Status of Livestock Reproduction and the Use of Advanced Reproductive Biotechnologies in the Philippines

International Training Course on Dairy Herd Improvement by the Use of Reproductive Biotechnologies
Philippine Carabao Center National Headquarters
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Overview of Livestock Sector

- Philippine is an agricultural country with economic growth of 6.3% on 2013
- 10% of 2013 GDP is contributed by agri-fisheries sector
- 1.2% growth in Agri-industry on 2013 despite calamities
- 16.2% of Agri-industry is contributed by livestock sector (1.8% growth)
## Overview of Livestock Sector

<table>
<thead>
<tr>
<th>Animal Species</th>
<th>Backyard (Percent)</th>
<th>Commercial (Percent)</th>
<th>Total (Million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Swine</td>
<td>65</td>
<td>35</td>
<td>11.80</td>
</tr>
<tr>
<td>Caprine</td>
<td>98</td>
<td>2</td>
<td>3.690</td>
</tr>
<tr>
<td>Bovine</td>
<td>93</td>
<td>7</td>
<td>2.504</td>
</tr>
<tr>
<td>Buffalo</td>
<td>99.5</td>
<td>0.5</td>
<td>2.84</td>
</tr>
</tbody>
</table>
The Philippines being a tropical country, does not favour the dairy production.

Also, the native breed of the country produce low volume of milk.

For these reasons, the importation of dairy produce is HIGH.
Dairy Industry

- Only 2% of the demand can be supplied by locally produced milk
- To compensate for the low milk production, the country has imported several dairy breeds that can withstand the country’s climate
Dairy Industry

With the importation of these breeds and intensified crossbreeding program,

The country’s milk production was reported to increase 5.5% for 2013 and has been steadily increasing
As of January 1, 2015, the total dairy animal population was **40,322 hd**.
ARTIFICIAL INSEMINATION (AI)

EMBRYO TRANSFER and Related Biotechnologies
Artificial Insemination

- AI is the most commonly used biotechnology in the country
- Has been used since the establishment of National Artificial Breeding Center (NABC) in 1965
The Department of Agriculture (DA) harmonized the AI efforts of the national agencies through **Unified National Artificial Insemination Program (UNAIP)**
Started in 2001, UNAIP provides better opportunities for livestock farming communities to use AI by enhancing their competitiveness through an institutionalized AI delivery system at the village level.
In 1982, the Philippine Carabao Research and Development Center (PCRDC), with the aid of UNDP/FAO initiated the Crossbreeding Program in Water Buffaloes through AI
- Philippine Carabao Center (PCC) intensified the program in 1997 resulted in the production of thousands of crossbreed buffalo calves

- In 2006, PCC launched a program dubbed as “Expanding the Reach of AI Program for the Acceleration of Dairy Herd Build-up”
This aims to hasten the expansion of the country’s dairy herd thru the training of Village-Base AI Technician (VBAIT)
Currently, PCC is putting efforts on enhancing the AI efficiency as part of the national genetic improvement programs for buffaloes.
Embryo Transfer and Related Biotechnologies

Several numbers of calves from both fresh and vitrified embryos in villages and institutional herd were produced.

This is due to the effort of PCC on developing and improving the technique as an instrument for livestock genetic program.
Phil. Livestock Biotechnology

- Mandated as lead entity in Livestock Biotechnology Research and Development
- PCC continues to put efforts in improving and optimizing reproductive biotechnologies
  - In Vitro Embryo Production
  - Ovum Pick-up
  - Multiple Ovulation Embryo Transfer
Thank you…