Current Status of The Use of Reproductive Biotechnologies in Livestock Production in Cambodia
A. Basic Information

• Participant:
  1. Mr. Bondith Oudom, technical staff at Animal Production Research Institute (APRI)
     Email: obondith@gmail.com, Mobile: (855) 99 525 550

• Organization: Department of Animal Health & Production (DAHP), Ministry of Agriculture, Forestry and Fisheries (MAFF)
Introduction

• **Location:** Southeastern Asia, bordering the Gulf of Thailand, between Thailand, Vietnam, and Laos

• **Area:** Total = 181,035 sq km, country comparison to the world 90

• **Climate:** tropical; rainy, monsoon season (May to November); dry season (December to April); little seasonal temperature variation

• **Terrain:** mostly low, flat plains; mountains in southwest and north

• **Natural hazards:** monsoonal rains (June to November); flooding; occasional droughts
Economy

• GDP real growth rate: 7% (2013 est.)
• GDP per capita: $2,600 (2013 est.), comparison to the world 186
• Labor force by sector: agriculture: 55.8%, industry: 16.9%, services: 27.3% (2010 est.)
• Riels (KHR) per US dollar (exchange rate per dollar is fluctuating around 4,000KHR
Agriculture

• About 80% of population are doing farming. Women contribute a significant role in farming.

• **Product:** Rice, rubber, corn, vegetables, cashews, cassava, silk, etc.

• Crop production and livestock farming generate major incomes for households in rural area.
Cambodia GDP 2013

Consumption by section of origin

- Agriculture: 35%
- Industry: 25%
- Services: 41%

Composition of Sub-Sectors in Agriculture

- Crop Production: 53%
- Fisheries: 25%
- Livestock Production: 15%
- Forestry & Logging: 7%
Key Development Strategic Planning & Govt. Rectangle Strategies 2014-2018

Poverty Reduction 1%/Year

GDP Growth Approx. 7%

Agriculture growth: 3-4%

Govt. Rectangular Strategies Phase III

Rectangle I: Promotion of Agriculture

Side 2: Promotion of Livestock Farming & Aquaculture

Program 2: Promotion of Animal Health and Production (consists of 9 sub-programs)

Livestock increase 3%/year, prevent and reduce animal diseases & zoonosis
Livestock Statistic

Source: DAHP Annual report, 2014
Meat Price Comparison (KHR)

Source: DAHP Annual report, 2014

- Beef/B meat: 29,800 (2013), 35,150 (2014), 16.5% increase
- Pork: 14,500 (2013), 16,900 (2014), 12.0% increase
- Chicken: 16,000 (2013), 17,900 (2014), 3.85-10.42% increase
- Chicken egg: 480 (2013), 530 (2014)

18.0% increase in total meat prices from 2013 to 2014.
Meat Consumption Per Capita

TREND OF ANNUAL PER CAPITA CONSUMPTION IN CAMBODIA

- Meat, total
- Beef and buffalo
- Pork
- Poultry
- Milk, total
- Eggs, total

Source: FAO & MAFF
Cattle Export, Import, Transit

Source: DAHP Annual report, 2014
Animal Production in Cambodia

• Small holder
  • Purpose: drought power, sold
  • Keep a few cattle per household; scavenging
  • The number of cattle has decreased 11.12%
  • Natural mating and inbreeding, limited AI programs
  • Many stocks are mulnutrition (lacking of fodder programs, insufficient feeding, decrease of padlock, etc.)

• Commercial farming
  • The number of cattle has increased 18%
  • 30 farms (5,449 heads) in 2013; 40 farms (6,478 heads) in 2014
Cattle Artificial Insemination

AI service done by inseminator from OAHP

AI material and technique demonstration

Santa Offspring
Offspring from crossbred using AI Technologies

Simmental offspring

Limousine offspring

Red Brahman offspring
Experiment on Cattle Semen Processing at APRI
Artificial Insemination and Embryo Transfer Programs

• Animal breed improvement through R&D is at the agenda of MAFF and Department of Animal Health and Production.

• SLPP project to promote cattle artificial insemination, completed

• IAEA has supported on some laboratories for cattle frozen semen technologies, Present

• Funded program by EU on the component of Improving breeding stock (frozen semen production, cattle & swine AI provisions to farmers, technical staff’s capacity building, and feed analysis), Present

• Embryo transfer and other reproductive biotechnologies has never been introduced
Issues and Challenges on Artificial Insemination Program and Policy

- Lack of technicians, limited research capacity and budget to implement AI, ET, and other reproductive biotechnologies
- Lack of technologies, laboratory & equipment. Slow development and improvement in artificial insemination and embryo transfer
- There is no national AI center established yet
- Slow absorption of technology by the rural community;
- Insufficient extension on AI and the instability of livestock market
- Lack of animal health and production legislation. Livestock strategies/policies is still drafted
THANK FOR YOUR ATTENTION