WELCOME TO PROJECT END WORKSHOP
ACIAR 05/86: Best Practice Cattle Health & Production
Cambodia

Project Final Workshop
July 7th & 8th, 2012
Phnom Penh

Project Achievement: where from, where to

- ACIAR
- Project concepts, objectives, methods, team
- Preliminary results
- Implications
- Workshop plan

What is ACIAR for?

What do ACIAR Research Programs do?
Livestock Research Partnerships in the Mekong
Animal Health Program
Livestock Production Systems

Livestock Programs

Background and Justification

Why livestock research partnerships between Cambodia/Laos and Australia?

- Smallholder importance
- Income potential
- Transit route for movement
- Strong Markets
- Australian benefits and expertise

Cambodia 18 March 2011
**Strategies and Partnerships**

*Why do we work here... and with these institutions?*

- Meet Development Needs and Priorities
- Within Australian development strategy
- Research capacity: government / Provinces / NGOs
- High probability of benefits: simple, effective, adoptable
- Relationships and Networks

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**Objectives and Outputs**

*What are program level objectives and outputs?*

- Develop and support Projects to deliver:
  - Understanding of livestock systems, markets, institutions
  - Improved and sustainable technologies and practices
  - Options for policy and practice change....

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**Understanding constraints to improved productivity**

- Malnutrition: Energy, Protein
- Disease: Transboundary Parasitic

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**Improving Production System Efficiency**

- Health
- Growth
- Nutrition
- Reproduction
- Genetics
- Marketing
- Social & Financial Returns
Participatory farmer learning:
knowledge improves attitudes improves practices

Aim: find best practice methods to:
- Improve the smallholder farmer knowledge of cattle disease control and husbandry
- Increase productivity and income from large ruminant production systems in Cambodia

Project Team
- Cambodian Department of AH & P
- University of Sydney Australia
- Cambodian Ag. Extension Department
- Royal Academy of Cambodia
- External consultants
- Stakeholders
Project sites

- Six villages in 3 provinces:
  - 2 villages/province: LI (low intervention control) versus HI (high intervention village)
  - 250 animals enrolled/village
  - 647 households
- Takeo:
  - Nor Mor & Dem Kdet (Trang & TramKok)
- Kampong Cham:
  - Veal & Sen Son Tbong (Prey Chor)
- Kandal:
  - Koh Kor & Preak Por (Sang)

Project Objectives

Research methods & interventions that increase productivity of smallholder large ruminant operations in Cambodia

1. Confirm current knowledge of disease limitations
2. Implement interventions preventing key diseases and managing reproduction
3. Assess attitude and knowledge of farmers to health husbandry & marketing
4. Improve the knowledge of cattle supply chain

Project Methods

3-year longitudinal study in six villages
- Collect biannual productivity data
  - Weight, morbidity, mortality, calving, joining, husbandry, movements, prices
  - Disease surveillance
- Gradual introduction of interventions
- Participatory research: interventions accepted and implementable
  - Farmer knowledge survey: start-end
  - Trader survey: start-end

What does the project look like?

<table>
<thead>
<tr>
<th>LOW INTERVENTION</th>
<th>HIGH INTERVENTION</th>
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<tbody>
<tr>
<td>HS vaccine</td>
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<tr>
<td>FMD vaccine</td>
<td>Yes</td>
</tr>
<tr>
<td>Int Parasites</td>
<td>Dx &amp; advise</td>
</tr>
<tr>
<td>Ext parasites</td>
<td>Dx &amp; advise</td>
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<tr>
<td>Calf Disease</td>
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<tr>
<td>Other disease</td>
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<tr>
<td>Brucella screen</td>
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<tr>
<td>VVW training</td>
<td>Yes</td>
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<tr>
<td>Forages enhancements</td>
<td>Observe</td>
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<tr>
<td>Nutrition training</td>
<td>No</td>
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<tr>
<td>Market analysis</td>
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<tr>
<td>Breeding management</td>
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<td>Biosecurity</td>
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<tr>
<td>Market intervention</td>
<td>Yes Breeding</td>
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<tr>
<td>Management</td>
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### TIMELINE

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<th>2010</th>
<th>2011</th>
<th>2012</th>
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<td>May/June</td>
<td>July</td>
<td>Aug/Sept</td>
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<td>DC2</td>
<td>DC3</td>
<td>DC4</td>
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<td>DC2</td>
<td>FS1</td>
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<td>ACIAR Review</td>
<td>Collaborative projects Workshop</td>
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**W: Implementation/Mid/Final Workshops**

**FTS: Farmer/trader survey, KAP survey**

**DC: Data collection, T: Training (FTx4)**

### Program Themes

**Day 1**

- 1: Improving Health
- 2: Improving Production
- 3: Improving Trade
- 4: Improving Knowledge and Capacity

**Discussion**

- Workshop: making it happen, what next

### PCP:
Progressive Control Pathway for FMD

- **Stage 0**: Identified risk and control actions
- **Stage 1**: Implement risk-based control
- **Stage 2**: Develop aggressive strategy to eliminate FMD
- **Stage 3**: Maintain zero circulation & surveillance, withdraw vaccination
- **Stage 4**: Maintain zero circulation & surveillance, apply for official status
- **Stage 5**: Implement control strategy to eliminate circulation

**SERO Type O outbreaks in 2009**

- **O Cathay**
- **O SEA Mya98**
- **O Pan Asia**
In 2010, 82 outbreaks of FMD from 17 provinces, involving 60,368 large ruminants; mostly O serotype, rarely Asia 1. This was achieved through participatory ‘applied field research’, ‘on the job’ training plus ‘formal’ training programmes. No cases of FMD were recorded during the study in the ‘HI’ villages despite occurrence of the disease in a nearby ‘LI’ and many other villages in the 3 provinces.

Whilst it is likely that protection of these villages was by vaccination, it could also have been partly due to a decrease in risk behaviours by farmers as from their increasing knowledge of biosecurity.
The average post-FMD loss varied from a 54% reduction from the pre-FMD value because of weight loss and treatment costs, to a 92% reduction from pre-FMD values if the animal was treated, died and a rental draft replacement was required.

Partial budget analysis identified a strongly positive incentive for cattle to be vaccinated biannually for FMD, providing USD 31.48 per animal for each animal owned.