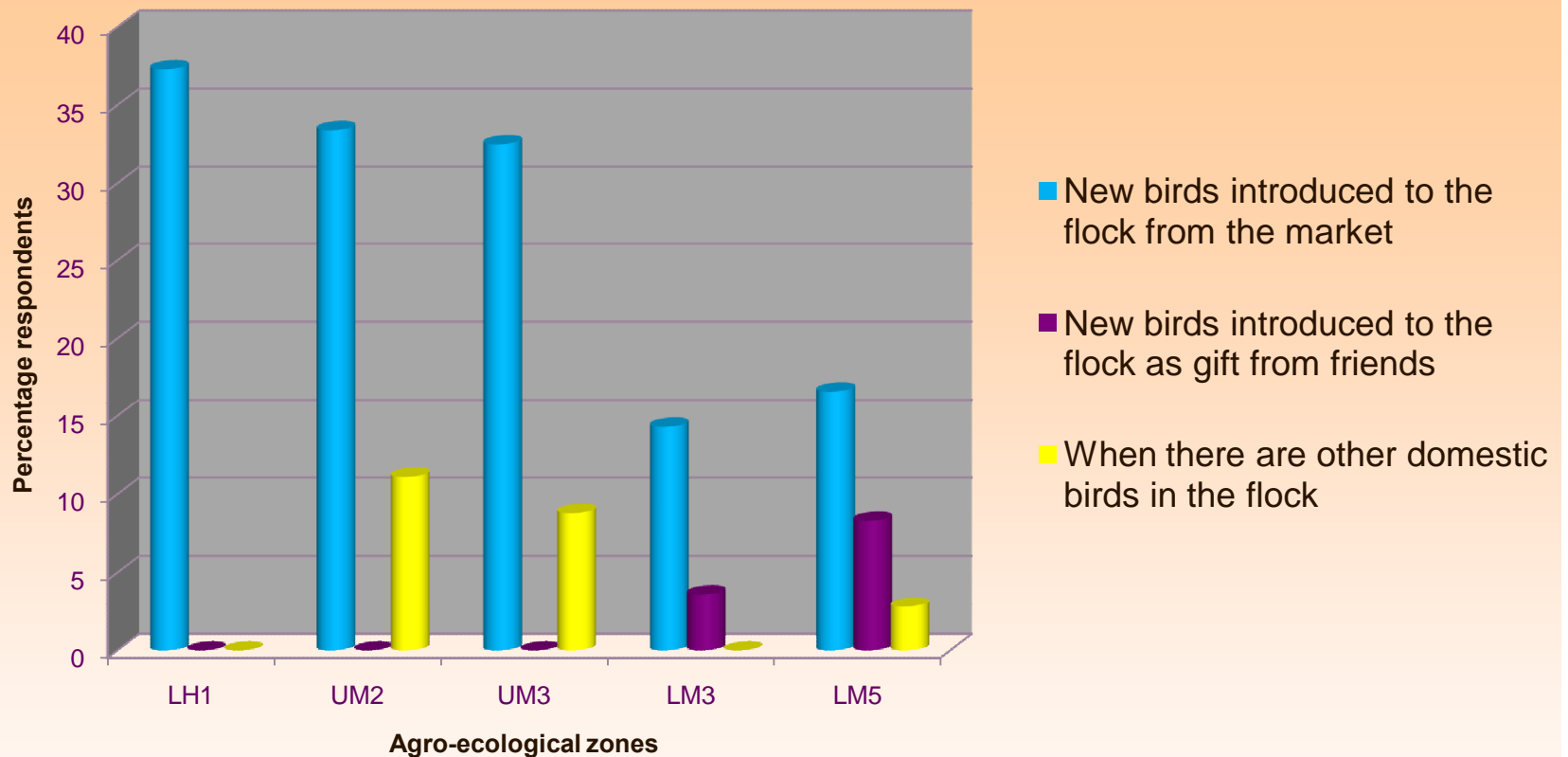
Fig.11: Transportation of birds to the market

## (vi) Disposal of manure



**Fig.12:** Methods of handling poultry manure in the five agro-ecological zones

## (vii) Source of restocking birds and presence of other birds



**Fig.13:** Other factors associated with Newcastle disease outbreaks

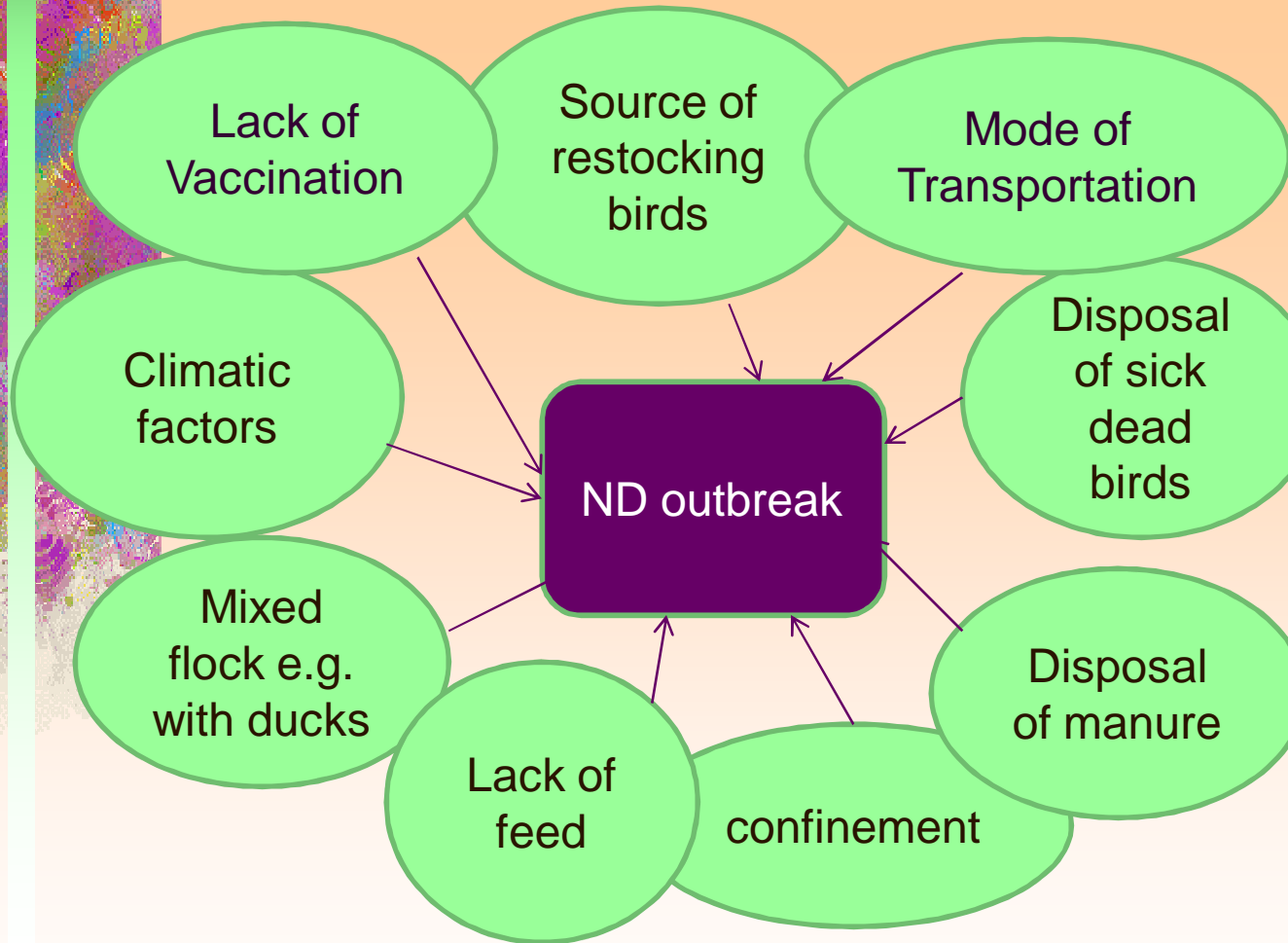
## RESULTS & DISCUSSION Cont'd



**Fig. 14: Mixed flock (chickens and ducks)**



# CONCLUSION



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- Flock owners be educated on disease transmission and prevention, and should be discouraged from restocking their farms with chickens bought from the markets but instead should obtain them from vaccinated flocks or from government indigenous chicken breeding centres in the country.
- [Njagi et al. 2010 - Factors associated.pdf](#)

**Thanks for listening**

