

**MINISTRY OF AGRICULTURE AND RURAL DEVELOPMENT  
NATIONAL INSTITUTE OF ANIMAL SCIENCES**



# **REPORT**

## **INTRODUCTION TO NIAS**

at the Annual Conference “The Global Research Alliance on Livestock Greenhouse Gases”

**Dr. Nguyen Thanh Son  
Director of NIAS**

**Hochiminh city, May 15, 2018**



# VIỆN CHĂN NUÔI

## National Institute of Animal Sciences



# NIAS in Brief

- Established in 1952 under Ministry of Agriculture and Rural Development.
- NIAS's tasks and Duties:
  1. **Planning and designing national research programs** (both short term and long term) in Animal Sciences.
  2. Implementation and management of approved national research programs.
  3. Undertaking studies on **animal breeding and genetics** to improve animal performance; on **animal feed, nutrition and related issues** including feed analysis, nutrient requirements for different species of animals and feeding regime; on **animal housing, manure managements and economic analysis.**





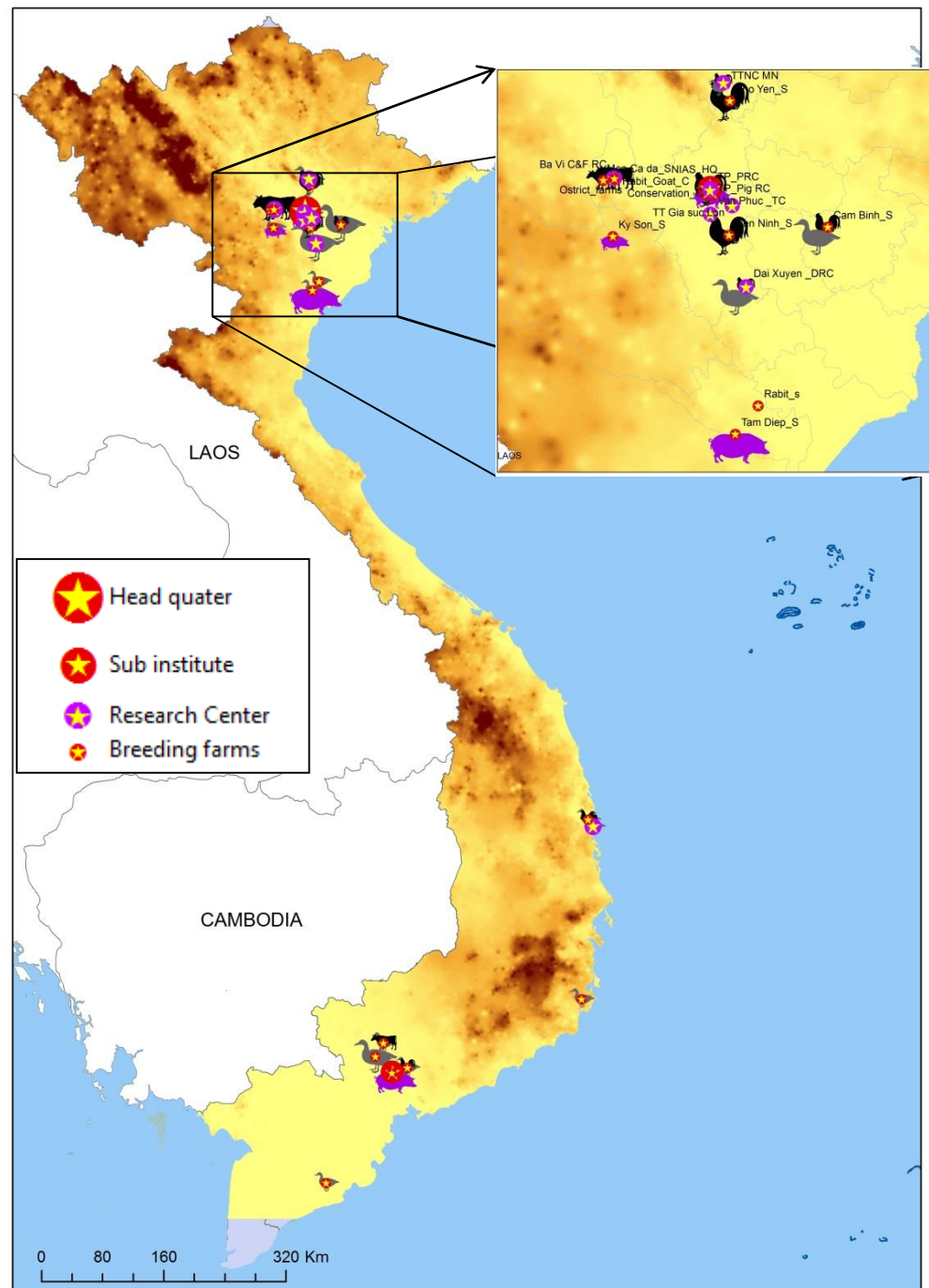
# NIAS in Brief

4. Making recommendations on animal production policy for the Government.
5. Efficient utilization and management of human resources and natural resources in animal production
6. Organizing training courses for Farmers, technicians, graduates, and organizing higher education courses (PhD)
7. Designing and organizing and implementing research and development collaboration with internal and external partners within the country and internationally.

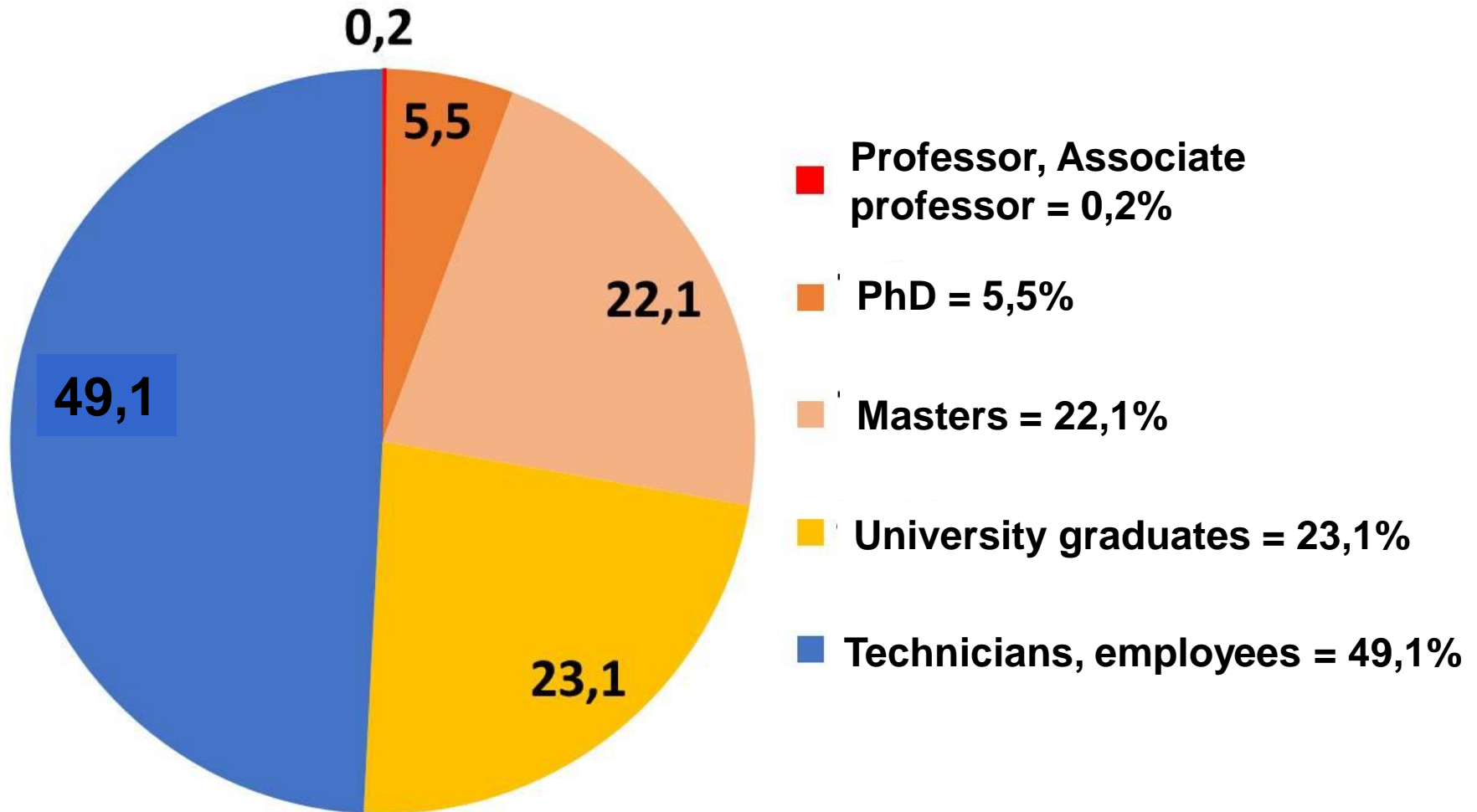


# National Institute of Animal Science

- ★ Head quarter in Hanoi (NIAS): **26 units**
- ✧ 4 Functional div.
- ✧ 8 Research dep.
- ✧ 2 Laboratories.
- ✧ 11 Research centers (✧ 18 breeding farms).
- ★ 01 Sub-Institute in Ho Chi Minh city (IASVN)
  - ✧ 3 functional div.
  - ✧ 2 Labs.
  - ✧ 4 research dep.
  - ✧ 4 breeding farms.



# NIAS's Workforce



- NIAS's Workforce: 1,105 people - 562 scientific staff (01 professor, 01 associate professors, 61 PhD, 244 masters and 255 university graduates)

# Funding sources

- **Before 2007:**

- Most of funds come from government and international cooperation (planning period)

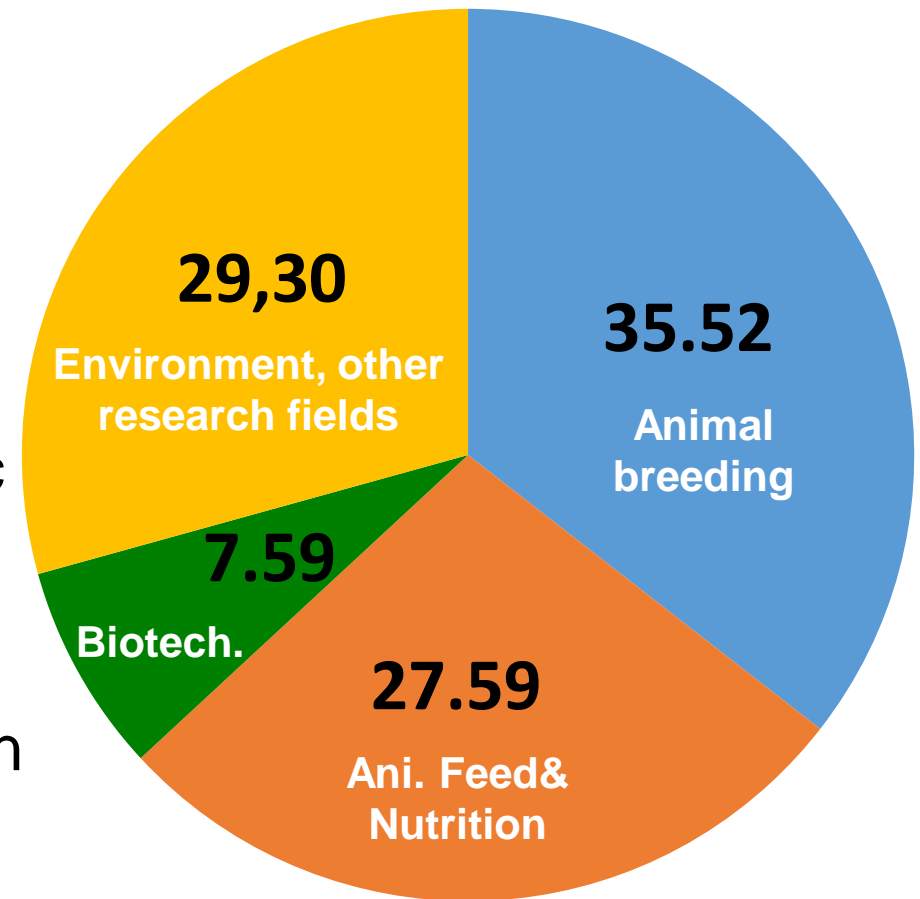
- **Since 2007:**

- Follows self-financial mechanism: open bidding projects; 1/2 staffs having salary from government.
- Projects and programs
  - Ministry of Science and Technology
  - Ministry of Agriculture and Rural Development
  - International projects
  - Provincial cooperation projects

# Research implementation

❖ Numbers of research topic in 2018: ❖ Research majors rate (%):

- 36 regular research topic.
- 14 national research topic
- 37 ministerial research topic
- 25 provincial research topic
- 08 international cooperation projects.





# Numbers of livestock

- Pig: 11.093 head
- Poultry: 9.177.000 heads
- Duck: 3.818.000 heads
- Muscovy duck: 706.000 heads
- Ostrich: 3.000 heads
- Dairy cattle: 500 heads
- Beef cattle: 1.000 heads
- Buffalo: 200 heads
- Semen (buffalo, cattle): 1.000.000 straws



# TYPICAL RESEARCH RESULTS

## a. Pig Breed

Select and improve the performance of pig breeds (Landrace, Yorkshire, Duroc, Pietrain, VCN01 and VCN02) to create the lines high quality provide the product on the country.





# VCN-MS15 breed



# Commercial boar lines

- 3 combinations (PiL, PiD và DPi) meets requirement of farm production and appreciated by farmers
- The combination can obtain the gainweight of (748,59 – 756,42 g/day).

**Pure Duroc**



**Pure Pietran**



**Hybreed of PiDu**





## **b. Poultry breeds**

The number of poultry breeds are selection and breeding by NIAS, accounting for about 30% market share in poultry breed in Vietnam.



**This research result was awarded “golden rice” of MARD- 2012, 2015 (Chichen Ri straw yellow, TP, HA, GA; Duck V2, V7)**

# Local chicken breeds



**Improved H'Mong chicken breed**



# Egg chicken lines



**VCN-G15 chicken lines**



**HA chicken lines**



# Colored Chicken

Colored Chicken lines LV (LV1, LV2, LV3)  
lines TP (TP1, TP2, TP3, TP4)







**Selection and breeding 3 colored chickenlines for household production (VP3, VP4, VP5)**

# Duck lines



**Supper egg lines : 280  
egg/year**



**Supper meat: TC1; TC2; TC3; TC4  
Body weight (5 weeks): 1,6-1,8 kg**



# Duck breeds



**The breed Sea duck TC adapted to saltwater, brackish water, captive ...**

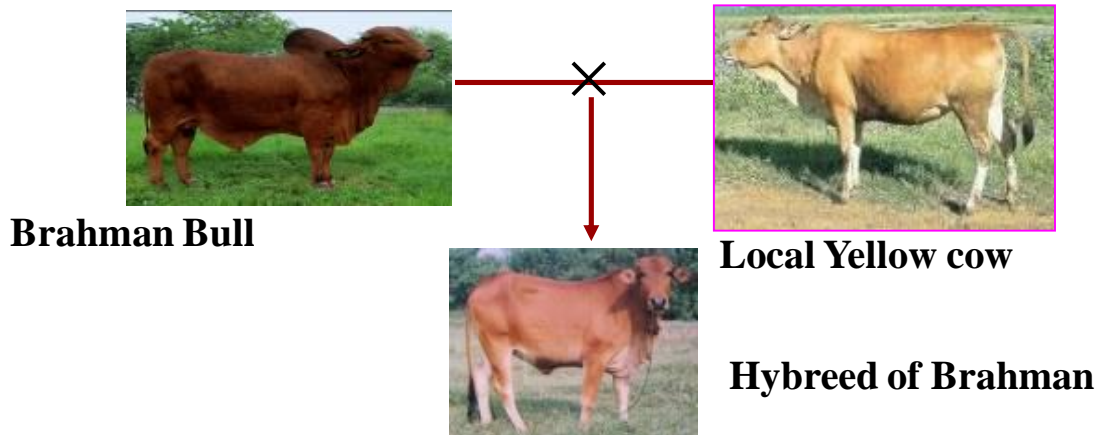
## c. Cattle/Buffalo/goat/sheeps

- Provide breeding animals/new breeds
- Provide semen for AI, all provinces in Vietnam (1.000.000 doses/year)
- Consultancy for livestock development (models in provinces)





# Formular for breeding of beef and dairy cattle in Viet Nam



**Beef cattle**

**Dairy cattle**



**Brahman**

**Droughmaster**

**Red Angus**

**Pure HF**

**Jersey**

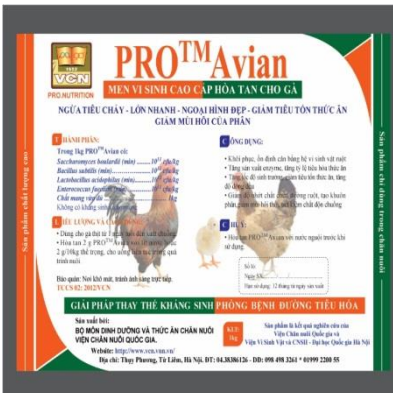
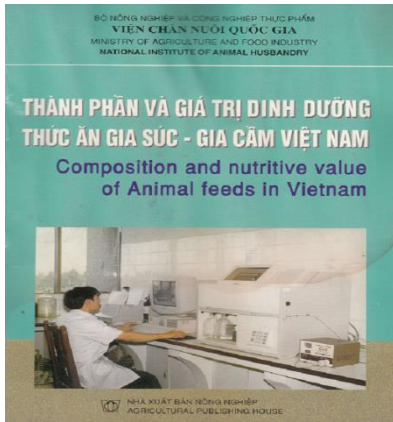


**Cross breed of beef cattle**

**Cross breed of dairy cattle**

# Animal Feed and Nutrition

- Publishing the book “Composition and nutritive value of animal feeds in Vietnam”
- Several products such as Probiotic, processing of by product for animals, mineral KL-01, use of herbal preparations to prevent or treat diarrhea for piglets, collection of forages for animals; ...







# Lab for animal product and feed analysis

- This lab is certified with ISO 17025 : 2005
- To analyse DM, OM, CP, CF, NDF, ADF, Ca, P and others: including micro elements, amino acid, toxin, growth hormone in feeds and animal tissues.





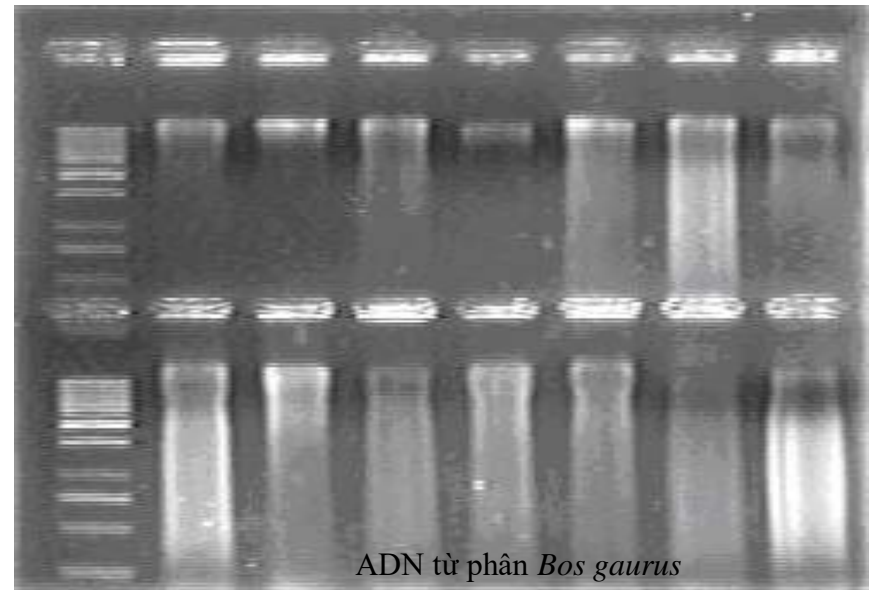
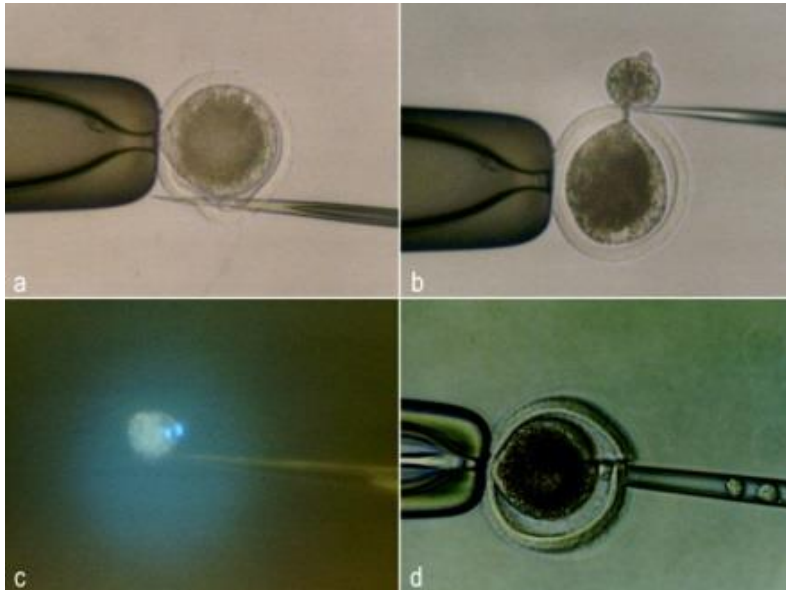
# National Key Lab for Animal Cells





## Application of Biotechnology

- Verification of pedigree of animals
- Identify the genes govern the productivities, quality support for selection and breeding.
- Identify the present of animal bone meal for animal feed.
- Produce invitro cloned embryo



# Research on breeding environment

- Research topic of MARD (2017-2018): Set up a waste management model in livestock slaughter facilities
  - Model of waste treatment in the slaughterhouse of cattle and buffaloes in Nam Dinh province;
  - Model of waste disposal in pig slaughter facilities of 3-<10 heads/day in Thai Binh province;
  - Model of waste disposal in pig slaughtering facilities of 10-20 heads/day in Hanoi city.





➤ Research topic of MARD (2017-2018): Assessment the pollution status causing by bio-slurry and propose solutions for improving the efficiency treatment of biogas plant constructions.

➤ Object:

- Evaluate the pollution status and its causes by bio-slurry.
- Proposing solutions to improve the efficiency of treatment of biogas plant constructions is suitable with the conditions of Vietnam.



# International cooperation projects on breeding environment (be proposing)

- Cooperate with Germany: Environmental and Climate Protection through Sustainable Agricultural Production - Developing National Ammonia and Nitrous Oxide Emission Inventories and Proposing Options for Sustainable Fertilizer Application in Viet Nam
- Cooperate with Korea: Improvement of Rural Settelement environment through proper Livestock waste management in Vietnam)
- Cooperate with Newzealand: Reseach the solution for using microalgae to manage livestock waste





**Thank you for your attention**

