

# Health Services to backyard poultry and issues of Biosecurity

M R Reddy

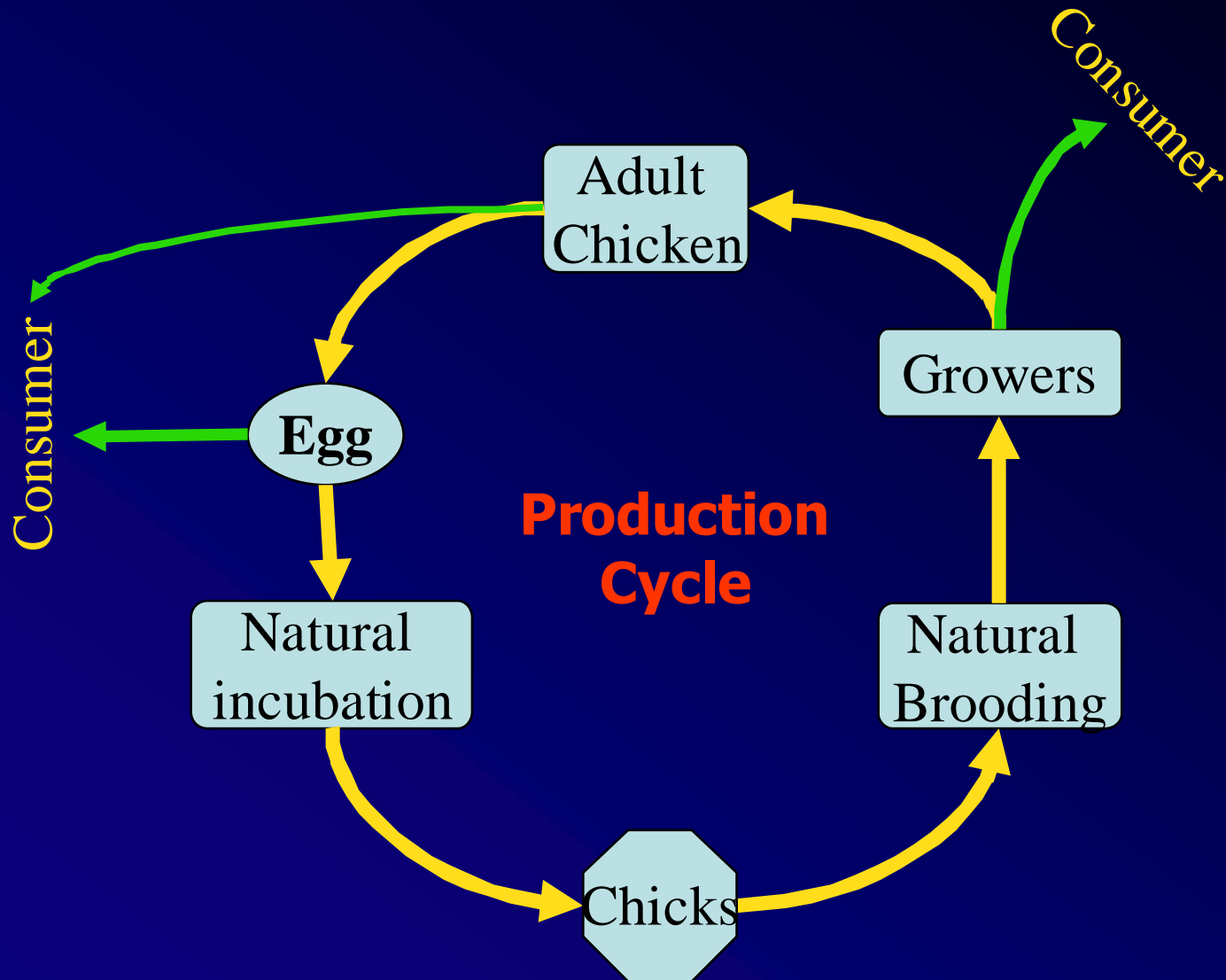
Project Directorate on Poultry



# Poultry production systems (FAO classification)

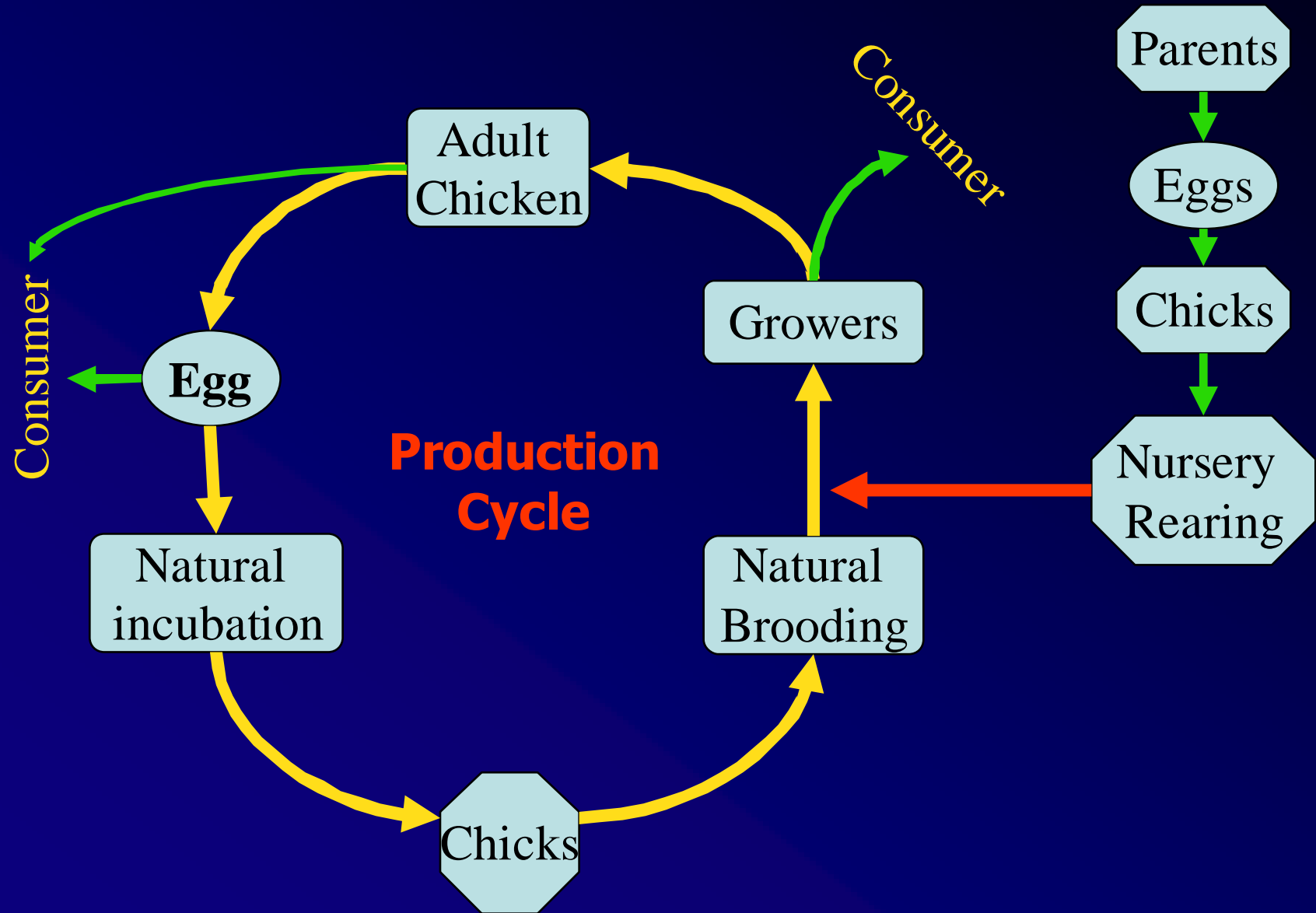
<b>System</b>	<b>Characteristics</b>
<b>1. Industrial &amp; Integrated</b>	High Bio-security, Urban and export market, processed product, Located near major cities, closed housing, commercial breeds, adequate health care
<b>2. Commercial (Large scale)</b>	Medium Bio-security, urban market, processed/live product, located in urban or peri-urban areas, closed housing, commercial breeds, adequate health care
<b>3. Commercial (small scale)</b>	Low bio-security, Urban/rural live market, peri-urban or rural location, closed/open housing, commercial/indigenous breeds, poor health care
<b>4. Village backyard</b>	No bio-security, rural live market, mostly poultry but also ducks, minimal housing, indigenous breeds, no health care

# Back yard Poultry Production Cycle



# Native Chicken

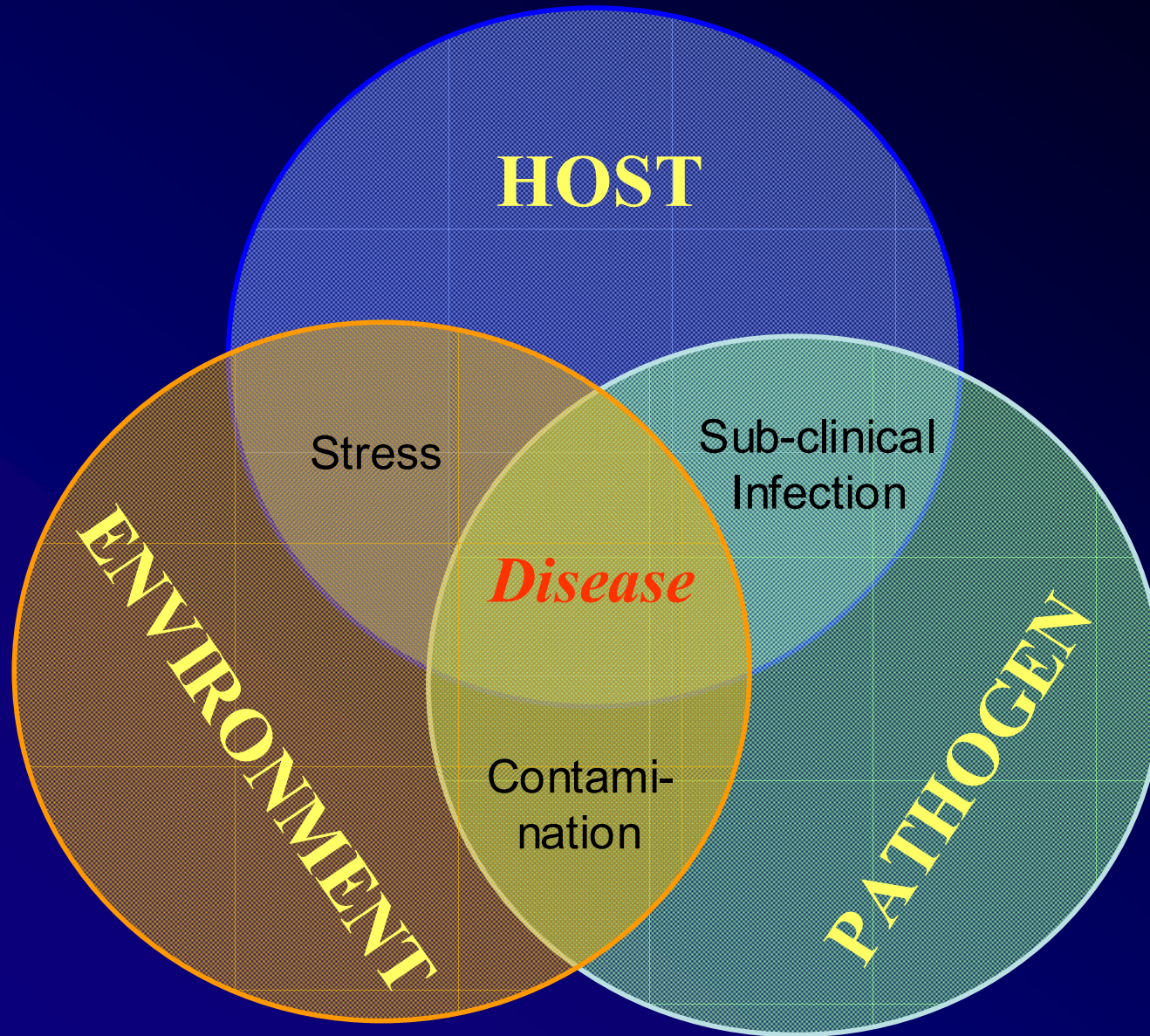
# Improved Chicken



# Disease control is difficult task

- Free movement of birds
- Multiple species
- Multiple age groups
- Introduction of new birds
- Adverse environment
- Contact with wild birds
- Poor husbandry practices
- Poor hygiene
- No control over movement of animals, public, traders, vehicles etc

# INTERACTION OF HOST, PATHOGEN & ENVIRONMENT



# Important Diseases in Backyard Poultry

<b>Disease</b>	<b>Age group</b>
Newcastle Disease	Growers & adults
Marek's Disease	Growers & Adults
Fowl Pox	All ages
Infectious bursal disease	Chicks
Fowl Cholera	Growers & Adults
Mycoplasmosis	All ages
Salmonellosis	Chicks
Coccidiosis	Chicks, Growers
Internal Parasites	All ages
Ectoparasites	All ages

# Newcastle Disease

- Wide spread and economically important
- 50-100% mortality
- Outbreaks in summer and winter
  - May- June
  - Dec-Jan

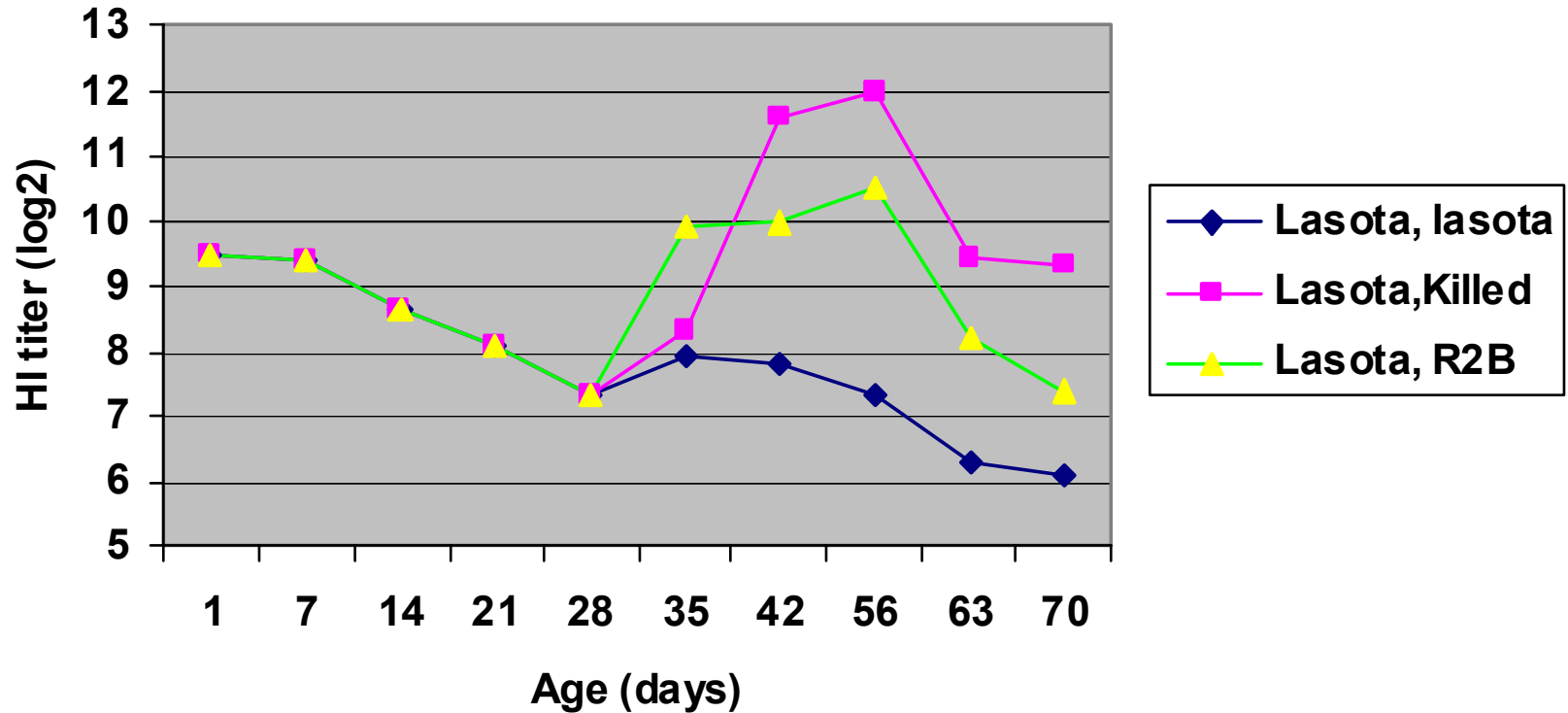
# Newcastle Disease Vaccines

- Lasota                      Lentogenic
  - R2B/Mukteswar            Mesogenic
- 
- I2/V4                        Avirulent

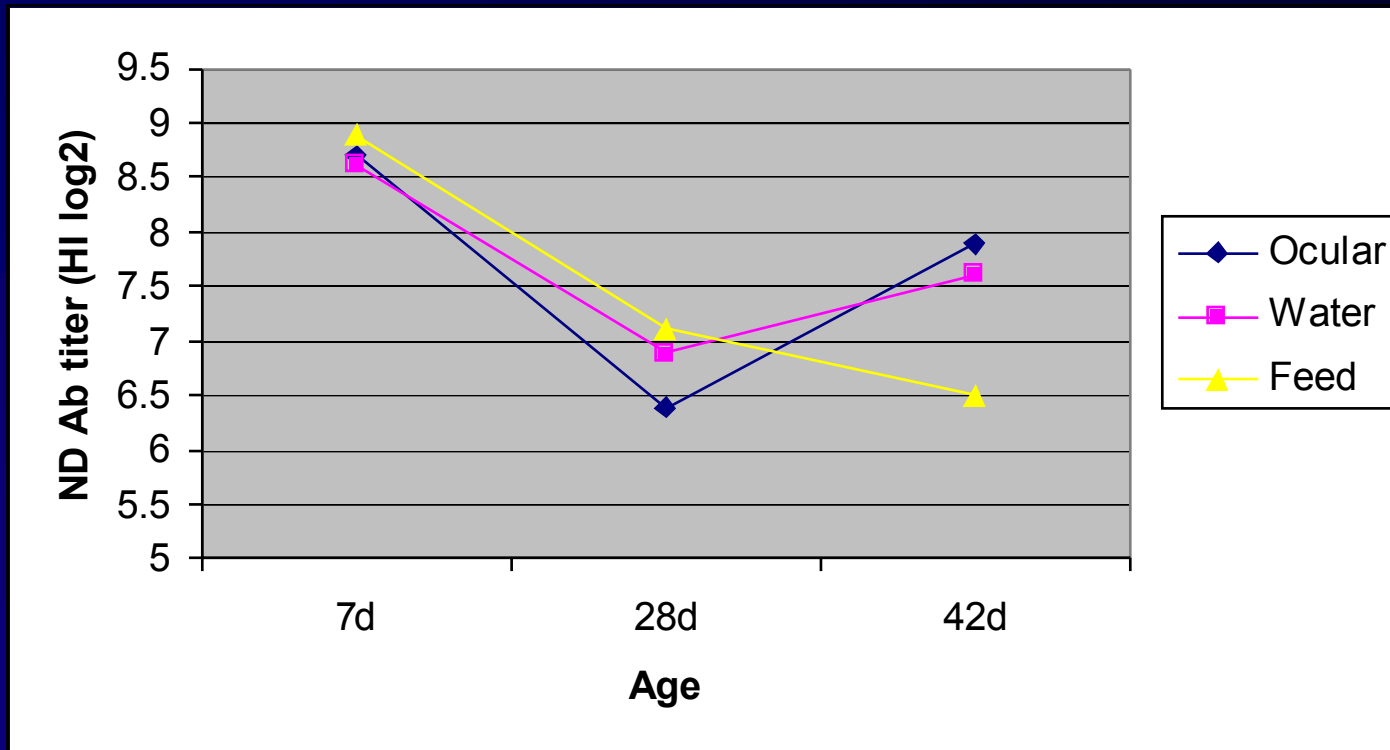
## Thermostable vaccines (I-2 , V4)

- **Retain a higher infectivity titre for longer time**
- **Freeze-dried I-2 / V4 vaccine stored at**
  - 4°C - 12 months
  - 28°C – 8 weeks
  - 37°C - 2 weeks
- **Liquid I-2/V4 ND vaccine ('wet' vaccine)**
  - 4°C – 6 months
  - 28°C – 7-14 days

# Response of Gramapriya to ND vaccines



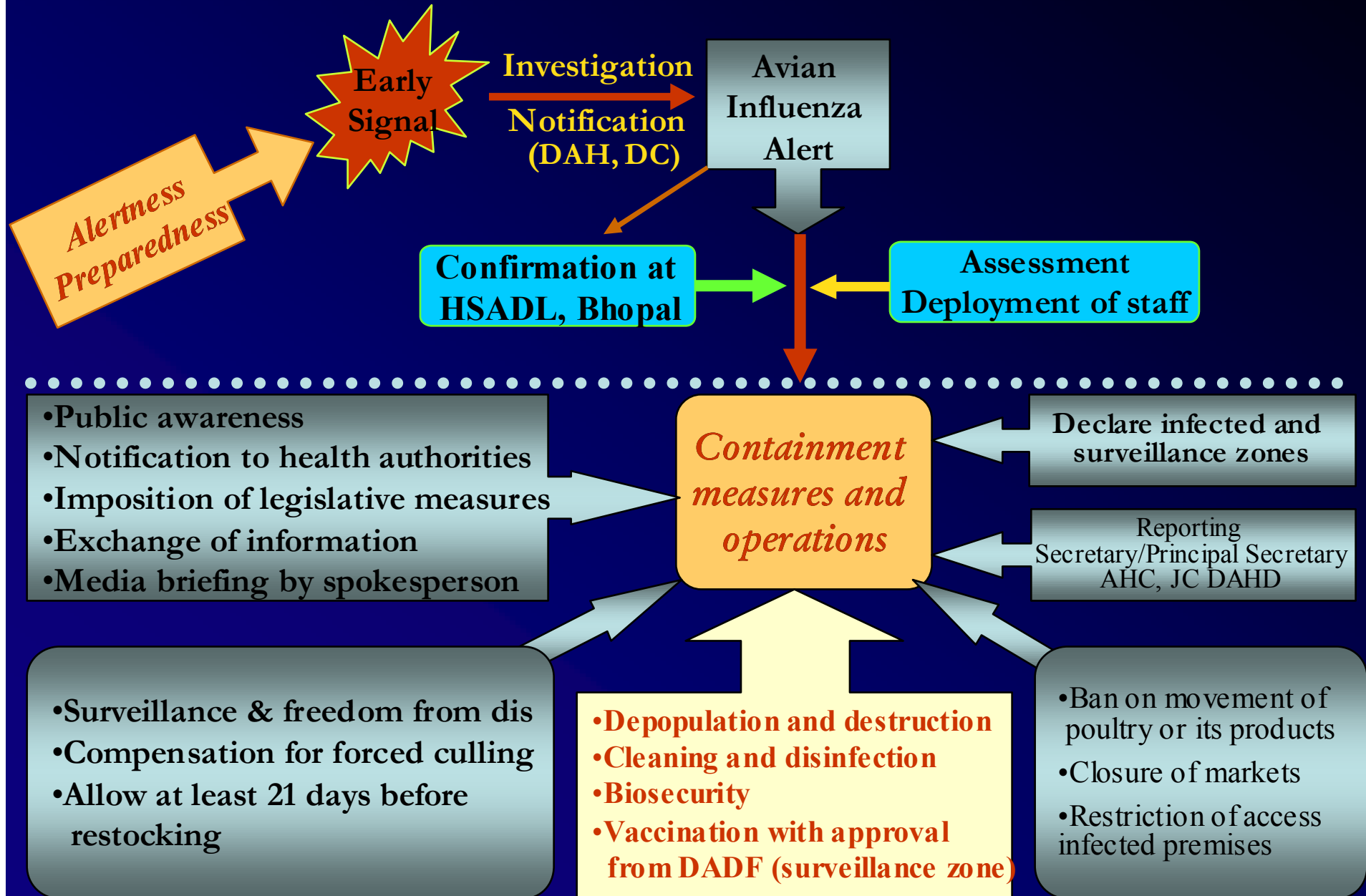
# Evaluation of ND vaccination by different methods



# Avian Influenza

- Exotic (notifiable) Disease
- Control through stamping out policy
- Action plan
- Contingency plans

# Avian Influenza response and containment action plan (Dept of Animal Husbandry Dairying and Fisheries, Govt. of India)

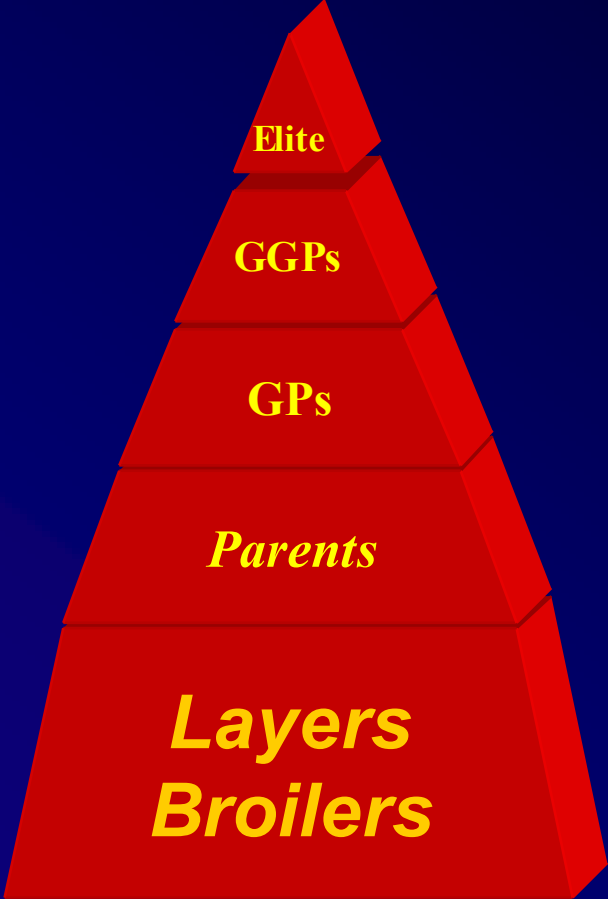


# **Biosecurity issues**

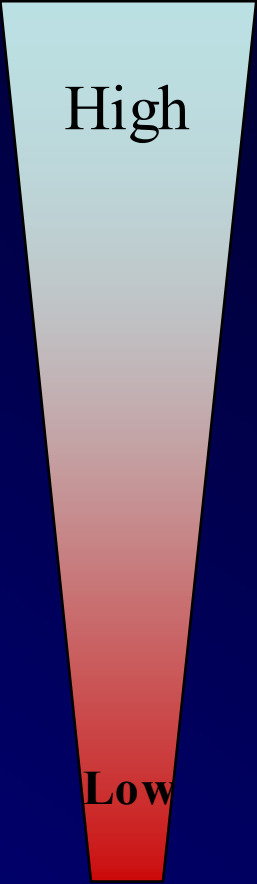
## **Top biosecurity Risks**

- A. People issues**
- B. Environment and Flock characteristics**
- C. Bird and other animal issues**

**Organized  
Poultry Industry**



**Level of  
Biosecurity**



SPF

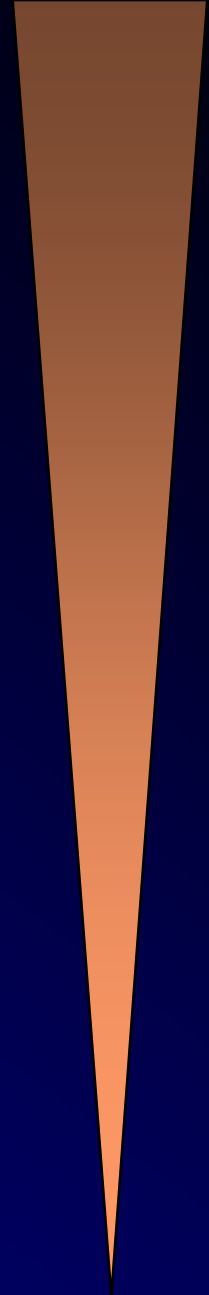
Quarantine

Purelines Closed

GGP  
GP  
Parents  
Commercials

Confined

Free range



# Top biosecurity Risks

## B. Environment and Flock characteristics

1. **Birds of different ages (multiage)**
2. **High farm density in the area**
3. **Presence of backyard flocks within 500m**

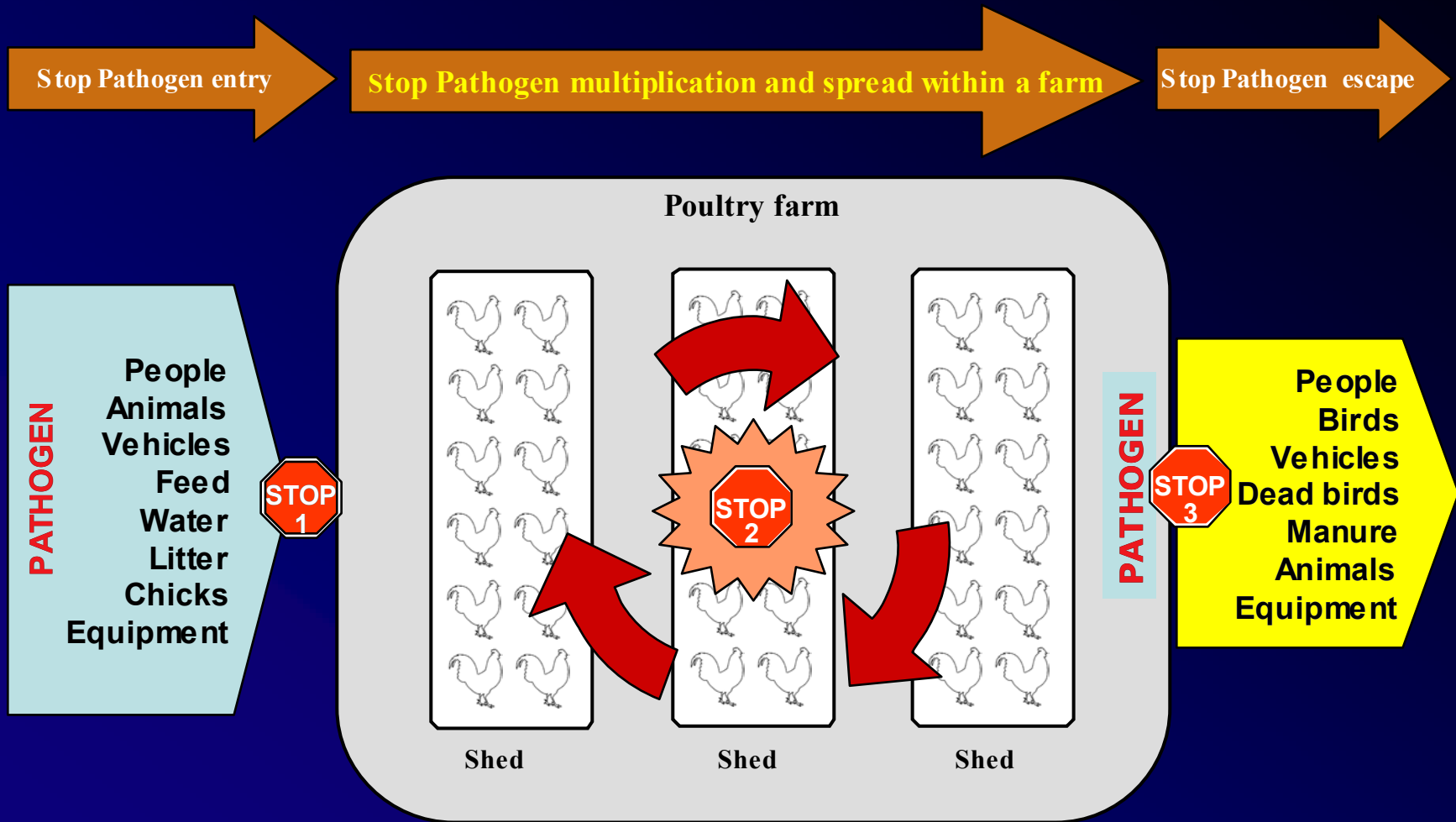
## C. Bird and other animal issues

1. **Presence of rats or mice**
2. **Wild birds in poultry house**
3. **Pets with access to the poultry house**

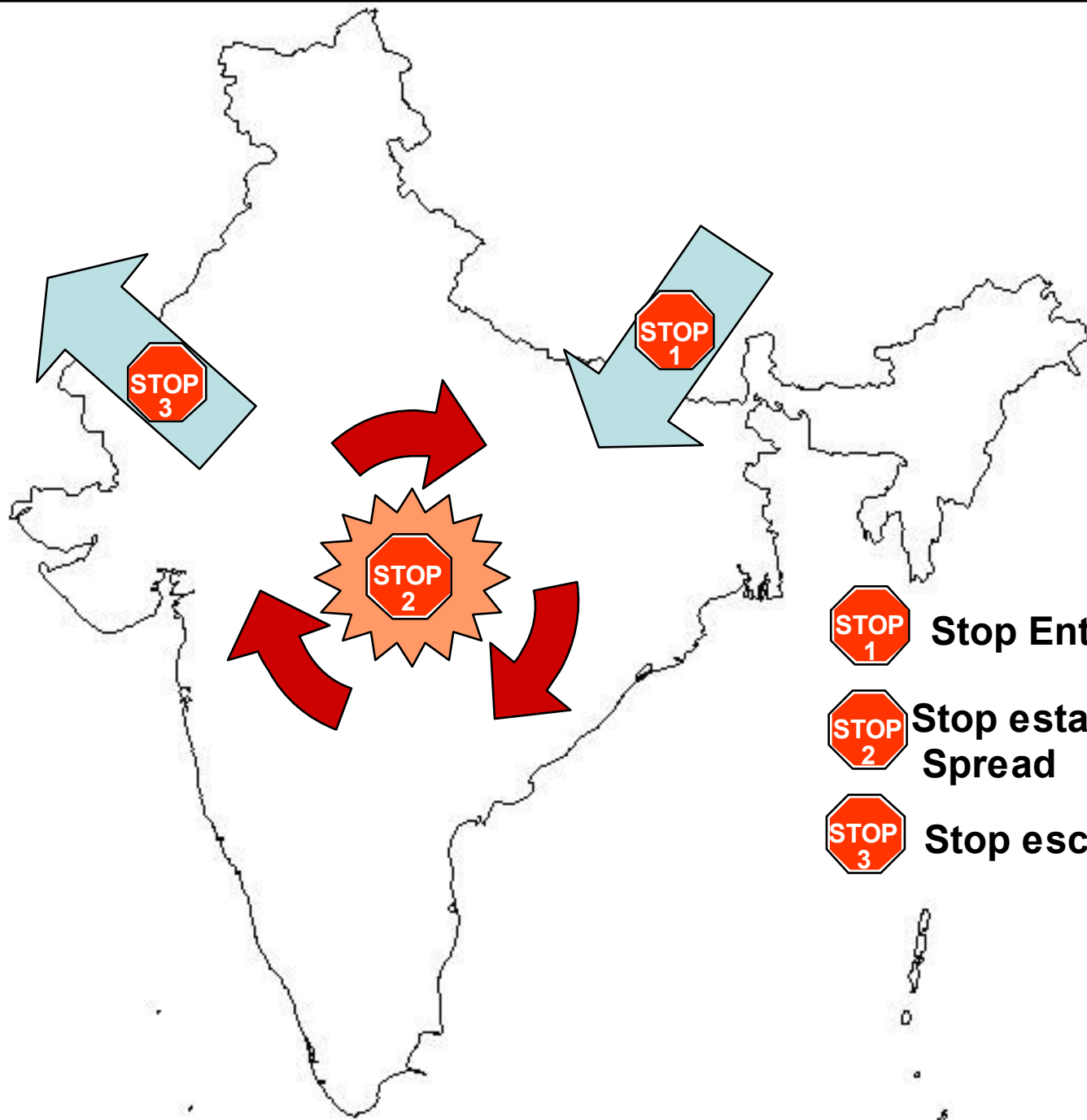
# Top biosecurity Risks

## A. People issues

1. **Farm employees also own poultry**
2. **Farm employees attend cock fights**
3. **Family of farm employees works at another farm**
4. **Employee visits other poultry farms**
5. **Farm employee owns pet birds**



**Three STOP Biosecurity for effective prevention of infectious diseases in poultry industry**

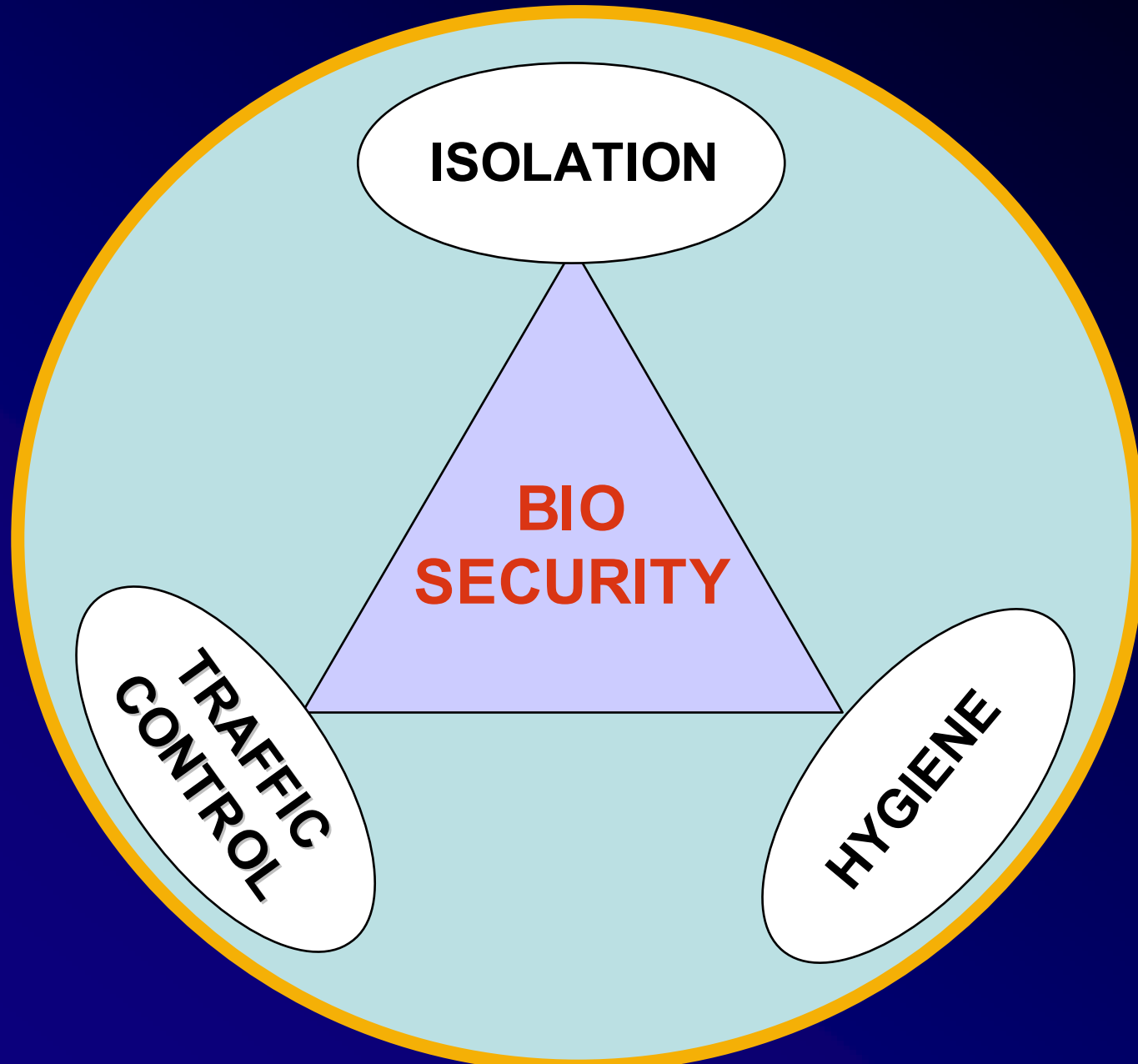


**STOP 1** Stop Entry

**STOP 2** Stop establishment & Spread

**STOP 3** Stop escape

# Tools of biosecurity



## What to do to protect a when there are outbreaks reported in the country

- Keep the poultry in a close environment
- Do not buy nor accept new birds
- Do not allow people come into the premises
- Clean the yard, the shelters, the equipment regularly.
- Separation of sick birds from healthy ones
- All dead birds and other contaminated objects must be destroyed properly through: burning and burying.
- Never throw the dead birds in river, open areas, pond

## Policy development and organizational framework

- Directly linked to public / private collaboration
  - vaccine testing & approval
  - vaccine monitoring
  - vaccine distribution & administration
  - training
- Short, medium & long term strategies
- Communication channels for open & timely sharing of information

# **Applied research needs**

- 1. Vaccination regimes for different production systems**
- 2. Disease surveillance and vaccine monitoring**
- 3. Risk assessments to identify all potential risks & their mitigation**
- 4. Thermostable and engineered vaccines**
- 5. Polyvalent vaccines for Back yard chicken**
- 6. Documentation of Traditional veterinary practices**

**Healthy poultry  
Healthy people**



***Thank you***