



# Animal Welfare During Transport and Slaughter in Korea

Hwang Lee, Ph. D. / Vet. Researcher  
Animal Protection & Welfare Division



Animal, Plant and Fisheries  
Quarantine and Inspection Agency

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The image features a green background with a subtle pattern of water droplets. A white wavy line separates the top green section from the bottom white section. In the center of the white section is a purple rounded rectangle containing the title text.

# Introduction of QIA

# History of QIA

1909. 7  
Export Cow  
Quarantine Center

1911. 4  
Contagious Bovine Serum lab

1912. 12  
Inspection of imported fruit  
Trees & cherry trees

1906. 6  
Inspection of dry sardines

1942. 5  
Livestock Hygiene  
Research Institute

1977. 1  
Plant Quarantine Service

1951. 10  
Central Fisheries Products  
Quality Inspection station

1962. 5  
National Animal  
Quarantine Center

1998. 2  
National Veterinary  
Research Institute

1978. 4  
National Plant  
Quarantine Service

1996. 8  
National Fisheries Products  
Quality Inspection station



1998. 8  
**National Veterinary  
Research & Quarantine  
Service**

2007. 11  
**National Plant  
Quarantine Service**

2008. 3 MIFFAF  
**National Fisheries Products  
Quality Inspection Service**



2011. 6. 15  
**Animal, Plant & Fisheries  
Quarantine & Inspection Agency**



# 8 Major Missions of QIA

**Both the Nation's Trust &  
Worldwide Recognition global QIA Getting**

Quarantine  
& Inspection  
Of Animal, Plant &  
Fisheries product

Sanitary Management  
& Safety Inspection  
of Animal, Fisheries  
product

Prevention  
& Control  
of Animal  
Diseases

Plant Disease,  
Pest Control

Fisheries Quality  
Certification

Research &  
Development  
activities in  
agriculture area

Quality & Safety  
Control of  
Veterinary Drugs  
& Biologicals

Animal  
Protection &  
Welfare

**Everybody gets wealthy in  
Happy farming & fishing villages**

# Organization Chart of QIA

## QIA(Animal, Plant and Fisheries)

General Service Division

Planning & Coordination  
Division

Emergency Preparedness and  
Response Center

Dep. Livestock  
Products Safety

Livestock Products  
Safety

Quarantine &  
Inspection

Consumer  
Protection

Import Risk  
Assessment

Livestock Products  
Standard

Toxicology and  
Residue Chemistry

Dep. Animal Disease  
Control

Animal Disease  
Control

Veterinary  
Epidemiology

Animal Disease  
Diagnostic

**Animal Protection  
& Welfare**

Veterinary  
Pharmaceutical  
Management

Veterinary Medicine  
& Biologics

Dep. Plant  
Quarantine

Plant Quarantine

Export  
Management

Risk Management

Plant Pest  
Control

Dep. Fishery  
Products Quality  
and Safety

Fishery Products  
Quality Control

Fishery Products  
Inspection

Fishery Products  
Quarantine

Dep. Animal & Plant  
research health

Research  
Planning

Bacterial Disease

Viral Disease

Foot and Mouth  
Disease

Avian Disease

Foreign Animal  
Disease

Plant Quarantine  
Technology

• 5 Departments, 29 Divisions, 5 Center for Animal Disease Control

• 6 Regional offices, 30 District offices

Incheon  
International  
Airport  
Regional office

Yeongnam  
Regional office

Jungbu  
Regional office

Seoul  
Regional office

Honam  
Regional office

Jeju  
Regional office



# **Laws and Policy of Animal Transport and Slaughter**

# Animal Protection Act

- 1991 : Established
- 2007 : Fully Amended (Enforced in 2008)
- 2011 : Fully Amended (Enforced in 2012)
  - Certification of Animal Welfare Farm
  - Registration of dog on national scale (from 2013)



# Animal Transport (1)

- 2008 : Established & Enforced 'Notification of Animal Transport'
  - It is recommendation (no penalty clauses)
  - containing ; humane treatment
    - space allowance to transport
    - fit & unfit animals to transport
- 2012 : under amending process

# Animal Transport (2)

## ● space allowance

### - Cow

| Body Weight(kg) | Space allowance (m <sup>2</sup> /head) |
|-----------------|--|
| <50             | 0.30~0.40                              |
| 51~110          | 0.40~0.70                              |
| 111~200         | 0.70~0.95                              |
| 201~325         | 0.95~1.30                              |
| >550            | >1.30                                  |

### - Pig

| Body Weight(kg) | Space allowance (m <sup>2</sup> /head) |
|-----------------|--|
| <25             | 0.15                                   |
| 25~60           | 0.35                                   |
| 60~80           | 0.40                                   |
| 80~100          | 0.42                                   |
| 100~120         | 0.51                                   |
| >120            | 0.51                                   |

# Animal Transport (3)

## ● space allowance

### - Chicken

| Body Weight(kg) | Space allowance            |
|-----------------|----------------------------|
| Day old         | 21~25cm <sup>2</sup> /head |
| <1.0            | 180~250cm <sup>2</sup> /kg |
| 1~2             | 160~210cm <sup>2</sup> /kg |
| 2~3             | 170~230cm <sup>2</sup> /kg |
| 3~5             | 115cm <sup>2</sup> /kg     |
| >5              | 105cm <sup>2</sup> /kg     |

### - Duck

| Body Weight(kg) | Space allowance                |
|-----------------|--------------------------------|
| Young duck      | 23.1~27.7cm <sup>2</sup> /head |
| <1.0            | 198~255cm <sup>2</sup> /kg     |
| 1.0~2.5         | 193~235cm <sup>2</sup> /kg     |
| 2.5~3.5         | 188~245cm <sup>2</sup> /kg     |
| >3.5            | >200cm <sup>2</sup> /kg        |

# Animal Slaughter

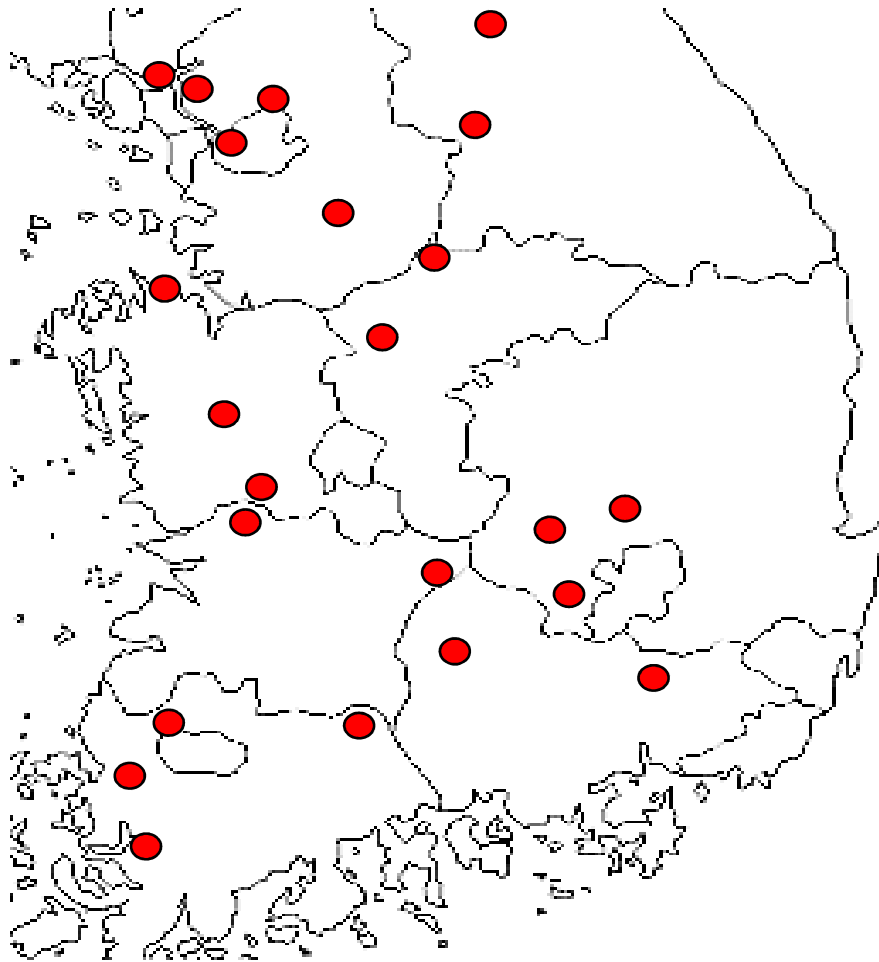
- Animal Protection Act
  - In accordance with 'LIVESTOCK PRODUCTS SANITARY CONTROL ACT' and 'ACT ON THE PREVENTION OF CONTAGIOUS ANIMAL DISEASES'
  - Allowed methods : gas, lethal injection, electrocution, blow, gun shooting, etc -> bleeding
  - Minimize the pain and suffering of animals
- 'Notification of animal slaughter' would be established in 2013



# Research Results of Pig Transport and Slaughter



# Field Survey : Selection of Slaughterhouses



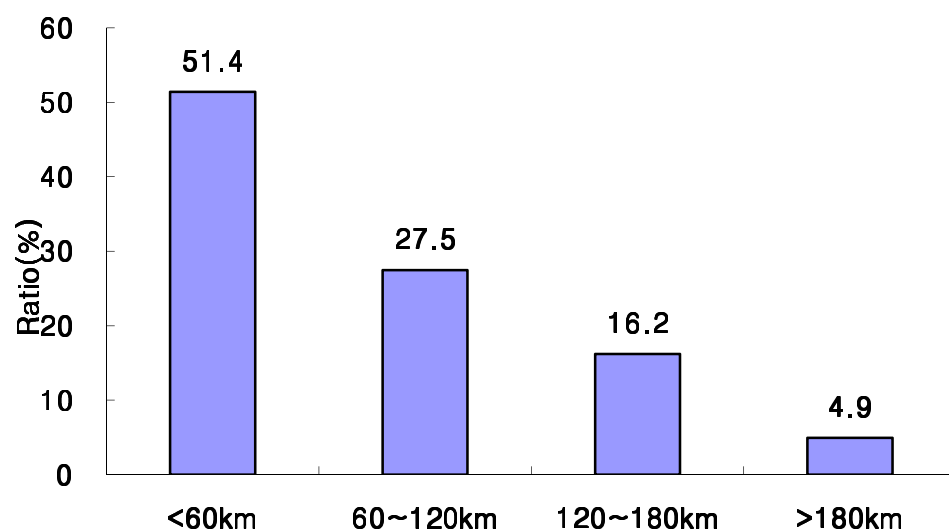
| Location (province)   | No. of slaughter house surveyed |
|-----------------------|---------------------------------|
| Seoul & Gyunggi Prov. | 5                               |
| Gangwon               | 2                               |
| Chungbuk              | 2                               |
| Chungnam              | 3                               |
| Jeongbuk              | 2                               |
| Jeonnam               | 4                               |
| Gyungbuk              | 3                               |
| Gyungnam              | 2                               |
| <b>Total</b>          | <b>23</b>                       |

| Heads slaughtered per day | No. of slaughter houses surveyed |
|---------------------------|----------------------------------|
| <500                      | 6                                |
| 501~1000                  | 6                                |
| 1001~1500                 | 6                                |
| >1500                     | 5                                |

# Field Survey : Transported Distance

## ● Transported Distance

- No. of Truck Surveyed : 2,137
- Average transported distance : 71.2km (7~237km)

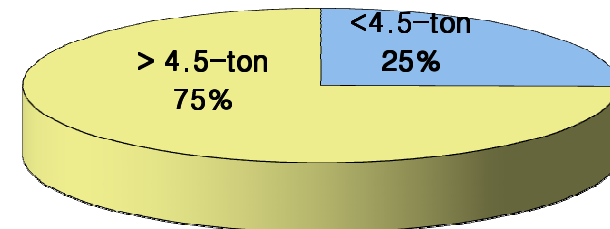
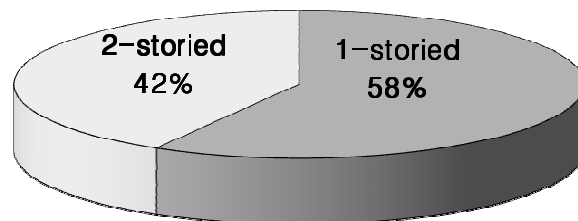
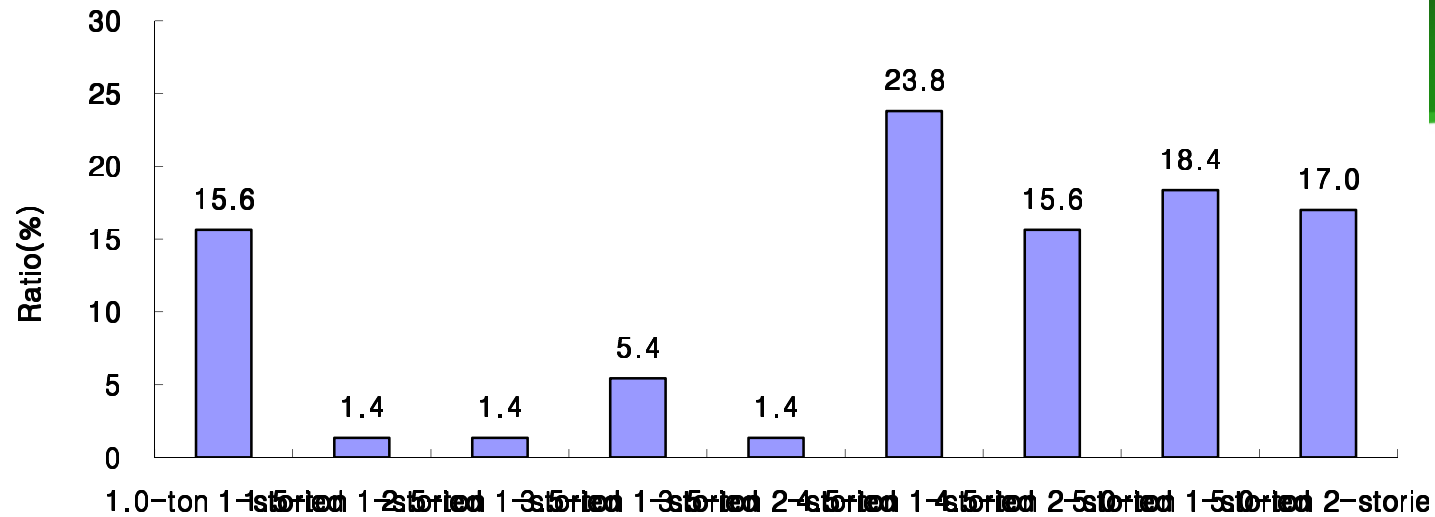


Transported distance of pigs from farm to slaughterhouse



Typical Pig transport truck (5 ton)

# Field Survey : Transport Vehicles



Types of Pig Transport Vehicles

## Field Survey : Transport Density

- Average Transport Density :  $0.37\text{m}^2/\text{head}$ 
  - Notification of Animal Transport :  $0.51\text{m}^2/\text{head}$
  - USA Pig Veterinary Society :  $0.41\text{m}^2/\text{head}$

## Field Survey : Types of unloading board

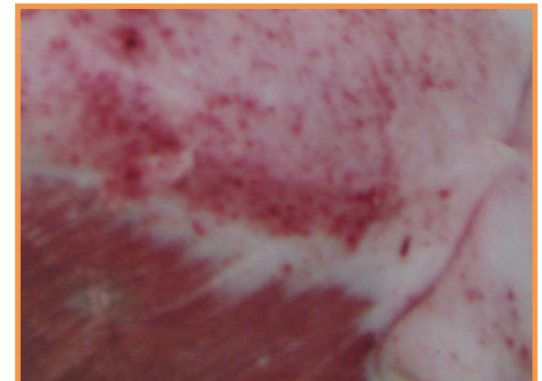


Fixed(Left), angle-controlled (middle)  
and truck-height controlled(right) facilities



# Field Survey : Usage of inappropriate materials

- Use of inappropriate materials
  - Effect on the meat quality
  - new animal protection act;  
ban to use electric rods during animal transport





# Field Survey : Lairage

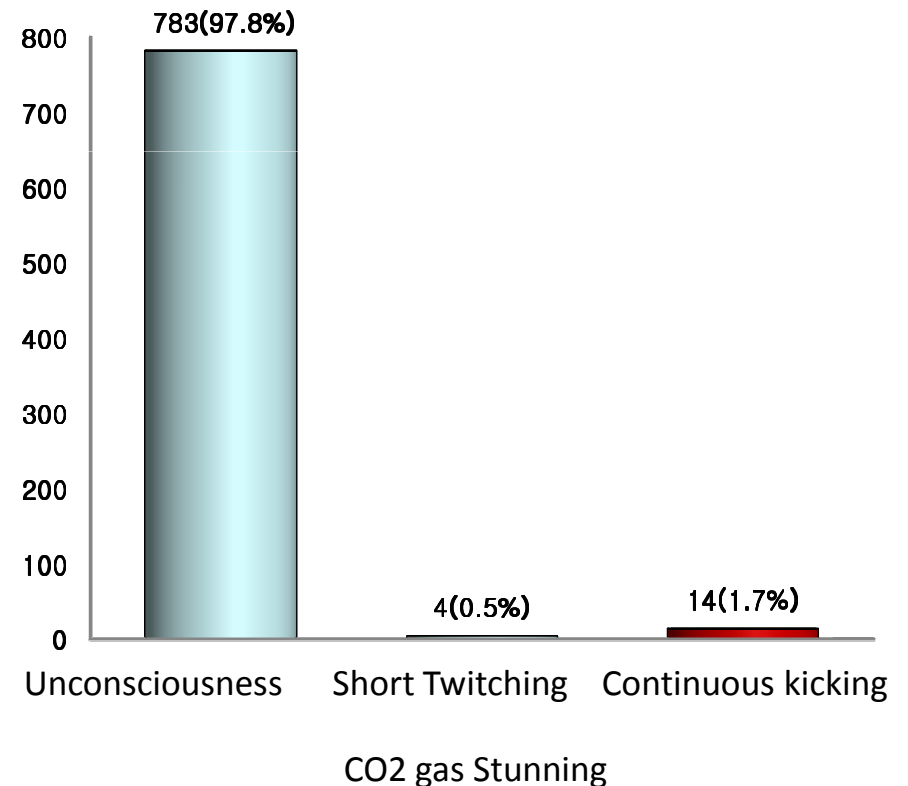
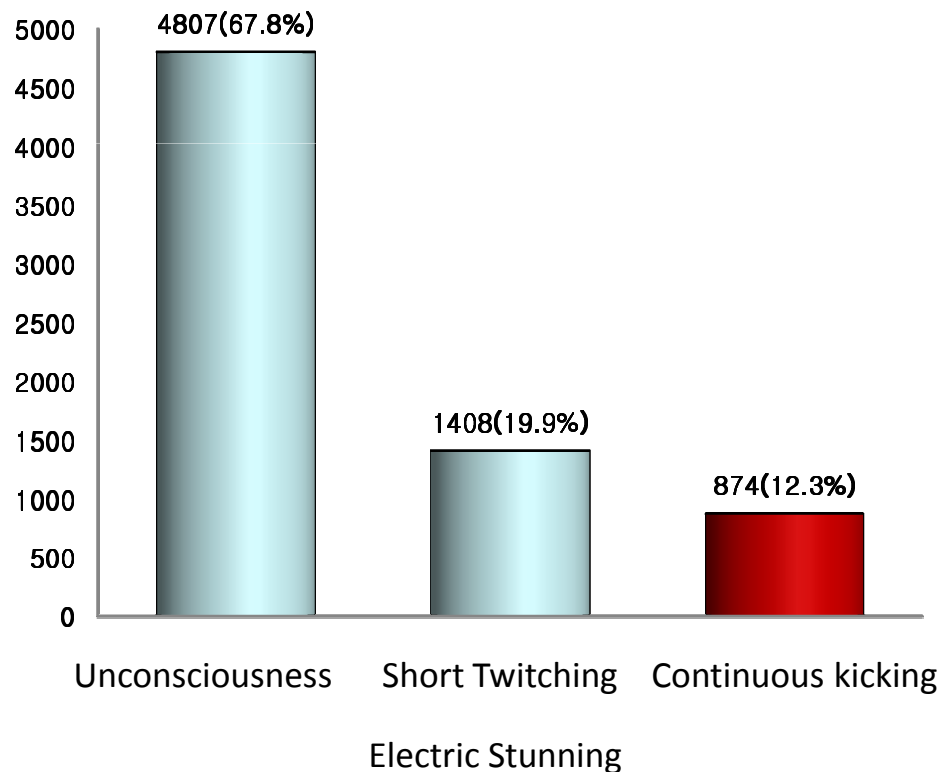
- Fixed & Variable Wall of Lairage Room
- Lairage space (Regulated by LIVESTOCK PRODUCTS SANITARY CONTROL ACT)
  - Cow :  $3.3\text{m}^2/\text{head}$
  - Pig :  $0.83\text{m}^2/\text{head}$



Fixed(left) and reversible(right) wall of lairage room

# Field Survey : Stunning & Bleeding

- Electric Stunning is common in Korea;
  - Only few slaughterhouses use CO2 gas stunning
- Is CO2 gas stunning is better for animal welfare?



# Field Survey : Stunning & Bleeding



Horizontal bleeding conveyer belt

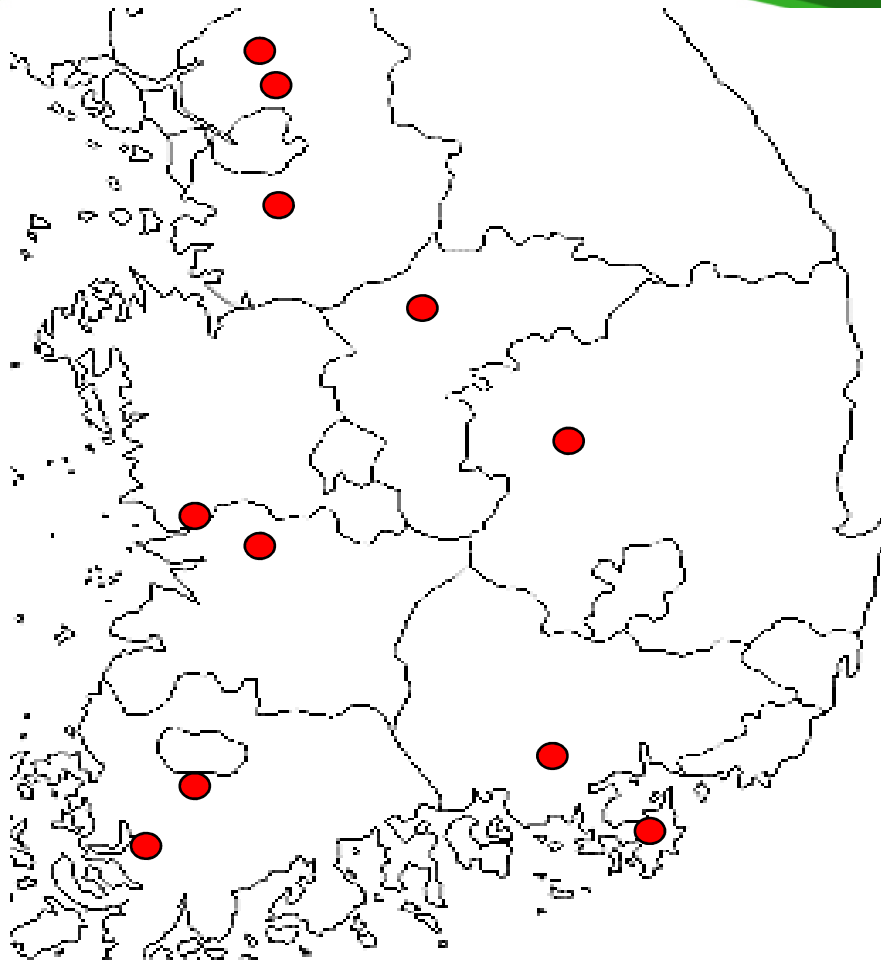


Vertical bleeding rail



# **Research Results of Broiler Transport and Slaughter**

# Field Survey : Selection of Slaughterhouses



| Location (province) | No. of slaughterhouses surveyed |
|---------------------|---------------------------------|
| Seoul & Gyunggi     | 3                               |
| Chungbuk & Chungnam | 2                               |
| Jeonbuk & Jeonnam   | 3                               |
| Gyonbuk & Gyongnam  | 3                               |
| Total               | 11                              |

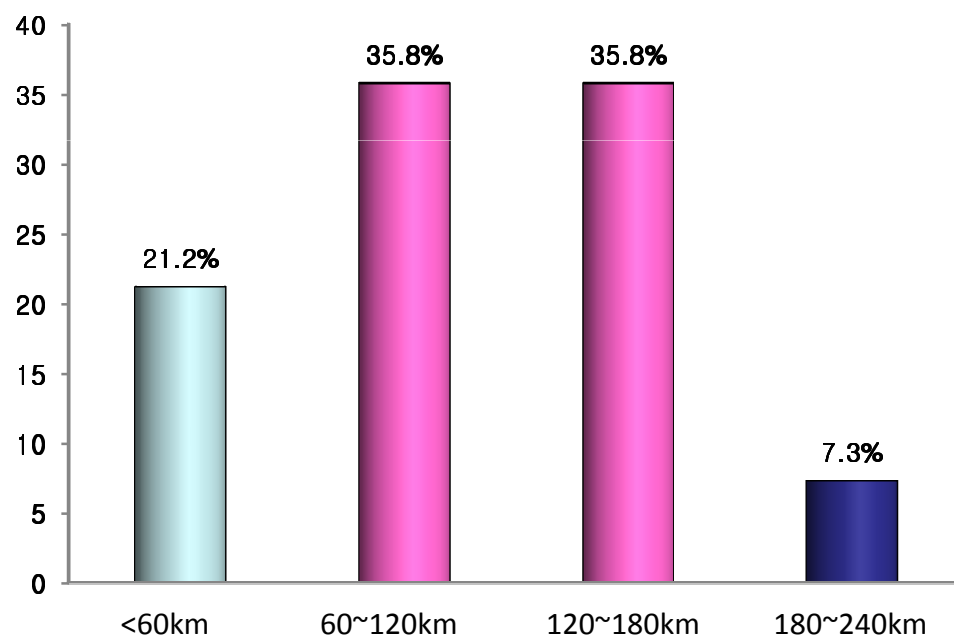
| Heads slaughtered per day | No. of slaughter houses surveyed |
|---------------------------|----------------------------------|
| <40,000                   | 4                                |
| 40,000~80,000             | 4                                |
| >80,000                   | 3                                |



# Field Survey : Transported Distance

## ● Transported Distance

- No. of Truck Surveyed : 309
- Average transported distance : 106.5km (21~213km)



Transported distance of broilers  
from farm to slaughterhouse



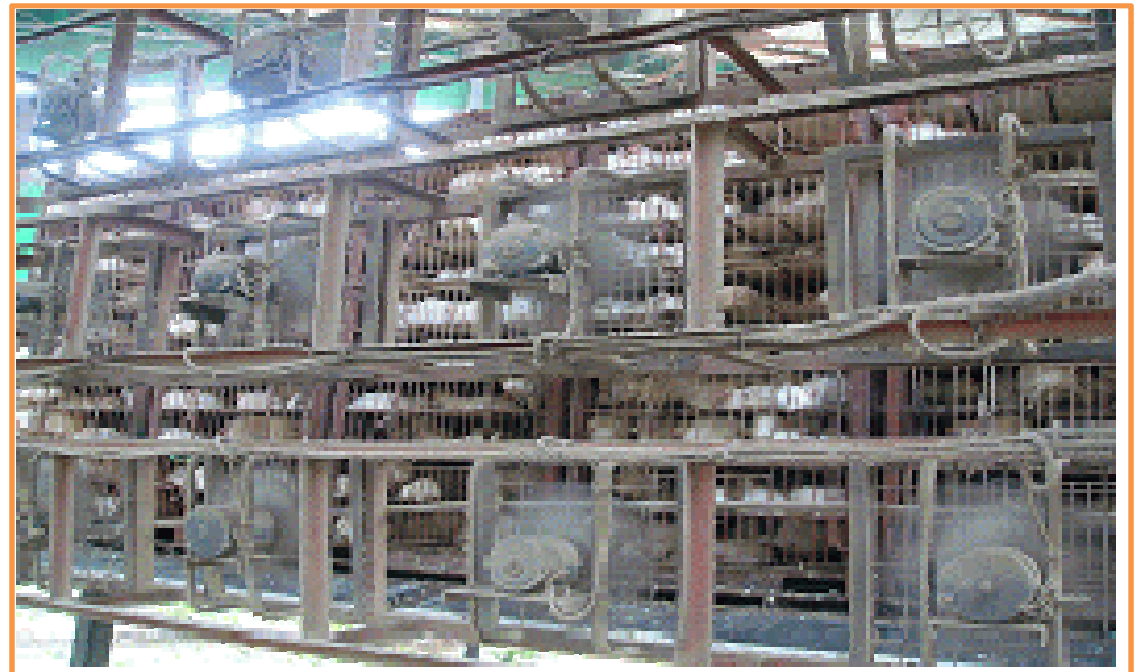
Typical Broiler transport truck (5 ton)

## Field Survey : Transport Density

- Average Transport Density :  $167\text{cm}^2/\text{kg}$ 
  - Notification of Animal Transport :  $160\sim 210\text{cm}^2/\text{kg}$

## Field Survey : Lairage

- Lairage
  - Use of large fan to regulate body temperature



# Field Survey : Dumping & Shackling

- Dumping
  - Using forklift (small slaughterhouse) or crane (large slaughterhouse)
- Shackling
  - under dim or blue light



# Field Survey : Stunning & Bleeding

- Electric Voltage & Current
  - 40~70V, 80~200mA
- Length of waterbath and time
  - 3~5m, 6.6~10 sec.



A close-up photograph of a green leaf with water droplets, serving as a background for the top portion of the slide.

## Conclusion



# Amend & Establish the Notifications

- New notification of animal transport and slaughter
  - will be apply the OIE animal welfare standard
- Training and Education
  - target person : animal transporters & slaughterhouse workers, etc



# **Slow but Steady!**

Thank you for your attention!