

Report of the Thirty-second Session of the Animal Production and Health Commission for Asia and the Pacific (APHCA)

Bangkok, Thailand, 27-30 October 2008



THE EIGHTEEN APHCA MEMBER COUNTRIES

AUSTRALIA

BANGLADESH

BHUTAN

INDIA

INDONESIA

IRAN

DPR KOREA

LAO PDR

MALAYSIA

MONGOLIA

MYANMAR

NEPAL

PAKISTAN

PAPUA NEW GUINEA

PHILIPPINES

SAMOA

SRI LANKA

THAILAND



REPORT OF THE **THIRTY-SECOND SESSION OF THE ANIMAL PRODUCTION AND HEALTH COMMISSION FOR ASIA AND THE PACIFIC (APHCA)**

Bangkok, 27–30 October 2008

**FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS
REGIONAL OFFICE FOR ASIA AND THE PACIFIC
Bangkok, 2008**

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For a copy of the report and correspondence, please contact:

Senior Animal Production and Health Officer
and Secretary of APHCA
FAO Regional Office for Asia and the Pacific (RAP)
39 Maliwan Mansion, Phra Atit Road
Bangkok 10200, THAILAND

E-mail: Hans.Wagner@fao.org
FAO Homepage: <http://www.fao.org>

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Minutes of the 32nd APHCA Session

1. Due to last minute complications, the venue for the 32nd APHCA Session and the 69th APHCA Executive Committee Meeting was changed from Sydney, Australia to Bangkok, Thailand. While it was not upon government invitation, the Secretariat benefited from the change of venue to facilitate APHCA members' participation in the technical sessions and symposia of the 15th Congress of the Federation of Asian Veterinary Associations (FAVA), between 27 and 29 October 2008.
2. Normally, the APHCA business meeting is preceded by a meeting of the Executive Committee (Ex-Com). The Ex-Com members for 2007 – 2008 comprised:
 - Chairperson: Australia
 - Vice-chairperson: Nepal
 - Members: Mongolia, Bhutan, India
 - Ex-officio member: Lao PDR
3. However, the lack of a quorum at the Ex-Com Meeting on 26 October (only 2 Ex-Com members: Australia and India arrived at the meeting place, while the members from Bhutan, Mongolia and Nepal arrived later) meant that the designation of the new Ex-Com would need to be finalized on 30 October (the last day of the Session). The meeting on 26 October turned to be a pre-session discussion. By 30 October, the delegates were requested to nominate candidates for positions of Chair, Vice-chair and 3 new members of the Ex-Com. The Secretary reminded that Ex-Com members, as per APHCA's constitution, have to be elected annually. Delegates may consider as suggested in a previous session that – in order to guarantee some continuity – the Ex-Com should continue for two years. It was noted that the selection of venue could, if approved by members, alternate every other year between member countries and Thailand.
4. The 32nd APHCA Session was organized at the Rama Gardens Hotel, subsequent to the Registration and Opening of the 15th FAVA Congress which was held at the Sofitel Centara Hotel.

After being welcomed by Dr Mike Nunn, the APHCA Chairperson, the Session was formally opened by Dr He Changchui, Assistant Director-General and FAO Regional Representative for Asia and the Pacific. Dr He indicated that the Session was timely in the context of numerous challenges facing the livestock sector in Asia, particularly issues related to ensure food safety along the value chain. He challenged APHCA to enhance its reputation in the region as an advocacy body for regional livestock policy makers/industry stakeholders, particularly in the areas of animal health and disease control, enhancing food safety of livestock products and supporting overall development of the sector. *(Dr He's opening speech appears in Annex a.)*

5. After opening the Session, the Chairperson presented the agenda, requesting endorsement by APHCA delegates. There was no objection; and thus, the agenda was adopted. (*The Agenda appears as Annex b.*) There were 11 delegates (from Australia, Bangladesh, Bhutan, India, Indonesia, Malaysia, Myanmar, Papua New Guinea, Samoa, Sri Lanka and Thailand) participating the Session on 27 October, while the delegates from Mongolia and Nepal arrived later. (*The list of participants appears as Annex c.*)
6. The Minutes of the 31st Session (*Annex d*) were presented and the delegates were reminded that the minutes had been reviewed and approved at the last meeting. There was no further discussion on the Minutes.
7. The Secretary initiated his review of APHCA activities with summary of the staffing situation for APHCA and the Livestock Group at FAO RAP. He provided a comprehensive overview of FAO and APHCA activities over the past year. These activities range from animal disease control – to support for food safety through enhanced abattoirs and meat inspection – to smallholder dairy development. The participants were informed that under the FAO Avian Influenza programme currently US\$140.8 million has been spent in the region and US\$42 million is currently in the pipeline. FAO has also provided support on disease control related to FMD, PRRS, and Bluetongue (more detailed information was provided by technical staff). New FAO-financed TCP projects have been initiated in dairy cattle improvement (2) and improved meat hygiene (1). (*A more detailed summary of activities can be found in Annex e.*)
8. The Secretary presented an overview of APHCA's financial situation. A detailed review of the budget and a copy of the financial statement is included in the *Annex f* of the minutes of the Session. Currently, APHCA has a cash balance of US\$374,000, not including the US\$24,403 of arrears paid by Iran in early October 2008. (*Details can be found in Annex f.*) Members were informed that considerable amount of interest has been generated; however, these funds can only be used for specific activities approved by the Ex-Com. They have only been used once before and countries are urged to submit ideas on using these funds. The financial report for 2007 was approved by the delegates. The Status of Contributions was reviewed and the Secretary noted that Iran had paid its arrears only last week. Bangladesh and the Philippines had the highest arrears. The scale of contributions was reviewed, with contributions ranging from US\$10,724 to minimum payment of US\$2,181 the total annual contribution amount to US\$ 88,000.
9. Countries were reminded about the opportunity to use the TCDC programme. The Chairperson encouraged members to submit ideas to benefit from this facilitate and the Group was informed about technical expertise in the Philippines to provide regional training in humane slaughter and small-scale meat processing.
10. Updates on the progressed activities and technical presentations by FAO technical staff:

- The delegates were informed about activities supporting smallholder dairy development undertaken over the past year. The presentation by the Livestock Policy Officer indicated that the regional dairy development strategy, supported by funding from APHCA, is attracting country level and donor interest from around the region. Delegates are encouraged to have their Ministries submit letters of endorsement. Participants were informed that an informal technical meeting focused on designing dairy development strategies will be held in November 2008. In addition, delegates noted with interest that the CFC has informally committed itself to the funding of a regional dairy project. (*Annex g (i).*)
- Other sector specific activities undertaken over the past year include the development of a conceptual framework for assessing the competitiveness of hog sectors around the region. This framework was circulated to delegates and they were informed that joint funding from USAID/FAO/EU were used to implement a case study in Cambodia which assessed issues affecting overall competitiveness of sector's around the region. It is expected that more case studies will be undertaken in 2009. (*Annex g (ii).*)
- An update on the status of activities relating to slaughterhouse design and meat inspection was presented. In follow-up to the regional abattoir study undertaken in 2007, the Group was informed that the designs for small- and medium-sized abattoirs were being contracted and that they would be available for APHCA countries interested in using the designs for abattoir construction. While APHCA does not have the funds to support construction of abattoirs, countries are encouraged to fund them out of existing projects, such as the ADB project in Nepal. Delegates were also informed that a case study on meat inspection in Thailand was funded. Next year, more country studies on this topic will be undertaken with the objective of following this up with a regional workshop, possibly with the support of the STDF (Standard and Trade Development) Facility. Participants were reminded that a 2002 FAO publication on meat inspection received the highest number of internet hits on the FAO website. (*Annex g (iii).*)
- GF-TADs activities on FMD, CSF and PRRS (*Annex h (i)*). FMD activities are now focused on looking at the persistence of the FMD virus in the Asian swamp buffaloes and the role of FMD vaccination in the Lower Mekong. These activities are studies aimed at improving intervention strategies in the control of FMD in Southeast Asia. Other TCP activities were also reported in support to FMD control in the Philippines, Bangladesh, Cambodia and DPR Korea.
- A Workshop on CSF Regional Control Strategy for Southeast Asia was held in July 2008. The workshop which is a joint activity between FAO and OIE resulted in a draft outline to develop a regional strategy for CSF control which included a three-phased approach to eradicating CSF by 2020. The said strategy will be further developed into a strategy document that will be presented in the next ASEAN Working Group on Livestock.
- An emergency workshop on PRRS attended by Lao PDR, Vietnam, Cambodia, Myanmar, Philippines and the FAO Chief Technical Advisor (CTA) of China was held last year to discuss the epidemiology of PRRS, Control measures and the next steps for PRRS control. A regional TCP has been developed after this workshop and is now in the pipeline awaiting endorsement from at least three countries to get approval.

- The update on the work on FMD vaccine supply was reported. During the last APHCA session, the working group on FMD Vaccine Supply came up with three options, namely: establish an antigen bank with FMD types O, A and Asia-1, option 2 is to purchase FMD vaccines and option 3 is to make an arrangement with vaccine companies to make available FMD vaccines for use by countries during emergencies. Two vaccine companies provided proposals for a rolling stock of vaccines for consideration of the APHCA session. It was agreed then that a further meeting of the working group is required to develop a business plan which should be presented at the next. (*Annex h (ii).*)
- The session was reminded that there is a facility for member countries to avail of the Disease Emergency Assistance Fund. When countries are faced with a disease emergency a request for funds can be forwarded to the Secretariat. The fund can be used for outbreak investigation expenses, sample testing, purchase of supplies, etc. (*Annex h (iii).*)
- The Environmental Animal Health Management Initiative (EAHMI) which was implemented in the Philippines to explore and advocate alternative innovative approaches to animal disease management for smallholders, in a similar manner to that of Integrated Pest Management (IPM) for crop farmers jointly with FAO-APHCA conducted a workshop on GIS applications on animal health and production last March 2008. The workshop was attended by senior officers from 14 member countries. The recommendations focused on regional capacity building, institutional collaboration and further detailed training on GIS as applied to animal health. For next year, a proposed workshop on GIS for animal health is proposed to be held with a manual to be developed after the workshop to provide a reference guide for other users in the region. (*Annex h (iv).*)
- Status of avian influenza in the region (*Annex i*): – Dr Laurence Gleeson, outgoing Regional Manager for Emergency Centre for Transboundary Animal Diseases (ECTAD) in Asia-Pacific, presented a brief overview of the evolution of the disease in the region, discussed FAO’s responses, and provided some interesting analysis on the epidemiology of the disease. Participants were informed that countries around the region had enhanced their capacity to manage the disease; however, increased vigilance needs to be placed on the cross-border movements of the virus. Country delegates expressed their appreciation of Dr. Gleeson’s work, recognizing that he will soon be retiring.
- APHCA Joint Activities with OIE Asia-Pacific Office on Technical Capacity Building in Member Countries (*Annex j (i)*):
 - Activity on BSE and Other Prion Diseases: – The 3rd OIE/FAO-APHCA Regional Workshop and Working Group Meeting on BSE and Other Prion Diseases were held in Qingdao, PR China, between 23 and 25 September 2008. Eight working group members and 35 local observers participated in the Workshop. Proposal for APHCA TCDC fund of US\$5,000 was made to cover incurred expenditures and travel costs for 5 participants from APHCA member countries (the Working Group members) to participate in the 4th OIE/FAO-APHCA Regional Workshop and Working Group Meeting on BSE and Other Prion Diseases to be organized in Anyang, Rep. of Korea, in March 2010. (*Minutes of the 3rd Working Group meeting and the proposal for funding are attached as Annex j (ii)*);

- FAO-APHCA/OIE Regional Workshop on WTO's SPS Agreement (in collaboration with the DLD and FVM-CMU: – Delegates were briefed on the series on the Workshops on WTO's SPS Agreement, which were organized between 2001 and 2007. Proposal for the 7th joint Workshop with OIE Asia-Pacific Office, DLD and FVM-CMU in August – September 2009 was made. The OIE Asia-Pacific Office confirmed its co-sponsorship and cooperation. The main theme/topic of this workshop shall be confirmed, in agreement with the OIE (*Annex j*);
- FAO-APHCA/OIE Regional Workshop on Brucellosis Control and Diagnosis (with an emphasis on *B. melitensis*) was successfully organized between 20 and 23 October 2008. It is proposed that a follow-up workshop shall be organized in Khon Kaen, Thailand, tentatively in June – July 2009. Technical backstopping/supervision will be provided by the OIE/FAO Reference Laboratory for Brucellosis in France (c/o Dr Bruno Garin-Bastuji). The OIE Asia-Pacific Office confirmed its co-sponsoring in this Workshop while DLD confirmed its collaboration. A proposal was made for US\$15,000 from APHCA Trust Fund for the Workshop as well as an addition fund of US\$5,000 to cover the costs of: i) production of laboratory manuals for use as reference by member countries (on routine tests, i.e., RBT, CFT and iELISA – c/o Dr. Bruno Garin-Bastuji) and ii) RBT antigen (production costs to be covered by APHCA and the antigen to be produced by DLD). The antigen (*B. melitensis*) shall be provided to member countries and the delivery costs to be covered by the recipient countries (*Annex j*). (*The Conclusion and Recommendations from the Workshop are attached as Annex j (iii).*);
- OIE/FAO-APHCA Regional Workshop on Bluetongue Diagnosis and Control – The original request to organize this workshop was made by delegates from India and Iran at the 31st APHCA Session in 2007. Proposal for US\$15,000 for organization of the Workshop to be held in Bogor, Indonesia, between April and May 2009 was made. OIE Asia-Pacific Office agreed to co-sponsor. Technical and local collaborations shall be confirmed by the delegate from Australia (to provide an expert/invited speaker) and the DGLS/Government of Indonesia (to host the workshop) (*Annex j*);
- Veterinary Public Health: – Delegates were informed about the on-going activities on the joint MVPH courses (2 years' curriculum) at the FVM-CMU/the Free University of Berlin and the call for applications for scholarships by the DAAD (Germany) and the Royal Thai Government (4th batch students). Priority for these scholarships shall be given to applicants from the APHCA countries (*Annex j*).

Summary of trainings/workshops which were held and will be held towards the end of 2008

Dairy Strategy Workshop	Chiang Mai, Thailand	27-29 February 2008
GIS Application in Animal Production and Health	Quezon city, Philippines	3-7 March 2008
Workshop and Working Group Meeting on BSE and Other Prion Diseases	Qingdao, PR China	23-25 September 2008
Brucellosis Diagnosis and Control	Chiang Mai and Lampang, Thailand	20-23 October 2008
Dairy Policy Workshop	Bangkok, Thailand	17-20 November 2008

11. Dr Aung Gyi, the delegate from Myanmar, provided a detailed overview of the impact of the cyclone Nargis on the livestock sector in Myanmar. He identified the major areas of impact and provided an assessment on the animal losses in cyclone hit areas. He reviewed the response of LBVD, various NGOs, and donors to the emergency. In particular he highlighted the concerns about animal disease outbreaks, specifically FMD, and conveyed strong thanks to the Department of Livestock Development (DLD) in Thailand who responded to the emergency by supplying 50,000 doses each of FMD and HS vaccines as well as 3,000 liters of disinfectant supplies. APHCA expressed thanks and appreciation to DLD of Thailand for the generous support. *(Dr Aung Gyi's presentation appears as Annex k.)*
12. The Secretary provided the final presentation of the day, providing an overview of proposed activities for 2009 *(Annex e)*. Seven new activities are proposed and three activities are continued (already approved from last year). However, they will all have to be approved again for the 2009 budget for formal reasons. The total amount proposed to support these activities is US\$186,000.
13. The Chairperson concluded by requesting participants to review the proposed activities over the next few days. He also indicated that participants should review on-going activities are of interest to delegates. He cited the example of the Manpower Needs Assessment project which is being implemented in the South Pacific. Its objective is to identify gaps in animal health capacity in the region and to identify creative solutions to fill this gap.
14. The APHCA Business Session was adjourned at 5 p.m. to allow delegates to participate in the reception of the 15th FAVA Congress.

The Session was reconvened for Thursday 30 October 2008 at 9 a.m. with the following agenda items:

- Election of Ex-Com
- Approval of programme of work and budget for 2009
- Venue for the next Session
- Other business

15. The business session resumed on 30 October at 9 a.m. It was preceded by the 69th Ex-Com Meeting (*details appear in Annex l*).

The APHCA statutes require that the Ex-Com be elected every year. Already in previous sessions, it was suggested that – in order to provide continuity – the Ex-Com should serve for 2 terms. For this reason, it was proposed to the Session to re-elect the Ex-Com. This was endorsed by all delegates. As there was no further intervention, the members of the Executive Committee were considered re-elected as the follows:

- Chairperson: Australia
- Vice-chairperson: Nepal
- Members: Bhutan, India and Mongolia

16. The Secretary briefly presented again the proposed activities for 2009. (*Details of the proposed activities and budgets are shown in Annex m.*) The delegates approved the programme of work and the budget of US\$223,000 for 2009 as per the *Annex f*.
17. Other business: Dr Swarna Herath, delegate from Sri Lanka requested that a presentation on Study on Migratory Birds in Relation to Spread of Avian Influenza (by Scott Newman – FAO-AGAH) be made in Sri Lanka. The Secretariat informed her to send an official request to AGAH to provide the speaker.
18. Dr. Purushottam Mainali, delegate from Nepal proposed to host the 33rd APHCA Session in Pokahara, Nepal, where there are on-going TCP activities for field visits, tentatively in the last week of October 2009.
19. The Session was concluded by the Chairperson, who thanked all delegates and the APHCA Secretariat for their contributions to the Session. He particularly thanked Ms. Nancy Morgan, Livestock Policy Officer, who during her almost two years in RAP, has contributed to APHCA in the various initiatives and activities.

Opening Address
by
He Changchui
Assistant Director-General
and FAO Regional Representative for Asia and the Pacific

APHCA Chairperson - Mike Nunn,
Distinguished delegates,
Colleagues,
Ladies and gentlemen,

It is my great pleasure to welcome you all to the 32nd Session of APHCA here in Bangkok.

We apologize for any inconvenience involved in the last minute shifting of this 32nd APHCA session from Australia to Bangkok. We are delighted, however, that APHCA delegates will be able to participate and benefit from participation in the 15th Congress of the Federation of Asian Veterinary Associations. You have just participated in the royal opening of FAVA and after today's business session you will have the opportunity to participate fully in the FAVA Congress which has chosen the theme of *Food safety: veterinary roles for the world kitchen*.

Given increasing international attention to recent concerns about adulterated milk products and the ongoing discussion on the improvement of food safety standards in the region, we consider that the theme is timely and important and I expect that you would be able to actively participate in and contribute to interesting deliberations and discussions.

Providing an increasing global population with safe and nutritious food is the principle mandate of FAO. The Organization advocates a food chain approach for food safety and quality. Within this context, APHCA's priority emphasis on food safety is important and activities this year have focused on slaughter house enhancement and the improvement of meat hygiene in the region. This will continue to be one of the priorities of APHCA in its programme of work in the future.

Ladies and gentlemen,

Asia will continue to be the largest growth market for livestock products over the next decade. The region is also set to consume nearly 60 percent of expected global dairy output through the year 2017.

Against this progress, we note that over the last couple of years, natural disasters such as the floods in Bangladesh and India, the cyclone in Myanmar and

earthquakes in China have taken a heavy toll on livestock herds, and directly affected the livelihood of millions of livestock producers.

More importantly, we are at a crucial year, a year which is facing the simultaneous challenges of an unprecedented global financial tsunami and a global food crisis. There are increasing regional concerns about the combined impact on these crises on the livelihood of rural farmers and vulnerable communities, in addition to general concerns over food security and outbreaks of animal diseases.

Higher food prices are compelling governments to formulate policies which minimize the impact on urban poor, rural landless and other most vulnerable segments of societies. While food prices are declining from the record levels reached in June 2008, at present the FAO Food Price Index is still as much as 51 percent above the level in September 2006. This offers opportunities for development of local agricultural industries, including that of the livestock sector.

In this connection, APHCA's recent emphasis on smallholder dairy development was timely. Representatives of over 18 countries in the region were actively involved in the elaboration of an APHCA/FAO/CFC regional strategy for smallholder dairy development. The strategy has already attracted donor and private sector interest while countries in the region are pursuing dairy import substitutions and strengthening local supplies.

Livestock development has returned to the agenda of many of donors such as the World Bank, IFAD and ADB. However, while opportunities are in hand, the challenges are diverse and complex. Inadequate animal health legislation and services, disease surveillance, and gaps in food safety inspection of livestock products combine with financial constraints to limit the region's abilities to respond to these opportunities.

Livestock farming and the industry in the Asia Pacific region will continue to face numerous challenges in the future, not the least from climate change and other environmental pressures. In this context, APHCA should focus on positioning itself into a leadership role for livestock development in the region, serving as an advocate for both industry and policy makers, and mobilizing resources that empower governments and the private sector to strengthen sectors around the region.

We hope that you benefit from the FAVA Congress. But we also challenge you to actively contribute to discussions on how to enhance the visibility and impact of APHCA in the region and globally.

Before closing these opening remarks, I wish to thank and express my appreciation to Dr Sakchai, Director General of the Department of Livestock Development, for the continuous and voluntary support DLD provides to APHCA and to other APHCA member countries in need through the provision of drugs, vaccines and disinfectants.

Thank you very much for your kind attention and I wish you interesting and fruit full deliberations.

Tentative Agenda and Timetable

26 October 2008

69th APHCA Executive Committee Meeting

(17:00-18:30 hours at Executive Room 2, Rama Gardens Hotel)

- For delegates from Australia, Bhutan, India, Lao PDR, Mongolia and Nepal -

27 October 2008

32nd APHCA Session

(Orchid Room, Rama Gardens Hotel)

TIME	ITEM/ISSUE	by
11:00-12:00 RAP	Opening of the session	MN and ADG/RR-
	Adoption of the agenda	
	Induction of chairperson and election of executive committee members	
	Minutes of 31st session	
	Report on APHCA activities during 2007-2008	
	General report	HW
	Update on HPAI	LG
12:00-13:30	- Lunch break -	
	Small-scale Dairy Development – progress report	NM
	Enhancing the Competitiveness of Asian Swine Industries	NM
	Small-scale slaughterhouses – progress report	HW
13:30-15:40	Update of GF-TADs	
	Animal health, PPRS FMD	CB
	FMD vaccine bank	CB
	Environmental Animal Health Management	CB
	Emergency fund	HW/CB
	Food/feed safety	HW/CB
	BSE/Prion diseases	VS
	Brucellosis	VS
	LBVD report on assistance from DLD under APHCA emergency disease scheme	AG-LBVD

15:40-16:00	- Coffee break -	
16:00-17:00	Statement of accounts of APHCA and other financial matters	HW
	Future workplan/activities and APHCA budget for 2009	HW
18:00-21:00	Welcoming Reception (with FAVA Group at Sofitel Centara Grand)	

**28 and 29 October 2008
Participate in the 15th FAVA Congress
(Sofitel Centara Grand)**

**30 October 2008
32nd APHCA Session (continued)
(Lilavadee Room, Rama Gardens Hotel)**

	Provisional agenda for the 70th executive committee meeting and the 33rd session of APHCA	HW
09:00-10:00	Venue and dates for the 70th executive committee meeting and the 33rd session of APHCA	HW
	Other business	HW
10:00-10:30	- Coffee break -	
10:30-12:00	Adoption of the minutes/report of the session	HW
12:00-14:00	Lunch	

List of Participants

Dr Mike J Nunn
Principal Scientist (Animal Biosecurity)
Biosecurity Australia
Australian Government Department of
Agriculture, Fisheries and Forestry
Canberra ACT 2601
Australia
e-mail: mike.nunn@daff.gov.au;
mike.nunn@biosecurity.gov.au

Dr Sunil Chandra Ghosh
Director-General
Department of Livestock Services
Dhaka
Bangladesh
e-mail: dgdls@dotbd.com; dg_dls@yahoo.com

Dr Kinley Dorji
Chief Veterinary Officer
Department of Livestock
Thimpu
Bhutan
e-mail: kinlaydorji@yahoo.com

Dr A. Batobyal
Joint Commissioner (LP)
Department of Animal Husbandry Dairying
and Fisheries
New Delhi
India
e-mail: jclp@nic.in

Dr Agus Wiyono
Head, Sub-directorate of Animal Biosecurity
Directorate General of Livestock Services
Jakarta
Indonesia
e-mail: agusrini@indo.net.id

Dr Mohd. Zairi Serlan
Director, Department of Veterinary Services
c/o Pengarah Perkhidmatan Veterinary,
Kubang Kerian
16150 Kota Bharu
Kelantan
Malaysia
e-mail: zairi@jphnk.gov.my

Dr Nantsag Batsuuri
State Secretary
Ministry of Food and Agriculture
Ulaanbaatar-210349
Mongolia
e-mail: ng_batsuuri@yahoo.com

Dr Aung Gyi
Deputy Director-General/CVO
Livestock Breeding and Veterinary
Department
Insein, Yangon
Myanmar
e-mail: lbvd@mptmail.net.mm

Dr Purushottam Prasad Mainali
Director-General
Department of Livestock Services
Kathmandu
Nepal
e-mail: dgdls@ntc.net.np

Mr Peter Wai'in
Manager
National Veterinary Laboratory
Port Moresby
Papua New Guinea
e-mail: nvetlab@online.net.pg

Dr Sina Taulealo Moala
Principal Animal Health Officer
Animal Production and Health Division
Ministry of Agriculture and Fisheries
Avele
Samoa
e-mail: sina.taulealo@lesamoa.net

Dr H.M.S.P. Herath
Director-General
Department of Animal Production
and Health
Peradeniya
Sri Lanka
e-mail: hmspherath@hotmail.com;
dgdaph@sltnet.lk

Dr K.M.T. Kendaragama
(Accompanying Officer)
Assistant Director
Department of Animal Production
and Health
Peradeniya
Sri Lanka
e-mail: daphkmtk@sltnet.lk

Dr Tritsadee Chaosuancharoen
Deputy Director-General
Department of Livestock Development
Bangkok 10400
Thailand
e-mail: tritsadc@dld.go.th

Dr Prasit Chaithaweesup
(Accompanying Officer)
Director, Livestock International Affairs
Bureau of Disease Control and Veterinary
Services
Department of Livestock Development
Bangkok 10400
Thailand
e-mail: dcontrol9@dld.go.th

The APHCA Secretariat

Dr Hans-Gerhard Wagner
Senior Animal Production and Health
Officer and Secretary of APHCA
FAO Regional Office for Asia and the
Pacific
Bangkok 10200
e-mail: hans.wanger@fao.org

Ms Nancy Morgan
Livestock Policy Officer
FAO Regional Office for Asia and the
Pacific
Bangkok 10200
e-mail: nancy.morgan@fao.org

Dr Carolyn Benigno
Animal Health Officer
FAO Regional Office for Asia and the
Pacific
Bangkok 10200
e-mail: carolyn.benigno@fao.org

Dr Vishnu Songkitti
Liaison Officer for APHCA
FAO Regional Office for Asia and the
Pacific
Bangkok 10200
e-mail: vishnu.songkitti@fao.org

Ms Tuanchai Laisakun
Secretary
Livestock Section
FAO Regional Office for Asia and the
Pacific
Bangkok 10200
e-mail: tuanchai.laisakun@fao.org

Ms Nawarat Chalermkao
APHCA Consultant
FAO Regional Office for Asia and the
Pacific
Bangkok 10200
e-mail: nawarat.chalermkao@fao.org

Ms Yupaporn Simuangngam
APHCA IT Clerk
FAO Regional Office for Asia and the
Pacific
Bangkok 10200
e-mail: yupaporn.simuangngam@fao.org

Minutes of the APHCA 31st Session

(Chiang Mai, Thailand, 29 October - 1 November 2007)

1. The venue for the APHCA Session was changed at the last minute to Thailand from Myanmar; consequentially the Session was not upon government invitation. The Secretary delivered his introductory and welcoming remark. Mr Bounkhouang Khambounheuang, APHCA's out-going Chairperson and the Director-General of the Department of Livestock and Fisheries of Lao PDR, welcomed the 14 APHCA delegates¹, the OIE representative, and the technical resource persons for the following Workshop on Livestock Management in Emergencies. The opening address was delivered by the Vice-chairperson/delegate of Thailand, who officially declared the session open.

2. The agenda of the 31st Session and the Workshop on Livestock Management in Emergencies was adopted.

3. The delegates were invited to nominate candidates for position as Chair, Vice-Chair; in addition 3 new members of the Executive Committee (Ex-Com) need to be elected. The Secretariat reminded countries that they can only be considered as part of the executive committee if the countries arrears are up to date. Sri Lanka nominated Australia (Mr Nunn) to be next Chairperson of APHCA; this was seconded by Thailand. Thailand proposed Nepal (Mr Purushottam Mainali) as Vice-chair. Three additional executive committee members were proposed and accepted: Myanmar proposed Mongolia (Mr. Batsuuri Nantsag); India proposed Bhutan (Mr Karma Tenzing) and Lao PDR proposed India (Mr A. Batobyal). As no further proposals were received, the countries were accepted.

The current executive committee comprises:

Chairperson:	Australia
Vice-chairperson	Nepal
Members:	Mongolia, Bhutan, India
Ex-officio member:	Lao PDR

4. The Minutes of the 30th Session (sent previously to all APHCA members) were reviewed and approved, as well as the Minutes of the 66th and 67th Ex-Com.

5. The Secretary presented the activity report of the APHCA Secretariat, as well as general FAO activities in the region. He introduced the 17th member of APHCA - Samoa - represented by Mr. Tiatia Faleupolu Tevita. Mr Tevita, Assistant Chief

¹ (Indonesia, Malaysia and Papua New Guinea not represented)

Executive Officer of the Animal Production and Health Division of the Ministry of Agriculture and Fisheries, signaled his commitment to Samoa's active engagement within APHCA.

6. The Secretariat was requested for a clarification on TCDC (which is a facility from which funds can be drawn to support training and exchange of experts amongst APHCA countries), in particular how funds can be accessed from this facility. They were informed that the process involves submitting a request to APHCA secretariat which will then circulate the request to the Ex-Com for approval.

7. The Secretary provided an overall review of APHCA's financial situation and presented the status of contributions as of the end of September 2007. The cash balance of the organization in January 2007 was US\$ 378,699 plus US\$ 69,391 of accumulated interests. The approved budget for 2007 is US\$203,500. As of the end of September, US\$73,875 of these funds have been spent; however, commitment have been made which are not accounted for as final expenditures. The final expected expenditures for 2007 will be around US\$120,000. This compares to total expenditures of US\$73,604 made in 2006. While the financial situation of APHCA is very healthy compared to a decade ago, the Secretariat recommended that a system be adopted and formalized by APHCA that allows for a regular increase in subscription payments by members. Current country specific arrears will likely be reduced to US\$52,918 by the end of 2007.

8. Technical Presentations:

- The Group reviewed some of the **current factors affecting global and regional livestock markets** and was informed about various challenges facing industries which include not only animal disease, but food safety, livestock identification and traceability, animal welfare issues, market access and competition for markets-both external and domestic, and the challenges facing smallholder in markets which are being more driven by larger companies and retailers
- A review of the outcomes of the July meeting on **animal identification/traceability** was presented to delegates. A regional TCP should be prepared in 2008 to assist member countries to establish pilot animal identification and traceability schemes. These pilots should preferably be attached to ongoing/new TCPs/Projects on breeding and livestock development.
- **Small scale slaughterhouses:** The status of Asian abattoirs was reviewed with the assistance of a paper commissioned by the Secretariat. The overview includes not only a description of the design specification but also the cost of equipment. The activity will be continued as per the agreed proposal. Construction plans for different sizes, species and combination of species will be developed and pilot plants will be established in collaboration with countries connected to ongoing projects or with country funding.

- The Group was updated on the status of the CFC/APHCA project on the **development of a regional strategy for dairy development**. Lessons learned from 9 country case studies were presented, the Group was informed that 3-4 detailed value chain studies would be undertaken and that the strategy developed would have to be “action-oriented” and of use for the region’s policy-makers, industry stakeholders. In addition, it should be of interest to donors as an entry point for dairy development. A final workshop, which will draw on APHCA member countries’ expertise, is planned to be held in Chiang Mai, Thailand, during 5-8 February 2008. APHCA representatives are requested to submit names of two country specific representatives, one of whom should be from the private sector.
- An update was provided on the **establishment of an FMD vaccine bank**. This was an initiative previously proposed by APHCA. The Secretariat was authorized to continue negotiations with possible commercial suppliers.
- Delegates were informed about the availability of funds under the **Disease Emergency Assistance Fund**, (up to US\$25,000 with an initial disbursement of US\$5,000). The process for obtaining these funds was outlined. The process will be detailed in a document and sent to countries.
- **Priority TADs in the region:** an update was presented, the highlights of which are the following: FMD is present in East, South and Central Asia. CSF is present in East Asia while HS is an important disease in Asia with the highest incidence appearing to be in SEA. PPR outbreaks are now common in a number of countries in the region. China recently reported its first case. In addition, an apparently new highly pathogenic type of PRRS was officially reported in China and Vietnam. APHCA participated in the OIE 2nd GF-TADs Steering Committee meeting held in Bangkok in July 2007, a summary of which was presented to the Group.
- **Update on HPAI in Asia:** The status of HPAI outbreaks over the past three months in Asia was reviewed and FAO’s responses, through the use of TCPs and emergency projects focused at national, regional, international level, were reviewed. Since 2004, approximately US\$91 million have been allocated to Asia. National interventions have focused on better understanding the risks and providing capacity to enhance diagnosis, surveillance and responses. Regional activities include developing networks on surveillance and diagnosis (minimal standards for diagnostic facilities and testing procedures, regional quality control and assurance schemes), socio-economic assessment, improved animal disease information systems (TAD info), and support to HPAI control through regional political organizations.

FAO highlighted the improving situation of HPAI, revealed by fewer outbreaks and increased capacity in-countries to respond to outbreaks. However, movement and trade still carry risks of disease transmission; practices carry human health risks; cross-border issues are still of

considerable concern (poultry, medicine, crates, egg trays, shifting investment). Training is considered to be of limited support in building capacity and the provision of sophisticated laboratory equipment, and expensive diagnostic test kits is not considered to be a sustainable solution. Capacity of disease detection/reporting can be improved but that the timeliness and comprehensiveness of reporting is the responsibility of industries/policy-makers in-country. FAO's activities will move from provision of equipment/short-term training to supporting in-country capacity building of animal health systems.

- **Environmental Animal Health Management Initiative (GIS Applications in Animal Production and Health): David Bourn**

This project in the Philippines could build into a regional knowledge network sharing initiative. The project is an institutional strengthening and capacity-building project, started in January 2006 with a duration of three years. This project is a new holistic approach to animal disease control with particular relevance to smallholders but also applicable to medium and large-scale producers. The process starts with mapping of animal densities and the conversion of these indicators into animal biomass indicators. Multivariate spatial analysis and distribution analysis can be conducted using this density information and other detailed environmental parameters (which are remotely sensed).

The objective is the mapping of risks of animal disease outbreaks to facilitate disease surveillance/control mechanisms. The modelling component allows extrapolation of disease risk into those areas without good or complete data. Risks of animal disease transmission derived from information on transport information: ports, roads/trains, airports are important predictors of disease distribution, as well as proximity to market demand/urban centers. GIS maps can be used for policy formulation, strategic and intervention planning and are helpful for targeting pro-poor poverty interventions. There is great potential for this type of information but its usefulness is conditional on data availability and reliability.

9. Overview of Technical Training Held over 2007:

- *BSE/prion disease diagnosis and WTO's SPS Agreement and VPH workshops. The advanced hands-on training workshop on BSE diagnosis and surveillance was held in Japan in January 2007 (a workshop that built on previous training workshops started in 2001 - three workshops in Thailand, two advanced workshops in Japan, one in 2005 and the other in January 2007). Inter-regional collaboration has been generated and China has volunteered to convene a technical symposium on BSE between June and October 2008. APHCA proposes to provide support to members to attend this meeting and OIE has agreed to provide matching co-sponsorship (details to be discussed between APHCA and OIE-Tokyo Office).*

- 35 participants from 18 countries attended the 6th Regional Workshop on *WTO's SPS workshop* held in Chiang Mai in late July - August 2007. Participants recommended that these types of workshops be continued, looking at emerging animal diseases and impact on trade.
- *VPH*: APHCA supports the Faculty of Veterinary Medicine of Chiang Mai University (linked to Free University of Berlin) in areas of training in veterinary public health. Three batches of students have been recruited from Asia-Pacific Region with priority given to candidates from APHCA countries (currently students come from Bhutan, India, Lao PDR, Myanmar, Nepal, Sri Lanka and Thailand).
 - An emergency workshop on PRRS was held in Bangkok in September and attended by representatives from Vietnam, Cambodia, Lao PDR, Myanmar, Philippines and China (FAO Technical Advisor). The workshop focused on the disease, identifying country needs/gaps, and planning the way forward. The workshop report will be made available to countries.
- *Food Safety Workshop (OIE/FAO-APHCA)*. This workshop was held in Chiang Mai in October 2007 to identify priority areas in food safety, with discussions centered on a report drafted by John Copland. 17 countries were represented. Country groupings (4 based on characteristics of the individual countries) were established. Priority issues were identified, including abattoirs, meat inspection, capacity building (human, laboratories, etc), consumer awareness, coordination (with private sector, resource sharing, Ministry of Health, etc), and legislation.
- *Target-based Surveillance Workshop* in July 2007 (funded by FAO-OIE/APHCA/ECTAD): the objective of this workshop was the design of risk-based surveillance (RBS) with 25 participants from 18 countries. Concepts/trends/drivers of risk-based surveillance were reviewed and the differences between it and conventional surveillance/risk factor studies were examined. RBS is country-specific, based on epidemiological status of the individual country and is a good cost-effective tool for control of disease which should be promoted internationally.

10. Future workplans/activities: The Secretary proposed the following activities for the 2008 period:

Continued activities from 2007:

- Smallholder Dairy Development
- Small/Medium-size Abattoirs
- Animal Identification and Traceability
- Development of a Knowledge Network with APAARI and ILRI
- *New Initiatives*
- Workshop/Seminar on Environmental Animal Health Management
- Economic Incentives and Training to Ensure Food Safety Along the Livestock Food Chain
- Enhancing the Competitiveness of Asian Swine Industries

- Diagnosis and control of *Brucella melitensis* and Bluetongue

It was recommended by APHCA members that proposals on the following topics be drafted by the Secretariat and circulated to the Ex-Com.

- Workshop on feed safety
- Workshop on Hides and Skins

In addition, members suggested that future consideration be given to how best to provide technical input on two additional topics:

- Risk Assessment related to feed that includes GM ingredients, and
- Diagnosis of TB and Para-TB.

11. Summary of issues raised:

- The topic of APHCA contributions was raised and it was proposed that APHCA fees be raised either annually or on a regular designated basis. It was recommended by delegates that the scale of contributions be reviewed every 3 years.
- Concern was expressed, during the discussion of the financial situation, regarding the policy of accounting for bank charges. It was suggested that, to make the charges more transparent, a procedure be created whereby transaction fees are covered by sending country.
- The group recommitted its interest in working on traceability. It was acknowledged that APHCA's focus on traceability be focused on management system of smallholders, with an identification of systems appropriate to developing countries. It is important to identify the immediate beneficiaries and then initiate some small pilot projects. It was recommended that APHCA support the development of a regional TCP (priority activities: identification of farms/premises, a single identification system for each species within each country) with a focus on using data for purposes such as improving breeding/genetics.
- Delegates supported a follow-up to the finalization of the APHCA/CFC-funded smallholder dairy development strategy with a meeting between regional dairy representatives with donors to identify possible targeted interventions in the sector.
- The poor status of regional slaughterhouses remains a priority concern for APHCA delegates. Delegates requested follow-up to the slaughter study, through TCP support; technical training, and attraction of investment into the construction of new facilities.
- Delegates shared their capacity to produce vaccines; however, a critical issue is access to vaccines in a case of an emergency. It was suggested that the vaccine bank have access to a commercial outlet. It was recommended that APHCA secretariat to negotiate with private sector for a system of a rolling stock, as a priority as outlined in the report.
- In the context of PRRS, delegates support an enhancement of swine disease diagnostic capacity in the region. Training could be conducted under APHCA for diagnosis of PRRS. The lack of reference laboratory in Asia was highlighted as a problem, currently samples are sent to the United States

and perhaps Europe. APHCA should identify one of the national laboratories with advanced capacity that could provide regional support for the diagnosis of PRRS.

- APHCA was requested to consider the importance of feed safety as a critical component of food safety; the importance of the chain approach to food safety was emphasized, including the issue of residue testing. It was recommended that interested delegates draft proposals to submit to the APHCA secretariat for consideration and potential sharing of these proposals with FAO Headquarters for cost-sharing opportunities.
- Other training should focus on technical issues related to SPS training, particularly veterinary public health. Within the context of future trainings, the Chairperson suggested that the Ex-Com group look at training undertaken in the past to identify gap specific training requirements.
- On the topic of GIS applications relevant to animal production and health, it is proposed that APHCA organize a 3-4 day regional workshop in the Philippines in March 2008. Demonstrations would include applications of GIS software, GPS hardware, and visits to data collecting organizations.

12. No further comments have been received to the Minutes of the 30th Session and the 66th and 67th Ex-Com Meetings.

13. The budget of US\$238,000 for 2008 has been approved by the delegates.

14. The delegate of Australia offered to host the 32nd APHCA Session in Sydney, Australia. It is proposed that the Secretariat suggest options for consideration by the Ex-Com on the possible theme for the session and a back-to-back workshop. One suggested option included the animal health applications of GIS or another topic to be considered by Ex-Com.

15. Other business:

- A request for the conclusions of the workshop was presented. The Group was informed that the summary/recommendations will be circulated to the delegates by the end of November 2007.
- It was recommended by the Secretariat to review the strategic focus of APHCA at the next meeting. In anticipation of this, it was proposed that the Secretariat prepare a strategy paper for consideration by the Group.
- The Group thanked Thailand for their hospitality.

16. The Chairperson closed the Session.

Activity Report 2007 - 2008

Slide 1

FAO Regional Office for Asia and the Pacific

Activity Report 2007 - 2008

Hans-Gerhard Wagner
Senior Animal Production and Health Officer
and Secretary of APHCA

Strengthening the contribution of agriculture to economic growth in Asia

Slide 2

FAO Regional Office for Asia and the Pacific

Staffing

- **Hans Wagner** Senior Animal Production and Health Officer
- **Carolyn Benigno** – Animal Health Officer
- **Nancy Morgan** – Livestock Economist NTE 31.12.2008
- **Vishnu Songkitti** – Liaison Officer APHCA (local)
- **Yupaporn Simuangngam** – Ass. (local)
- **Tuanchai Laisakun** – Secretary (local)
- **ECTAD**
Headed by L. Gleeson NTE 31.10.2008

Strengthening the contribution of agriculture to economic growth in Asia

Slide 3

FAO Regional Office for Asia and the Pacific

Financial situation

- The cash balance as of 01.01.2008
US\$ 347 608 (+ US\$ 24 403.17)
+US\$ 85 421 interests
– Total US\$ 457 432
- Arrears US\$ 65 342,17 (- US\$ 24 403.17)
– US\$ 40 939 lowest since many years

Strengthening the contribution of agriculture to economic growth in Asia

Slide 4

FAO Regional Office for Asia and the Pacific

Activities 2007 - 8

- General overview of the activities undertaken by the Livestock Group
 - Solely by RAP
 - In collaboration with HQ services irrespective of source of funding
- Appreciation and thanks goes to all Directors of Livestock Services and CVOs and their representatives for the support during 2007/8
- Thanks to all colleagues for their support !

Strengthening the contribution of agriculture to economic growth in Asia

Slide 5

FAO Regional Office for Asia and the Pacific

APHCA priority areas

- Control of transboundary animal diseases
- Small scale dairy and meat production and processing
- Food and feed safety
- Industrialization, poverty reduction, environment
- Training WTO-SPS, BSE and VPH

Strengthening the contribution of agriculture to economic growth in Asia

Slide 6

FAO Regional Office for Asia and the Pacific

Activities in 2007 - 8

- Control of trans-boundary diseases on going projects
 - HPAI of prime attention (separate report),
 - US\$ 114.8 million and US\$ 42 million in pipen projects
 - ADB Greater Mekong Project completed - 2nd phase awaited
 - FMD
 - DPRK
 - Bhutan (pipeline)
 - PPRS regional TCP under approval
 - Bluetongue Workshop planned in collaboration with OIE for 2009
 - Brucellosis diagnosis with emphasize on B. melitensis (VS reports)

Strengthening the contribution of agriculture to economic growth in Asia

Slide 7

FAO Regional Office for Asia and the Pacific

Activities in 2007- 8

- **Small scale dairy and meat production and processing**
 - New
 - TCP/MON/3105 Improved meat hygiene and commercial meat processing
 - TCP/MYN3201 Dairy Cattle Improvement
 - TCP/NEP/3105 Dairy cattle Improvement

Strengthening the contribution of agriculture to economic growth in Asia

Slide 8

FAO Regional Office for Asia and the Pacific

Activities 2007-8

- Ongoing
 - CFC Dairy Chain follow-up regional project (NM Report)
 - Small scale slaughter house design
 - Pig value chain (NM)
 - TCP/PHI/3102 Philippines Installing milk payment system
 - TCP/MON/3104 Modernizing and upgrading the national animal breeding programme
 - TCP/NEP/3001 Training for the small-scale dairy sector in support of the community livestock development project
 - Nepal TA assistance to community livestock development project NTE 2010

Strengthening the contribution of agriculture to economic growth in Asia

Slide 9

FAO Regional Office for Asia and the Pacific

Activity 2007-8 into 2009

- Pipeline
 - Sri Lanka buffalo and cattle breeding
 - TCP Reg - Linking school milk to small scale dairy development

Strengthening the contribution of agriculture to economic growth in Asia

Slide 10

FAO Regional Office for Asia and the Pacific

Activities in 2007 - 8

- **Food and Feed Safety**
 - BSE and prion diseases OIE APHCA working group meeting China (V.S. report)
 - Case study Thailand on meat inspection
 - Feed safety workshop planned for 2009 in collaboration with OIE

Strengthening the contribution of agriculture to economic growth in Asia

Slide 11

FAO Regional Office for Asia and the Pacific

Activities in 2007 - 8

Industrialization, poverty reduction, environment

- GCP/RAS/244/ITA – Sub-regional and Environmental Animal Health Management in Asia (Cambodia, Lao PDR, Philippines)
- Ongoing GEF- WB Project Livestock Waste Management in South East Asia

Strengthening the contribution of agriculture to economic growth in Asia

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FAO Regional Office for Asia and the Pacific

Activities in 2007-8

- **Others**
 - Livestock restocking (cattle, goats) in Tsunami, Cyclone and earthquake affected areas
 - Support pig and poultry production in food security project in the Pacific countries
 - Sow AnGR –
 - Workshop in Dec in preparation of the ITWG AnGR

Strengthening the contribution of agriculture to economic growth in Asia

Slide 13

FAO Regional Office for Asia and the Pacific

TCDC

- Myanmar received vaccines disinfectants after Cyclone Tsunami
 - Appreciation to DLD of Thailand
- Instrument established to allow exchange of expertise amongst countries.
 - Why do countries do not make use of it?

Strengthening the contribution of agriculture to economic growth in Asia

Slide 14

FAO Regional Office for Asia and the Pacific

2008/9 new activities

1. Feed safety workshop jointly with OIE
2. Bluetongue workshop jointly with OIE
3. Ring- test to standardize on Brucella diagnosis jointly with OIE.
4. Genetics training with support of the TCP
5. GIS
6. Feed safety

Strengthening the contribution of agriculture to economic growth in Asia

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FAO Regional Office for Asia and the Pacific

Activity	C/N	Consultant	Travel	Contract	Other	Total
1 Brucellosis diagnostic	N	2000	12000		1000	15000
2 Brucellosis antigen and manual	N				5000	5000
3 WTO-SPS with OIE	N	2000	12000		1000	15000
4 Breeding genetics	N		18000		2000	20000
5 Bluetongue with OIE	N	2000	12000		1000	15000
6 GIS	N		22000		3000	25000
7 Feed safety	N		25000		1000	26000
8 Dairy	C	10000	10000			20000
9 Pig competitiveness	C			20000		20000
10 Meat inspection case studies slaughterhouse	C			20000 5000		25000
		16000	111000	43000	14000	184000

Strengthening the contribution of agriculture to economic growth in Asia

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FAO Regional Office for Asia and the Pacific

Activity	C/N	Consultant	Travel	Contract	Other	Total
1 Brucellosis diagnostic	N	2000	12000		1000	15000
2 Brucellosis antigen and manual	N				5000	5000
3 WTO-SPS with OIE	N	2000	12000		1000	15000
4 Breeding genetics	N		18000		2000	20000
5 Bluetongue with OIE	N	2000	12000		1000	15000
6 GIS	N		22000		3000	25000
7 Feed safety	N		25000		1000	26000
8 Dairy	C	10000	10000			20000
9 Pig competitiveness	C			20000		20000
10 Meat inspection case studies slaughterhouse	C			20000 5000		25000
		16000	111000	43000	14000	184000

Strengthening the contribution of agriculture to economic growth in Asia

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FAO Regional Office for Asia and the Pacific



32nd session
2008

Thank you

Strengthening the contribution of agriculture to economic growth in Asia

Summary Statement of APHCA Account

Funds received	Amount in US dollars
3051 Prior years Contribution Received (up to 31/12/06)	1,962,556
3052 Prior years Interests earned ***	69,390
Total	2,031,946

Sums received from member countries during January 2007 - December 2007

3051 Contributions received in 2007	72,975
3052 Interests earned in 2007***	16,031
Total	89,006

Accumulated interest received since APHCA started till 31 Dec. 2007:	69,390	<i>plus</i>
	16,031	
Total	85,421	

***N.B. Interest, although received into account, CANNOT be spent without approval of members. Therefore, the project's effective CASH BALANCE is calculated on the contributions received (WITHOUT INTEREST) minus Expenditures.

Expenditures (January - December 2007)

5011 - Salaries professionals	0
5012 - Salaries GS	2,827
5013 - Consultants	17,479
5014 - Contracts	0
5020 - Locally contracted labour	0
5021 - Travel	70,140
5023 - Training	0
5024 - Expendable procurement	250
5025 - Non-expendable procurement	0
5026 - Hospitality (at the workshop/training)	0
5025 - General operating expenses	13,372
Total	104,068

Cash balance as of 1 January 2007

Prior years - contributions up to end 2006 (without interest)	1,962,556	
Year 2007 - contributions (without interest)	72,975	
Prior years - expenditures up to end 2006	1,583,856	<i>(minus)</i>
Year 2007 - expenditures up to end 2007	104,067	<i>(minus)</i>
Cash balance: 1 January 2008	347,608	

**Status of Contribution
(as at 30 September 2008)**

(Expressed in US\$)

Member Governments	Outstanding at 31/12/2007	Contribution due for 2008*	Received up to 30/09/2008	Outstanding at 30/09/2008
Australia	0.00	10,724.00	10,724.00	0.00
Bangladesh	29,290.00	6,502.00	6,502.00	29,290.00
Bhutan	(142.35)	2,128.00	3,931.30	(1,945.65)
India	0.00	10,724.00	10,302.07	421.93
Indonesia	23.70	6,502.00	6,525.70	0.00
Iran	18,069.46	6,502.00		24,571.46**
Laos	3,299.16	2,128.00	5,181.66	245.50
Malaysia	0.00	6,502.00	6,502.00	0.00
Mongolia	0.00	2,128.00	2,128.00	0.00
Myanmar	2,128.00	2,128.00	2,128.00	2,128.00
Nepal	(1,940.00)	2,128.00	2,128.00	(1,940.00)
Pakistan	(37.64)	6,502.00		6,464.36
Papua New Guinea	4,266.00	2,128.00		6,394.00
Philippines	11,193.90	6,502.00	630.44	17,065.46
Samoa a/	0.00	2,128.00	2,157.00	(29.00)
Sri Lanka	25.00	6,502.00		6,527.00
Thailand	0.00	6,502.00	6,502.00	0.00
Totals	66,175.23	88,360.00	65,342.17	89,193.06

* NOTE: Scale of Contributions for 2008 was approved at the 31st APHCA Session held in Chiang Mai, Thailand, 29 October - 2 November 2007

** Note US\$ 24 403.87 received but could not be added in the official statement
a/ Samoa became a member of APHCA effective 2008

Approved APHCA Trust Fund Budget and Expenditures for 2008(1)
(Expenditures and Balances as at 30 September 2008)
(in ORACLE)

(Expressed in US\$)

Type	Account	Due in 2008	Received (as at 30 September 2008)	
Contributions	3051 TF contribution	88,360	65,342.17	
	3052 TF interest	-	-	
TF AA 97 AA89142 916700 MTF/INT/005/MUL	Account	APHCA Approved Budget	<u>Expenditures</u> (2)	Balance
Expenditure	5011 Salaries Professional (3)	-	-	-
	5012 Salaries GS	15,000	17,431	(2,431)
	5013 Consultants	55,000	4,900	50,100
	5014 Contracts	10,000	-	10,000
	5020 Locally Contracted Labour	2,000	466	1,534
	5021 Travel [includes CP's travel (5,000) and Fellowships (10,000)]	96,500	38,504	57,996
	5023 Training	10,000	-	10,000
	5024 Expendable Procurement	5,000	3,993	1,007
	5025 Non-Expendable Procurement	5,000	-	5,000
	5026 Hospitality	1,000	-	1,000
	5028 GOE	4,000	1,978	2,022
Total		203,500	67,272	136,228

(1) Budget approved by APHCA at its 31st Session held in Chiang Mai, Thailand, 29 October - 2 November 2007

(2) The figures included in this column include also commitments

(3) No professional post for APHCA is filled using APHCA funds.

Approved APHCA Trust Fund Budget for 2009
(includes estimated contributions to APHCA by FAO)

(Expressed in US\$)

Type	Account	Due in 2009		
TF AA 97 AA89142 916700 MTF/INT/005/MUL				
Contributions	3051 TF contributions	88,360		
	3052 TF interest	-		
	Account	APHCA Budget	FAO's estimated contributions	Total
Expenditure	5011 Salaries Professional(1)	-	96,600	96,600
	5012 Salaries GS	20,000	23,000	43,000
	5013 Consultants	16,000	10,000	26,000
	5014 Contracts	45,000	14,000	59,000
	5020 Locally Contracted Labour	2,000	0	2,000
	5021 Travel	111,000	10,000	121,000
	5023 Training	14,000	2,000	16,000
	5024 Expendable Procurement	5,000	1,000	6,000
	5025 Non-Expendable Procurement	5,000	5,000	10,000
	5026 Hospitality	1,000	1,000	2,000
	5028 GOE	4,000	5,000	9,000
Total		223,000	167,600	390,600

(1) No professional post for APHCA is filled using APHCA funds.

Scale of Contributions for 2009*/

(Expressed in US\$)

Country	Amount
Australia	10,724
Bangladesh	6,502
Bhutan	2,128
India	10,724
Indonesia	6,502
Iran	6,502
Laos	2,128
Malaysia	6,502
Mongolia	2,128
Myanmar	2,128
Nepal	2,128
Pakistan	6,502
Papua New Guinea	2,128
Philippines	6,502
Samoa **	2,128
Sri Lanka	6,502
Thailand	6,502
Total	88,360

Note: * This scale of contributions has been effective since 2003.

** Samoa became a member of APHCA effective 2008

Our Strategic Vision for Dairy Development in Asia

Slide 1

FAO Regional Office for Asia and the Pacific

Our strategic vision for dairy development in Asia




Nancy Morgan
Livestock Policy Officer
FAO Regional Office, Bangkok

APHCA Meeting,
Bangkok, October 2008

Strengthening the contribution of agriculture to economic growth in Asia

Slide 2

FAO Regional Office for Asia and the Pacific

**A Reminder:
APHCA's commitment to Smallholder Dairy Development**

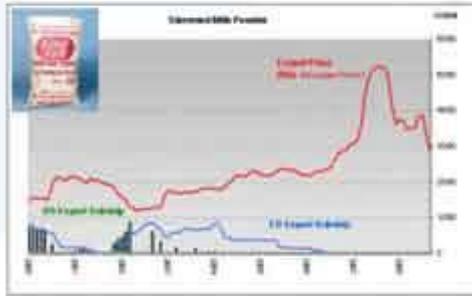
- To promote livestock development in general, and more particularly
- To promote national and international action and research programmes relating to animal husbandry and health problems;
- To build up regional and national livestock programmes based on collective self-reliance and mutual assistance within the Region;
- To promote livestock production as an industry and as part of the farming system based on self-reliance at the farm level; and
- To raise the level of nutrition and living standards of small-farmers and rural communities through optimal exploitation of resources for livestock development.

Strengthening the contribution of agriculture to economic growth in Asia

Slide 3

FAO Regional Office for Asia and the Pacific

This commitment comes at an opportune time:
A changing structure of global markets as reflected by price movements



Strengthening the contribution of agriculture to economic growth in Asia

Slide 4

FAO Regional Office for Asia and the Pacific

Growth in dairy output faster than most other agricultural products in Asia over past 10 years

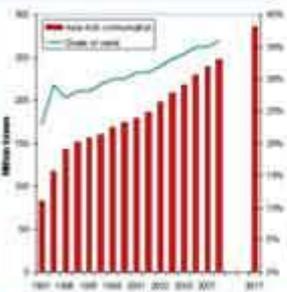


Strengthening the contribution of agriculture to economic growth in Asia

Slide 5

FAO Regional Office for Asia and the Pacific

Dairy consumption growth in Asia faster than anywhere in the world



Over the past twenty-five years Asia accounted for 40% of global gains

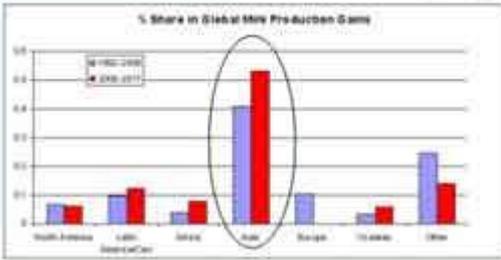
Outlook very robust

Strengthening the contribution of agriculture to economic growth in Asia

Slide 6

FAO Regional Office for Asia and the Pacific

In fact, in the medium term outlook... all eyes will be on Asia



Strengthening the contribution of agriculture to economic growth in Asia

Slide 7

FAO Regional Office for Asia and the Pacific



ACTIVIES UNDERTAKEN BY APHCA AND FAO OVER THE PAST YEAR

Strengthening the contribution of agriculture to economic growth in Asia

Slide 8

FAO Regional Office for Asia and the Pacific

The rationale for APHCA's priority on smallholder dairy development

Smallholder produce over 95% of local milk marketed informally and formally in Asia

Huge opportunities for:

- productivity gains
- quality gains
- substituting imports
- spreading risks, improving competitiveness and protecting the environment through mixed/integrated farming systems (crop-fish-livestock)
- socio-economic as well as commercial benefits: nutrition, incomes, jobs

Strengthening the contribution of agriculture to economic growth in Asia

Slide 9

FAO Regional Office for Asia and the Pacific

FAO/APHCA activities over the past year

- 9 lessons learned studies
- 3 value chain studies
- Strategy Workshop-February 26-29th
- Elaboration of the regional strategy
- Publish proceedings/strategy
- Presenting strategy throughout the region
- Strategy being endorsed by countries and institutions
- Organizing expert consultation on designing effective dairy strategies (Nov, 2008)

Strengthening the contribution of agriculture to economic growth in Asia

Slide 10

FAO Regional Office for Asia and the Pacific

THE STRATEGIC VISION

"Asian milk for health and prosperity"



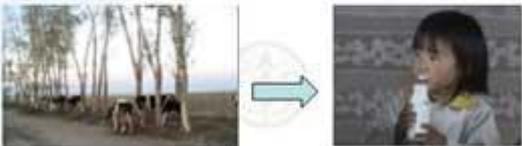
Strengthening the contribution of agriculture to economic growth in Asia

Slide 11

FAO Regional Office for Asia and the Pacific

The Mission Statement

Improving the competitiveness of smallholder dairy producers to provide more and better quality milk and dairy products to Asian consumers.



Strengthening the contribution of agriculture to economic growth in Asia

Slide 12

FAO Regional Office for Asia and the Pacific

The objectives

- A glass of Asian milk a day for every Asian child
- Regional self-reliance and heightened dairy food security
- Smallholders better linked to markets and more commercially oriented
- More efficient dairy food chains
- Higher earnings for safer quality milk
- Regional and national recognition of multiple benefits of smallholder dairy production

Strengthening the contribution of agriculture to economic growth in Asia

Slide 13

FAO Regional Office for Asia and the Pacific

A 10-year action plan

- Strengthen ability of smallholder to supply and market quality milk
- Develop a regional dairy information/exchange network
- Support the development of national action plans, building on pillars of the regional strategy

➔ INVESTMENT INTO THE SECTOR SUPPORTING SMALLHOLDERS
\$US 250 MILLION ACTION PLAN

Strengthening the contribution of agriculture to economic growth in Asia

Slide 14

FAO Regional Office for Asia and the Pacific

Activities of FAO/APHCA in the coming year

- **Setting up a regional network**
 - > Inventory of dairy training institutions and materials in the region
 - > Develop vocational training courses for SDD best practices and models
 - > Capacity building programme, regional extension activities, building on Dairy Training Centre in Chiang Mai, Thailand
- **Design operational modalities for the establishment of a Asian Dairy Association.**
- **Work with countries around the region to design effective dairy development strategies.**
- **Mobilizing resources for the sector**

Strengthening the contribution of agriculture to economic growth in Asia

Slide 15

FAO Regional Office for Asia and the Pacific

APHCA Dairy Publications



Two main outputs: Regional Lessons on Smallholder Dairy Development
Best practices and policies for dairy strategy development

Strengthening the contribution of agriculture to economic growth in Asia

Slide 16

FAO Regional Office for Asia and the Pacific

The Challenge and Objectives: Have APHCA and the regional network recognized globally as "THE" entry point for dairy development/investment in Asia



Thank You !!!

Strengthening the contribution of agriculture to economic growth in Asia

Smallholder Swine / Pig Meat Production in Asia

*A Conceptual Framework for Competitiveness:
using analysis from the Lower Mekong Region²*



Phil Psilos

Consultant on Value Chain and Private Sector Development Services

² Analysis supported by a USAID, FAO, EU, SLPP financed assessment on **Swine Marketing in Cambodia: Reducing Market Distortions, Improving Competitiveness, and Ensuring Safe Trade**. Entire publication available at:
<http://www.aphca.org/publications/files/Swine%20Marketing%20in%20Cambodia%20-%20FAO-USAID-EU%20-%20Final.pdf>

1. Introduction

This concept note lays out a framework for analysis of the competitiveness of smallholder participation in swine markets in Asia based on research and a review which analyses swine issues in the lower Mekong sub-region.

In a separate document, a methodology for competitiveness analysis is presented for Asian smallholder dairy participation. It is based on a hybrid of the *Five Forces* model (as articulated by Michael Porter of Harvard Business School) and on the work of Da Silva in rapid assessment of agri-food value chains. The purpose of this framework is to provide sector stakeholders with a structured way of exploring value chain competitiveness with clear analytical steps and a combination of quantitative and qualitative analysis in order to identify and address key constraints to smallholder success and participation in potentially remunerative markets.

The procedure for analysis of the competitiveness of the swine production “system” (value chain) is substantially similar in the two industries. Using a framework of five issue areas³ that allow cross-national comparisons, it proceeds through the identification of key industry issues, weighting of their relevance and controllability by policy and programme interventions, identification and diagnosis of the strengths, weaknesses, opportunities, and threats (SWOT) in relation to each issue and in order of their relative importance, and the identification and selection of promising models which, adapted or adopted, could address key constraints and leverage opportunities for smallholder success.

1.1 The case of pigmeat

Small scale dairying and swine raising have several characteristics in common, including their relative accessibility as a savings and investment mechanism, and the creation of multiple benefits to smallholders, not all of which are directly remunerative.

However, smallholder swine producers face a different set of over-riding issues related to market evolution and greater uncertainty about their medium-term prospects and their potential challenges from regional live pig and meat product imports. These issues include the rapid intensification of pig production by integrated firms in Asia and the increasing viability of cross-border trade in live pigs and pigmeat, which is facilitated not only by trade agreements but the relative different structures of markets, demand and supply, in adjacent countries.

With respect to the evolution of their respective markets, smallholder pig producers face different opportunities and challenges than their counterparts raising dairy cows. While high world milk prices indicate clear opportunities for dairying to provide for economic advancement in a variety of rural economic situations, the opportunities for small-scale swine raisers are somewhat less clear, at least in the medium term.

³ These issue areas are (1) Factor conditions and utilization; (2) Demand Conditions; (3) Market structure and governance; (4) Value Chain Depth and Related Activities/Industries; (5) Business enabling environment, as adapted from the *Five Forces* model.

Certainly smallholder swine producers have a peculiar role in simultaneously supporting and undercutting industry formalization in Asia, and face numerous challenges to profitable future participation in markets when confronted with widespread intensification and changes in market structure facing many nations in developing Asia.

2. Economic Context of Smallholder Pig Raising

The smallholder swine industry represents the most basic financial strategy for many rural communities. The “Piggy Bank” exists across cultures as a symbol of responsible financial behaviour. This low-return form of savings is still considered economically responsible, and many producers halt production once price signals indicate that swine raising will not be profitable, for example, after gluts or import surges. Dairy producers don’t have the same exit-entry flexibility in responding to market changes. In Asia, smallholder pig raising remains a staple of multi-objective rural households, yielding both nutritional financial benefits, as well as providing for conversion of household waste into fertilizer for agricultural crops.

Smallholder pig raising has been remarkably resilient over time, as it was in developed countries where pigs were often raised on small/medium sized farms until a few decades ago. In Thailand, during the Asian Financial Crisis of 1997-2000, smallholder activities in pig fattening (the major way smallholders participate in the market) fell to near zero⁴, and was predicted to be “over” as a form of village-level economic activity. Yet, in 2007, Thai industry executives and livestock association managers reported separately that smallholder fattening activities represent up to 25% of total swine output.⁵ Vietnam’s recent experience with FMD was exacerbated by a move by producers out of smallholder poultry production and into swine raising following the Avian Influenza crisis in 2004, and recent reports suggest that despite the country’s ongoing battle with PRRS, smallholders continue to raise swine. Many smallholders who had abandoned swine raising during import surges in Cambodia during 2005- early 2007 also re-entered the small-scale production arena with temporary import protection provided by a government embargo on imports.

Smallholder pig raising may also be an important point of entry into commercial livestock activities, as costs related to scaling up of operations can be relatively manageable, particularly where land resources are owned and feed inputs are available locally at reasonable prices. Yet, in some parts of the Mekong sub-region, the appropriate technical and veterinary supports, institutional and marketing structures, and credit and finance tools are not yet in place to support this transition. In addition, important changes in developing markets raise doubts about the viability of smallholder participation in industry upgrading.

The key question is not whether semi-commercial smallholders will continue to attempt to produce swine, but whether they can do profitably when confronted with a significant move towards (1) integrated production in the region by large

⁴ Thavajchai Sakpuaram, Suwicha Kasaemsuwan, and Preeyaphan Udomprasert, *Swine Industry Farms in Thailand*, in *ACIAR Working Paper No. 53: Priorities for pig research in Southeast Asia and the Pacific*, March 2002.

⁵ Confidential interview with Thai industry sources, Bangkok, September 2007

producers and their contract farming systems, which is related to; (2) the growth of supermarket and cold-chain dependent distribution strategies that displace traditional marketing chains to the disadvantage of small producers; (3) shifting urban consumer preferences which increasingly favour lean pork meat produced by hybrid and exotic breeds rather than traditional, high-fat local breeds. These changes are exacerbated by the opening up of cross-boundary markets as a result of policies and road infrastructure investments, which facilitate the movement of animals and of (4) animal diseases, which pose significant threats to both herds and markets. Combined with chronic weaknesses and quality constraints in the marketing chain—the abattoir sector in particular—these pressures, are reshaping the landscape in which smallholders operate and will exert growing pressure on smallholder pig-raising activities to re-define their participation in Asian markets or accept declining financial returns with significant impact on rural capital accumulation.

2.1 Changes in demand conditions accompanying urbanization and supermarket growth

Two inter-related factors driving changes in demand conditions for smallholder-produced pigmeat are the changes in product demand, favouring lean pork, wrought by urbanization and rising incomes throughout Asia, and the concomitant growth of modern supermarkets throughout rapidly urbanizing developing country markets.

1) The first condition tends to reduce the returns on traditional pig raising, since local breeds in some markets generally yield lower percentages of lean meat and are therefore less attractive to traders/middlemen/collectors/wholesalers, to the extent that they are involved in distribution to wealthier urban markets. In Cambodia, farm gate prices for “fattier” local breeds is discounted by approximately 35% when higher yielding alternatives are available in the market, and middlemen and traders criticize pig raisers for their unwillingness to adapt to new requirements of the marketplace. Cambodia’s swine import embargo in place from late 2007 to mid-2008 in response to animal disease outbreaks in Vietnam can also be perceived as a strategy to protect these uncompetitive domestic producers from higher quality pig imports, with high lean meat ratios, that have flooded the market in recent years.

2) The second condition—that of supermarket growth in developing Asia—implies a much greater shift in the marketing chain for pigmeat, and smallholders (particularly those outside of peri-urban areas) tend to be limited in their ability to meet product quality, reliability of production/delivery, and proximity requirements. This severely limits their access to marketing chains that feed the growing supermarket sector.

The requirements of modern supermarkets—standardized product quality, traceability, and hygiene standards, and absolute need for reliable and predictable supply—are among the most important governance forces transforming the swine marketing chain. This force strongly favours large-scale integrated producers or well-orchestrated contract farming arrangements, both of which are (effectively) vertically integrated modes of pig-raising. As these production-distribution-retail systems become more deeply embedded in the growing urban areas of Asia, small

producers will face progressively limited opportunities to access mainstream domestic markets. In pig exporting countries, no clear role for smallholders in mainstream export-oriented production has been articulated (nor realistically envisioned).

In the context of these changes, the weaknesses of the abattoir sector throughout Southeast Asia will also become more of an obstacle for smallholders, especially since more affluent consumers are increasingly accustomed to the quality guarantees provided by store-branded pork products. The role of both private and contract slaughterhouses throughout the region as the value chain's regional-level orchestrators is clearly being replaced in more developed (urban) markets by retailers, while peripheral (provincial and rural) markets remain poorly served by low-quality, unhygienic, and technologically obsolete slaughter operations. Substandard abattoir practices impact both consumers, whose hot-market purchases are typically handled in a variety of unsanitary, risk-producing conditions, and producers, who receive lower prices for carcasses that will be slaughtered inefficiently, resulting in loss of product. Reports from provincial markets in Thailand, Cambodia, and Vietnam are strikingly similar in their reports on these abattoir-related issues and challenges.

Intensification of production will not be treated as a separate factor with respect to market conditions, but instead will be addressed with respect to the “orchestration” role of lead firms in regional value chains, with an emphasis on both the potential opportunities created by strong lead firms’ producer-oriented strategies, and the barriers to access that these same strategies may create or aggravate for smallholders.

2.2 Smallholder economic rationality and industry development

Because smallholders tend to lack access to market information and understanding of price cycles, their entry and exit from production markets is predictably procyclical. This behaviour—raising more pigs when prices are high and fewer when prices are low—actually maintains price stability, but denies larger and better organized producers entrepreneurial (or monopoly) rents, at least to the extent that the main pork market products remain undifferentiated with respect to brand and quality. In Thailand, branding strategies by CP and Betagro and shifting urban distribution channels (supermarkets) are beginning to change this equation, but most rural and small-city consumers remain outside of the reach of these initiatives.

Industrial producers appear to be most sensitive to gluts (oversupply) which drive farm gate swine and retail pork prices down and create uncertain profit conditions. In particular, industrial producers in non-differentiated production systems risk losing market share when small producers enter the market. This has made larger-scale capital investments, where predictability of revenues and output are critical factors for planning, more risky for commercial and industrial producers, particularly in less developed markets including Cambodia and Laos PDR.⁶

⁶ There is little evidence that this dynamic holds in the much more active Vietnamese market, and the extent to which this case acts as a counter-example should be further investigated, although the sheer strength of demand in the Vietnamese market may overwhelm this concern.

Producers' associations are used in Thailand to assist in reducing gluts by providing producers with market information (forecasts) and voluntary herd reductions. But these associations tend to involve producers above a certain scale (in Thailand, the minimum 450-750 head range, which also appears to be the minimum the threshold for participation in Thai contract farming). These associations, whose interest is in maintaining higher prices, also risk functioning as cartels, and may be anticompetitive in their supply-reduction behaviours. Unless producer association members' interests are well-aligned, it is difficult to prevent at least some members from overproducing.⁷

For the Cambodian market, where integrated/industrial scale production is in its infancy, accounting for only 4% of swine production in 2006,⁸ the combination of cyclical entry and exit of smallholders and surges of illicit imports are doubly troublesome for advanced industry development. Rising demand leads more organized market participants (those with greater capital needs and technical capacity such as breeders and feed mills) to scale-up production in anticipation of market growth. However, import surges create supply that is not linked to these domestic capital investments. Repeated surges of imports at times of anticipated high farm gate prices have led to oversupply and falling prices, with small producers exiting the marketplace and productive capacity of more capital-intensive value chain segments (breeders, feed producers) rapidly becoming underutilized and unprofitable.

2.3 Contract farming and Lead Firm Market Integration Strategies

Lead firms operating at the national and regional scale throughout Asia exert significant power in value chains that are increasingly governed by product quality requirements of supermarkets and other organized processing-wholesale-retail entities. Lead firm production strategies vary somewhat, but many adopt a fully integrated strategy—particularly domestic and international firms operating in Vietnam, some Taiwanese firms operating throughout Asia, and many in China PRC. The issue of contract farming is another key element in lead firms' strategies that may offer both challenges and opportunities for smallholders, exerting significant influence on the value chain contexts in all countries where it is in practice.

The contract farming system in widespread use in Thailand, and growing in popularity in Vietnam, represents an asymmetric but mutually beneficial compromise between mid-scale pig raisers and industrial producers/processors. Independent producers gain access to skill, technology, and (in some cases) guaranteed markets. Facilities investment and labour supervision is transferred to small producers by integrators. In some contract farming arrangements, producers buy feed, medicine, veterinary services, and piglets from integrators without a guaranteed price (CP Thailand model), while in others these inputs are provided and the contract price represents a relatively simple subcontract (Betagro Thailand model).

⁷ Furthermore, there is an extensive economic literature describing the “prisoner’s dilemma game” of compliance with voluntary limits on production.

⁸ SLPP Livestock Marketing in Cambodia, 2006/7 p.22.

In either case, by controlling the number of contracts issued during a particular period, integrated producers can neutralize the risk of gluts to some extent, but only to the extent that poorly informed smallholders can be persuaded not to oversupply the market. Yet smallholders are responding correctly to market signals, though their price expectations may not be met when the time comes for selling finished pigs. Clearly, the elimination of the predictably pro-cyclical smallholder swine farmer is in the short- and long-term financial interest of large integrators, and 2006 protests by Thai swine farmers, provoked by CP Thailand's alleged undercutting of farm-gate swine prices, demonstrates the volatility of this situation.

Numerous NGOs and livestock organizations are exploring ways to improve the possibilities for small producers' participation in contract farming arrangements, and on more favourable terms. This has been a particular focus of research in Vietnam during the past several years, where intensification, rapid modernization of the industrial production sector, and evolution of the marketing chain has threatened to displace smallholders the most.

2.4 External Risks: Trans-boundary animal disease (TADs) and environmental sustainability

Livestock intensification around Asia has also heightened the risks (both in terms of probability and severity) of the spread of trans-boundary animal diseases. Continental Southeast Asia is increasingly linked to other parts of Asia through both regulated and unregulated livestock trade. A virulent strain (serotype) of FMD travelled on a disease pathway between provinces in Southern China and Southern Vietnam, leading to one minor, and one severe, Vietnamese "market collapse," in 2005 and 2006-2007, respectively. At present, Vietnam is working to combat PRRS, which also apparently reached the country's denser swine production regions through the same pathways.

PRRS, in particular, highlights the significant economic and health risks of TADs in a region where industrial-scale swine production is nascent, fast-growing, has limited bio-security and is relatively uncontrolled. To the extent that large-scale production continues to grow rapidly, smallholders are also at risk of significant direct and indirect financial losses. Small producer herds may be infected by direct or indirect contact with infected animals, through introduction of exposed gilts into herds, or through less direct modes of exposure. Indirect losses can result from disease-related market-collapses resulting from public fear of TADs, from erosion of the supporting industry base resulting sequential TAD outbreaks, and from capital providers' aversion to livestock markets resulting from outbreaks.

2.5 Smallholder Capacity Limitations

Smallholders throughout the region are threatened by inability to adapt to these changing market conditions and requirements, and to respond to threats in their livelihoods. Better-yielding breeds are frequently beyond the (limited) technical capacities of smallholder producers because of their inferior disease resistance, and more demanding and expensive feed requirements. All of these factors can result in increased mortality rates and greater capital loss unless smallholder breed upgrading is also supported by enhanced access to veterinary care and adequate

feeding regimes. This requires both technical skill and, potentially, capital investment that is beyond the abilities of most smallholder producers.

Other challenges include gaps in basic pig husbandry resulting in high rates of herd mortality, sub-optimal traditional feeding routines, and limited technical skills and access to veterinary services, and variable access to adequate genetics.

Access to reliable information about prices can improve smallholder strategies to some degree, but the structural issues related to development of more advanced marketing systems will require smallholders grow in scale and competency in order to participate in these marketing chains. While growth in the scale and level of competency of small pig producers is intimately related to their continued participation in these markets, (whether through growth in small commercial production, supply aggregation through group marketing or contract farming), their prospects are also significantly dependent on other features of their operating environment that must be approached through a qualitative analysis.

3. Analyzing Competitiveness

Commercial pig production worldwide is governed by a single “input-output” equation: how many kilograms of lean meat and other pork products can be produced by a given amount of feed, and at what cost. The main performance indicators for pig fattening relate to the speed and efficiency of conversion of feed to meat, the survival of pigs until they are ready to be sold, and the final result of the product—either a piglet ready to be fattened or a market-weight slaughter hog. In this “production frame,” risks to smallholders mainly come from animal diseases that kill pigs before they can be sold as meat or decrease the productivity of the herd of animals in producing offspring, and therefore, in producing meat for sale.

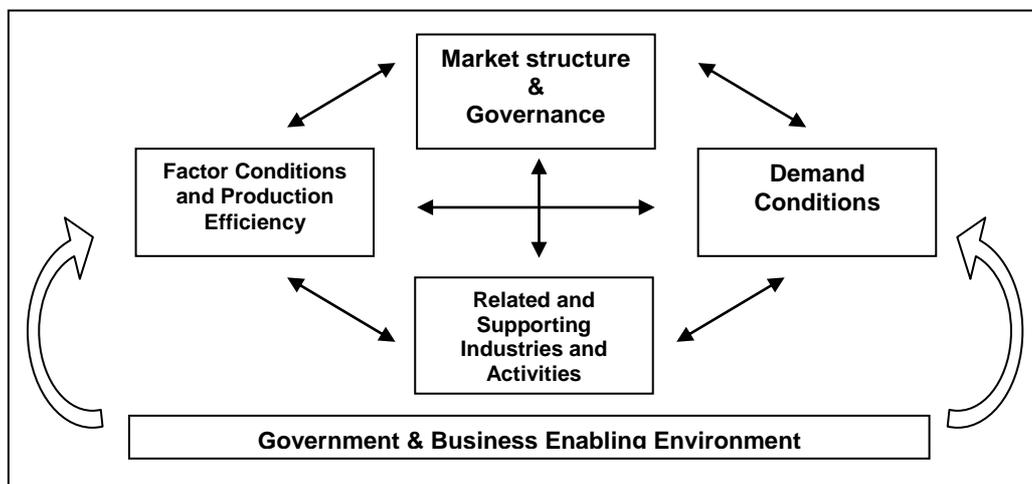
Yet, for Asian smallholder producers facing the challenges of rapidly evolving environments, production-focused approaches to the competitiveness of the swine raising enterprise are *necessary but not sufficient* to generate actionable policies or programmes to support smallholder participation and upgrading. The challenges to Asian smallholders outlined in the previous section begin, but do not end, with production-related issues. They also encompass market mediation issues related to value chain governance, including the organization of production by lead firms, the introduction of product standards requiring traceability and control over the value chain, the requirements of scale for participation, as well as trade and disease impacts.

Smallholders also must draw upon related and supporting products and activities to comply with requirements of new market governance arrangements, whether they are imposed by buyers or contracting firms. As a result, the presence of and access to related and supporting products and activities—for example, veterinary services for larger herds and improved breeds, high-quality medicine and vaccines, and new information about risk-minimizing production processes—become important concerns sustaining and upgrading smallholder enterprises. These are traded (and sometimes non-traded) externalities, as opposed to initial endowments of factor the factors of production.

As a result, a broader analysis of the competitive environment in which smallholders operate is necessary to determine their prospects for sustainability and upgrading. One appropriate model for exploring these broader issues is the *Diamond of National Competitiveness* developed by Professor Michael Porter of Harvard Business School.

The *Diamond model* is currently the most widely used and best understood tool in analysis of the competitiveness of industry systems that are defined by a specific geography.⁹ It considers the interaction of five sets of conditions as the determinants of the competitiveness of regional production systems: (1) conditions and utilization of the factors of production; (2) demand conditions; (3) market structure; (4) related and supporting industries and activities; and (5) government and business enabling environment.

Figure 1: The Porter “Diamond” Model of Competitive Advantage (adapted)



A territory does not necessarily need a perfect balance or mix of advantages in these areas to sustain a viable industry. Rather, the interaction of these conditions shapes and constrains overall performance of the regional production system. Advantages or strongly positive conditions revealed in this analysis can serve as the basis for smallholder competitiveness, while disadvantages—of which there are likely to be many—can be addressed based on how significant a role they play in limiting the territory’s upgrading prospects. Many issues will appear to be neutral—neither conferring advantage nor disadvantage on the smallholder system in light of the totality of observed conditions. What is important and useful in this analysis is revealing what is especially favourable and especially unfavourable in the territory under analysis.

One important premise of this model that should be highlighted is its assumption, based on Porter’s foundational work on Competitive Advantage¹⁰, that successful economic sectors tend to

⁹ M. Porter, *Competitive Advantage of Nations*, Harvard Business School: Cambridge. 1990.

¹⁰ Porter, M.E., *Competitive Advantage: Creating and Sustaining Superior Performance*, Free Press, 1998, (1985).

generate higher value by moving from competition based on “factor advantages” (derived from the factors of production) to new sources of competitive advantage based on more sophisticated interactions between the factors of production and the context in which they are utilized. In light of the relative importance of non-production related issues to the upgrading of the smallholder enterprise, this model offers promise in looking at smallholder performance and upgrading in light of the totality of their national or local operating environment.

4. Comparing Swine Competitiveness in the Mekong Sub-region

In order to examine the issues facing producers in the region, an extensive benchmarking of three countries—Cambodia, Thailand, and Vietnam was undertaken under and FAO co-funded project.¹¹ The focus of this study was on identifying key opportunities and constraints for the highly trade-impacted Cambodian smallholder sector, particularly in light of its less developed industry structure relative to its regional neighbours. The benchmarking activity began with a comparison of basic quantitative indicators of industry development and trajectory, focused on smallholder participation, followed by an extensive qualitative benchmarking of the factors related to overall sector competitiveness using the framework of the *Diamond* model. The study set out to benchmark the cost and operational measures of the three national industries to determine the position of each country relative to regional trading partners, to highlight the role of smallholders, and to identify prospects for sustainability and success.

4.1 Comparison of Industry Composition

Quantitative indicators of industry composition revealed the Thai, Vietnamese, and Cambodian swine industries differ significantly, both in terms of historical development and present market conditions. Data from the FAOStat database and secondary research on the three industries revealed differences in the composition of production, productivity, intensity, and the importance of swine production and processing to the agribusiness sectors as a whole. Table 2 presents findings on the comparative productivity, intensity and trade profile of the three countries.

Overall, the swine sector is much more important to Vietnam’s agriculture sector than to the Cambodian or Thai, reflected by higher production per agricultural workforce and higher meat yields per hectare of land under production. Both Thailand and Vietnam are historically net exporters of pork, albeit on a small scale. However, the higher proportion of Thailand’s processed pig meat exports reflect a more advanced value added processing sector, despite swine’s lesser important to the country’s overall agricultural profile than poultry.

¹¹ Swine Marketing in Cambodia (FAORAP-USAID), February 2008.

Table 1: Comparative Industry Capacity and Intensity

	Year	Unit	Cambodia	Thailand	Vietnam
Domestic Consumption					
Per capita pork consumption	2005	g/capita/day	26	29	68
Total pig product consumption	2005	1000 Tonnes	130	671	2118
Herd					
Producing Animals (Pigs)	2006	head	2715000	10755184	36000000
Pig Stocks	2006	Head	2740745	-	26855300
Production					
Production Quantity	2005	1000 Tonnes	127	687	2288
Production Quantity	2004	1000 Tonnes	123	680	2012
Intensity of Production					
Total economically active population in agriculture	2004	1000 persons	5001	20185	28936
Meat yield/ag workforce	2004	tonnes/person	0.024	0.034	0.070
Pig Meat Yield	2006	Y/ha	46	65	67
Exports					
Export Value of Pig Meat	2005	\$US x 1000	0	26236	27513
Export Value of Raw/Processed Pig Meat	2005	\$US x 1000	0	47322	28390
Imports					
Avg. Unit Value of Primary Commodity Imports	2005	\$US/Tonne	0	763	1350
Import Value of Primary Commodity	2005	\$US1000	0	559	207
Import Value	2005	\$US1000	2601	781	1077
Import Value of Raw & Processed	2005	\$US1000	323	3304	25052
Producer Prices					
Per Tonne	2005	\$US/Tonne	1830	1737	-
Per KG	2005	\$US/Kg	\$1.83	\$1.74	-

*Official reports: excludes unregulated imports Source: FAOStat Database.

4.2 Comparison on Sector Composition, Cost, and Performance

Table 2 presents a benchmarking of key cost and performance measures related to the smallholder enterprise. International benchmarking was undertaken to highlight the competitive position of smallholders relative to both larger production systems and to international peers. It reveals, to some degree, relative positions of the three countries with respect to factor costs, producer scale and competence, sector composition, and product differentiation between traditional and improved breeds.

Benchmarking cost and operational conditions is complicated by the key differences in industry structure discovered through this research. One conclusion of this study was that the three national industries have different enough operating structures to make many types of aggregate comparisons misleading. Some factors, including manufactured feed costs, can be analyzed in a relatively straightforward manner. However, the prevalence of on-farm feed mixing combining in larger producer segments makes this less illustrative of large producers' cost structures. Others, including feed conversion ratios, daily live weight (LWT) gains, and other factors are either unavailable from large producers or derived from unreliable or non-comparable sources. Overall comparisons would also necessarily average the most and least advanced sub-sectors of three industries at vastly different stages of development.

Understanding basic financial returns with respect to the analysis of the fixed costs of small commercial producers is also extremely difficult. Fixed (investment) costs may not be accounted for at all (as in Cambodia), may be less well-researched (as in Thailand), or may be moderately subsidized and therefore not comparable (as in Vietnam).

These data issues highlight the need for segmentation of the market to clearly identify the position, performance, scale, and competency of smallholders relative to the sector as a whole, and to compare their performance to relevant domestic and international market segments to depict their performance and prospects accurately, particularly where smallholders are competing with more advanced domestic and international production systems, and, potentially, with smaller commercial producers in regional neighbours.

Table 2: Composition, Cost, and Performance Comparisons

	Unit	Cambodia	Vietnam	Thailand
Industry Composition	2006			
Smallholder % output	%	90%	64%	≈10%
Small commercial % output	%	3%	20%	≈15%
Medium commercial % output	%	3%	10%	≈25%
Large/Integrated % output	%	4%	6%	≈50%
Factor Costs				
Commercial Feed Costs (retail 2007)	\$US/kg	\$0.55	\$0.46	\$0.42 (rising)
Local gilt costs (2007)	\$US	≈\$35	n/a	n/a
Hybrid gilt costs (2007)	\$US	\$45-\$50	\$35-\$45	\$31
Production Measures				
Feed conversion ratio (FCR)- small producers*	Feed req. per kg LWT gain	≈6.5-8	≈6	≈6
Slaughter weight: small producers avg. kg	KG	≈65	≈81	≈90
FCR: large producers		≈2.6-3.0	≈2.6	≈2.6
Slaughter weight: large producers avg. kg		88-100	88-100	≈110
Output Prices				
FGP per kg LWT (present)	\$US	\$1.70-\$1.95	\$1.75-\$2.13	\$1.38
FGP LWT 2005	\$US	\$1.43	\$1.57	\$1.30
Retail price of pork meat (2005)	\$US/kg	\$2.93	\$2.50-\$3.00	\$2.51
Retail price of pork meat (current)	\$US/kg	\$4.25	\$3.5-\$4	\$2.85*
Price premium for high lean meat content/low back fat	%	24%	20-30%	>10%

4.3 Comparison of National Swine Industry Competitiveness Impacting Smallholders

Benchmarking the sources and conditions of the three countries' competitive advantage entailed a more in-depth research effort to draw comparisons among the meaningful factors of each industry's structure. Table 3 presents a summary of the results of an in-depth investigation of the overall market structure in the Diamond framework.

Table 3: Comparison of National Swine Competitiveness Conditions

	Cambodia	Vietnam	Thailand
<u>Demand Conditions</u>	Moderate domestic demand. Pork is third preferred protein source after fish and beef.	Strong and sophisticated domestic demand: Pork is preferred animal protein.	Moderate and stable: pork is second to chicken as preferred protein source. Beef consumption rising.
Per capita consumption	26 gram/person/day	68 gram/person/day	29 gram/person/day
Sophistication of Demand	Urban and tourism markets demand low-fat, village and province markets less demanding	Urban and tourism markets demand low-fat, village and province markets less demanding	Urban and tourism markets demand low-fat, village and province markets less demanding
<u>Sector Composition and Competitive Structure</u>	Smallholder dominant	Smallholder dominance declining, mid-commercial ascendant	Integrator-dominated with significant mid-large independent producers. Smallholder resilient
Sector Development	Early development of more advanced value chain set back by 2005, 2006 swine surges, market collapse. CP Thailand serves as lead firm. No domestic lead firms.	Rapid development of mid-size commercial and large producers until 2006 market collapse. Development driven by imported technologies and foreign firms. Multiple lead firms.	Integrated sector is mature, integrated around few large Thai lead firms, CP most importantly, followed by Betagro, <i>et al.</i>
Current market phase	Recovery/Growth	Threatened/Recovery	Stable/Differentiating
Linkages of large-small producers	Few linkages outside donor-driven relationships.	Few known linkages. Nascent contract farming.	Extensive linkages structured through contract farming system.
Domestic market function/efficiency	Majority of market limited by poor slaughterhouse conditions and prevalence of non-refrigerated hot markets.	Bifurcated market, with integrated producers performing well, provincial markets limited by poor slaughterhouse conditions and prevalence of non-refrigerated hot markets	Bifurcated market, with integrated producers performing well, provincial markets limited by poor slaughterhouse conditions and prevalence of non-refrigerated hot markets.

	Cambodia	Vietnam	Thailand
Barriers to entry and rents	Informal regulation and network membership limit wholesale and value added participation.	Few barriers to entry. Government encouraging market entry.	Advanced barriers around market chain, irregular government regulation for foreign entities.
Market development strategies	Limited to donor involvement.	Driven by cold chain and supermarket sector upgrading.	Driven by supermarket cold chain, integrated producer differentiation (brand) strategy and government abattoir upgrading.
International Market	None: Sanitary conditions and capacity limit access.	Limited and Growing: Export potential offset by sanitary standards.	Limited and irregular due to protectionism and FMD history.
Access to export markets	Cambodia does not meet SPS standards for exports to attractive international markets.	Vietnam preparing for SPS certification; various bilateral agreements.	History of FMD and domestic market protection has led to retaliatory limits on Thai access to markets.

Table 3: Comparison of National Swine Competitiveness Conditions (Cont.)

	Cambodia	Vietnam	Thailand
<u>Factor Conditions</u>	Poor with moderate potential.	Strong and improving with key limits.	Strong but dependent on imports for feed inputs.
Feed	Net exporter of key feed inputs- corn and soy. Poor domestic processing capacity. No research base	Strong and growing. Large research base.	Strong but dependent on energy imports.
Breed	Low quality breeds predominate due to resilience, feed costs.	Advanced breed capacity still short of market demand.	Advanced breed capacity: exporter of breeds.
Veterinary services and medicines	Poor. Consistent quality problems with services and products.	Segmented. Advanced infrastructure with significant gaps in FMD control.	Advanced infrastructure and high product standards.
Credit-Finance	Informal credit. Limited bank and MFI interest.	Wide array of government-supported C&F options for upgrading for commercial and smallholders.	Developed credit market focused on commercial sector and engaged in upgrading.
Human Capacity	Poor	Varied	Varied
Technical	Technical capacity across value chain is low, with the exception of new commercial entrants and a few breeders. Abattoir capacity very low.	Varied technical capacity. Smallholders remain low-medium capacity despite extension efforts. Growing commercial/industrial market with world-class technical capacity.	Integrated (majority) of market has sophisticated technical capacity. Contract producers supported by large firms. Independent abattoir sector technical capacity very low.
Managerial	Low: Most foreign presence is sales office only. Recently announced joint ventures may improve.	Varied: Low to high, international firms bring high managerial capacity.	Varied: High in integrated sector. Medium-high in independent commercial sector.
Entrepreneurial	Historically low. Breed sector has some entrepreneurs. Lacks catalyst.	High entrepreneurial energy based on sector growth and diversification. Much is foreign-based.	Entrepreneurial energy concentrated integrated operations and large independent producers. Banks catalyzing upgrading activities.

	Cambodia	Vietnam	Thailand
Social capital and external economies	Low with significant exceptions where informal credit provided. Producer associations developing.	Unknown	Formalized in producer associations.
<u>Related and Supporting Industries</u>	Shallow	Rapid development of services, primarily by foreign companies	Mostly internal to large integrators. Finance sector engaged in upgrading
<u>Business Enabling Environment</u>	Underdeveloped and corrupt: Weak capacity for enforcement of framework due to decentralization and fragmentation of authority.	Developmentally-driven: Moderate to high capacity. Regulation favours large, foreign firm development.	Strong/Permissive: Well organized producer sector aligned with government.
National	Highly non-transparent. Conflicting motives in national regulatory framework.	Government applies regulations evenly and competently. Limited public information about activities.	High capacity for monitoring and regulation frequently circumvented for lead firm advantage.
Provincial/Local	Arbitrary and frequently out of compliance with national framework.	Provincial regulation and development initiatives aligned with national policy.	No information

Table 3: Comparison of National Swine Competitiveness Conditions (Cont.)

	Cambodia	Vietnam	Thailand
Informal Regulatory Environment	Highly non-transparent	Moderately non-transparent, secretive, as competitive industry development strategy. Investor friendly.	Formally non-transparent as NTB industry protection strategy
National	Very poor/inconsistent	Positive/Competitive	Transparent to domestic sector.
Provincial/Local	Very poor/inconsistent	Positive/Competitive	Unknown
Private Sector Governance	Weak/Nascent	Unknown	Strong
Associations	Producer associations developing in response to industry needs and opportunities. High potential for industry organization if correctly implemented.	Unknown	“Pig Board” represents all interests in the industry. Multiple sector associations including producers, feed industry, and abattoir.
Formal Sector Support	Nascent	Development-driven sector with significant breed subsidization.	Developed support infrastructure.
Domestic Sector (National)	Government lacks coherent strategy or resources to implement existing strategic plan (2000). Ad hoc support.	Under a national agriculture development plan approved by the government in 2005, Vietnam aims to increase its pig herd from 27 million pigs in 2005 to 35-40 million pigs by 2010.	Industry supported through research, government-funded extension, and high level coordination. Key 2005 government initiative is abattoir upgrading.
Subsidy support	None. High unofficial import barriers act as non-tariff barrier.	High subsidization, estimated at \$100-200/sow/year provided to support breed improvement and producer growth.	Subsidization through market protection, Non-Tariff barriers preventing imports.

	Cambodia	Vietnam	Thailand
Inward Investment Promotion	Complicated by informal regulation.	Key goal is technology acquisition and modernization of livestock production through foreign investment supported through key policies.	Inward investment discouraged as domestic industry protection strategy.
Provincial	None identified.	Developed province-level support strategies implemented as pro-competitive industry development strategy.	None identified.
Donor/NGO	Numerous donor programmes. Frequently uncoordinated and misaligned with market incentives and direction. Programmes implemented along market principles more successful.	Numerous donor programmes since 1990. Some important successes in breed and feed improvement are significant. Market-driven programmes succeed due to high entrepreneurial motivation in Vietnam.	Industry is developed beyond need for donor support. Organized integrators act as key disseminator of technical support.

The foregoing comparison based on the Porter Diamond of Competitiveness, reveals for Cambodia a set of critical issues that offer a roadmap for addressing both strengths and weaknesses in the operating environment for smallholders. These findings are summarized in Table 4.

Table 4: Competitiveness of the Cambodian Swine Value Chain: Summary

Factor conditions	Market Structure & Governance	Demand Conditions	Related and Supporting Industries and Activities
<p>High swine mortality limits factor efficiency. Aggravated by poor breed and feed options and limited veterinary services, poor quality medicines.</p> <p>Feed costs higher than competitors despite Cambodia position as exporter feed inputs (corn, soy, and cassava).</p> <p>Very limited human capital base in small producer sector.</p> <p>Lack of formal credit options.</p> <p>Entrepreneurial potential among breeding sector and input supply. Growing among small producers due to rising prices and donor-supported initiatives.</p>	<p>Smallholder producers remain dominant, except where donor interventions support small commercial growth</p> <p>Local wholesalers and traders orchestrate key market channels.</p> <p>Little market infrastructure for advanced industry development, limited cold chain.</p> <p>Lead firm governance limited to wholesale- trader networks. No domestic lead firms.</p>	<p>Moderate domestic demand base.</p> <p>Urban markets becoming more sophisticated, demanding lean pork meat.</p> <p>Product substitution in rising price environment possible due to consumer preference for fish and beef.</p>	<p>Few producer services or value chain-related suppliers.</p> <p>Limited bank and MFI interest in producer segment.</p> <p>Producer associations in nascent stage.</p> <p>Business network development driven by local informal credit relationships and donor interventions.</p>
Government & Business Enabling Environment (BEE)			
<p>National business enabling environment inconsistent though improving with modernization of legislative framework. Poor resource base and limited capacity for enforcement of legal framework are key obstacles.</p> <p>Principal challenges to BEE are at provincial level, which are frequently non-compliant with national legislation and introduce significant informal regulatory obstacles and barriers to entry, impeding upgrading.</p>			

While the unfavourable environmental conditions far outweigh the positive for Cambodia, the analysis was revealing of several key strengths to build upon, including strong comparative advantage in feed resources and entrepreneurial energy in the breeding sector. The announcement in late 2008 by a key Cambodian business entity of a major investment in the breed, feed production, and processing sector, in a sense, validates the use of such an “environmental competitiveness” approach. Furthermore, the approach was strengthened by comparative analysis, which revealed opportunities for action by both public and private actors to support industry upgrading, improve market governance, and create a viable space for smallholder participation.

It is noteworthy that a simple value chain analysis of the sector, which had been performed prior this broader, environmental analysis, had failed to highlight the opportunities related to the key strengths and dynamics of the Cambodian swine sector. While the value chain approach can be a powerful approach for understanding and predicting the distribution of value in a national industry and the likely governance structures, a clearer understanding of the industry’s competitive context may be warranted. As Altenburg notes, “While it is relatively easy to describe physical resource flows and different marketing channels, calculate the number of producers at different stages of production, and gather other general sector-wide information, such data tells us relatively little about what the best available upgrading options are, how gains and risks are being distributed, and which policies are likely to sustain competitiveness in the long-term.”

5. Two “Futures” for Smallholder Market Participation

Returning to the smallholders, the development of additional appropriate strategies to assist producers must be formulated in a way that accounts for the presence or absence of various types of support in the national industry environment, with special attention to the rational economic choices that govern their behaviour. In addition, stakeholders must, in some sense, choose between two apparently mutually exclusive visions of the future (or pathways) for smallholders. These pathways relate to the degree of integration into the national and international markets that is envisioned for small producers.

5.1 Serving Village and Remote Markets

The first “future” is that smallholders will continue to serve as the main source of supply for village and remote provincial markets rather than focusing on participation in growing urban markets. In this scenario, smallholders continue to raise fewer than ten pigs per cycle as a livelihood strategy in a multi-objective farming system. This vision is not unlikely, though it carries some risks, since rapid urbanization and widening urban-rural income gap do not suggest a certain, nor a promising, future for village markets. In addition, the premiums received by producers for high LMY breeds are smaller in village markets controlled by local trading monopolies than in more demanding urban markets, suggesting that costs associated with breed upgrades may not be justified by higher FGP for finished pigs, at least in Cambodia.

Nonetheless, if smallholders are expected, in the future, to participate only in village-level pig meat markets (which are less demanding of lean pork meat and

more accepting of traditional breeds), stakeholders should continue to emphasize reduced swine mortality among smallholders through technical assistance programmes aimed at improving the husbandry skill of producers and their access to reliable veterinary services. This approach might best be viewed as a subsistence-focused, rather than a commercial, strategy.

5.2 Expanded Participation in National Swine Value Chains

Southeast Asia's current swine industry development trajectory, changing consumer preferences favouring lean pork meat, and projected future growth trajectory of supermarkets and non-traditional outlets for meat products in urban areas, and international competition, will make the issues of smallholders' production scale and product quality more significant. If stakeholders envision a future in which smallholder producers participate significantly in national swine value chains, and in particular, in the system of supply for rapidly growing urban markets, the smallholder must draw upon numerous aspects of the industry environment.

A better understanding of the economic opportunity of the smallholder producer reveals that upgrading must proceed in tandem with environmental changes that address the upgrading-related needs, most of which are off-farm issues.

5.3 Scenarios for Smallholder Upgrading

Table 5 presents a step-wise analysis of smallholder options for advancement and upgrading, laying out probable costs and simple financial returns¹² of six upgrading scenarios that are representative of Cambodian smallholders' options to improve operational scale, product quality, or both. These options are based on reference prices collected in February-April 2008. This analysis suggests that smallholder preference for raising less expensive (traditional) high-fat breeds reflect economically rational risk-minimizing behaviour in the context of limited technical skill and a poor quality veterinary services and input base, as revealed in the foregoing benchmarking conclusion and widely-reported in the Cambodian livestock community.¹³

Scenario 1: Baseline smallholder model. This scenario illustrates that smallholder raising of traditional breeds is, based on these assumptions, marginally profitable, even with high mortality rates, as long as it requires no fixed capital investment in installations, low feed input costs, and no veterinary service or medicine inputs.

¹² This model is a simple profit margin calculation and does not attempt to assess the full economic costs of smallholder production. It therefore excludes imputed labour costs and land ownership or rental costs, or non-financial returns to production derived from on-farm use of manure or household waste-disposal. Fixed costs are limited to installations such as a pig pens/houses and fences, which are the first requirements for moving beyond 'backyard scale' production.

¹³ According to Pok Samkol, Khieu Borin and Sen Sovann, Pig System in Southeast Asia, Cambodia Case, Regional Workshop on Pig System in Asia and Pacific, November, 2006, slide 5, "Farmers keep animals in traditional scavenging systems as means of risk management rather than in systems more orientated toward increased production and incomes."

Scenario 2: Local breed growth through veterinary services and installation upgrades. This scenario illustrates expansion of smallholder operations using traditional breeds, and reflects a strategy of growth through moderate service utilization leading to marginally reduced mortality. The combination of added service input costs and fixed capital investment reduces profitability from 9% to 6% based on these assumptions, even without improvement in feed quality through enhanced use of high quality compound feeds. This scenario marginally reduces profitability of smallholder operations, even in the event of decreased mortality, since FGP of traditional breeds does not rise in tandem with the increased production costs that are incurred to decrease mortality rates.

Scenario 3: Traditional breed growth with services, installations and increased feed purchases. This scenario outlines financial results of one strategy to improve outcomes with traditional breeds. Simultaneously increased volumes of low quality compound feed and (market priced) service utilization along with capital investment in facilities result in negative returns for producers. With similar assumptions to Scenario 2, it assumes higher yields and drastically decreased mortality achieved by better feeding routines in combination with (market priced) service utilization and installation investment to permit larger-scale operations. Assuming market-priced service and medicine inputs, even significant gains in yield and swine survival result in small losses for producers.

Table 5		Production Costs					Output Results			Revenue		Key Issues and Constraints
Producer Upgrading Scenarios	Feed	Piglet	Med	Service Costs	Fixed Costs*	Pig Weight	Survival %	KG LWT Yield	FGP (riel)	Producer Margin		
1	Baseline Smallholder Scenario: Local pig breed traditional feeding with minimal compound feed use, no veterinary services or vaccination	\$35	\$30	\$-	\$-	0	65	65%	42	6850	9%	Sustainable: Traditional smallholder production yields small returns but minimizes risk through minimization of feeding costs, service inputs.
2	Smallholder "local breed" growth scenario 1 with no change in breed, marginal decrease in mortality through veterinary engagement and vaccination, and installation investments.	\$35	\$30	\$10	\$5	\$1.67	65	80%	52	6850	6%	Unsustainable: Investments in fixed assets, vet services undercut (eliminate) producer margins, even with decrease in mortality. Typical first step, which leads producers to revert to traditional, lower-investment model.
3	Smallholder "local breed" growth scenario 2 with no change in breed, large decrease in mortality through veterinary engagement and vaccination, increased volume of low-quality compound feed	\$51	\$30	\$10	\$5	\$1.67	65	92%	57	6850	-1%	Unsustainable: If small producer scales up production to cover fixed capital investments, margins quickly become negative, even with very high survival rates. Typical first step, which leads producers back to traditional model

4	Smallholder breed upgrade scenario with higher inputs of low-quality compound feed, no vet services or medicine inputs, no installation investments	\$51	\$40	\$-	\$-	0	78	65%	51	7500	6%	Unsustainable: Breed improvements alone without survival increases yields lower returns on higher capital outlay. Leads producers back to traditional model.
5	Smallholder breed upgrade scenario 2 with no investment in installations but improvement in mortality through veterinary service engagement and improved feed quality	\$60	\$40	\$10	\$6	0	88	92%	81	7500	28%	Correct first step: High-margin path requires simultaneous breed, feed, and medicine upgrade to ensure survival. Unsustainable: Without investment in installations, model has limited growth potential due to deteriorating pen conditions.
6	Baseline Small Commercial Production (MSME model): Hybrid pig breed, mixed compound and energy feed, veterinary services and vaccination, 15 pig capacity pens. \$60 total feeding costs	\$60	\$40	\$10	\$6	\$1.67	88	92%	81	7500	23%	Sustainable: Correct service mix permits profitable, constant return model including fixed capital allowance and incremental upgrading possibilities. Key factors are high yield breeds and high survival rate

Scenario 4: Breed upgrade without upgraded feeds or veterinary/medicine inputs.

This scenario reflects a smallholder's choice to introduce better breeds and a greater volume of low- to mid-quality feed without upgrading veterinary service and medicine inputs. A similar survival rate of 65% in this scenario reflects a "wash" between claims that better (hybrid) breeds have higher disease resistance, and counter-claims that producers are often unable to keep newly introduced breeds alive because of their unfamiliar disease patterns and producers' unfamiliarity with their special needs. In addition, hybrid- and exotic breeds generally require more rigorous feeding regimes and higher quality feeds. Again, this scenario is less favourable than the "baseline" traditional breed scenario, since declining mortality rates cannot be assured while production costs rise.

Scenario 5: Breed upgrade with appropriate feed and services. If producers can access appropriate breed, services, and medicines simultaneously, their margins can significantly increase. This scenario represents an optimal "first-step" for smallholders, yielding dramatically higher returns on capital investment and profit margins due to higher live weight gains and reduced mortality, as well as increased FGP from higher lean meat yields. However, the lack of capital investment in installations makes expansion beyond the backyard scale difficult or impossible.

Scenario 6: Baseline small commercial production. Growth from smallholding to small commercial production using improved breeds with higher LMY and resulting FGP premiums (as in Scenario 5) also requires capital investment in facilities, slightly reducing the profitability of such an operation, but permitting expansion beyond the scope of backyard smallholder production. Both profitable and sustainable, this scenario supports smallholder upgrading from a subsistence to a commercial approach to swine raising, and would permit smallholders to participate more fully in the national market.

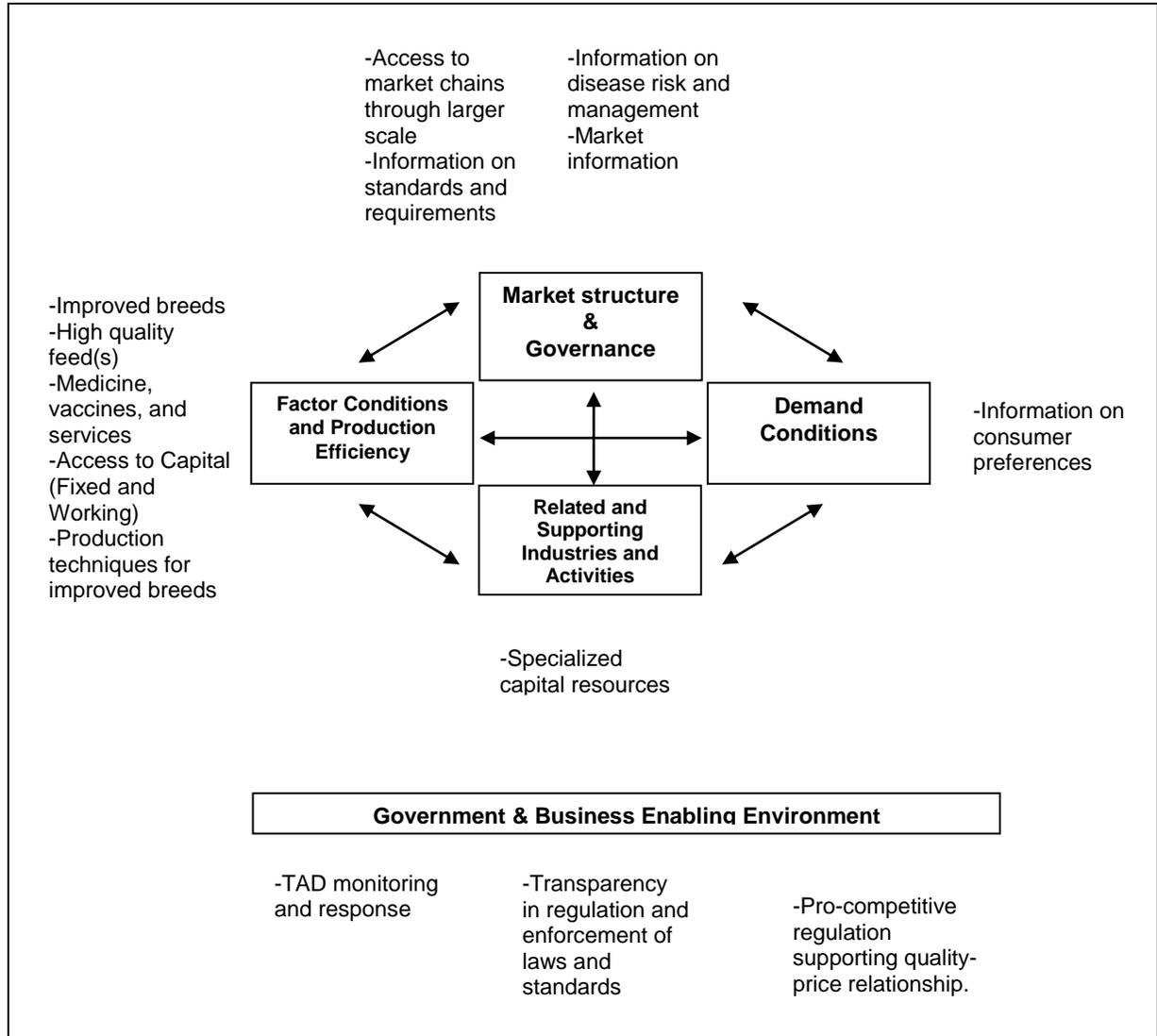
Based on this analysis, only scenarios 5 and 6, both of which depend on improved breed, feed, veterinary services, and on access to the national market chain for profitability, offer a clear pathway to improved smallholder performance.

5.4 Smallholder Upgrading Pathways and the Competitiveness Framework

The 'binding constraints' in scaling up such an appropriate model for smallholder transition to small commercial production might be seen, sequentially, as (1) market information regarding benefits of, and requirements for, breed and production system upgrading, (2) market access, linkages, and enhanced relationships with channel actors to realize these benefits through higher sale prices; (3) improved breeds and technical skill to maintain them; (4) appropriate feed resources; (5) appropriate veterinary products and services to support breed improvement; (6) enhanced availability of capital for facilities development and for the larger working capital requirements of feeding larger herds. To protect small commercial herd growth in the context of TAD risks, better information and private-

and public-sector monitoring and response capacity is required. An analytical approach focused on breed, feed, and veterinary issues (and possibly capital issues) might ignore the first steps on the path.

Figure 2: Requirements for Sustainable Smallholder Upgrading- Diamond Model



6. Directions for Competitiveness in Smallholder Swine

If smallholder swine production can be best understood as a culturally-embedded economic behaviour linked only to single-season (timely, current) price signals and tending towards pro-cyclical behaviour (both over- and under-production), policymakers and donors should work to improve the operational scale, technical competency, and awareness of price information among smallholders.

Questions of how smallholders will relate to new governance structures of evolving value chains must be addressed through step-wise analysis of capacity and constraints on upgrading. It needs also to be recognized that commercial production at some scale may be the only financially viable option for *profitable* pig production in light of more stringent quality and delivery requirements of supermarkets and integrated producers.

6.1 Policy Challenges and Approaches

In less developed markets of Asia, one key challenge is to initiate national- and regional-level industry models in which the cyclical uncertainties of regionally-integrating markets produce outcomes that leave room in the market for producers of a variety of sizes (smallholder to integrated). Optimal outcomes will also support the development of entrepreneurial capacity in related and supporting activities such as feed and veterinary services, rather than favouring only integrated (multinational) producers with sufficient capital reserves to weather extreme cycles caused by gluts, overproduction, and TADs.

An important question in developing Asian countries relates to the programmatic vehicles that are best suited to address these technical constraints. One school of thought, favoured by European donors, seeks to replicate advanced veterinary infrastructure along a public- or semi-public good model and to develop producer extension services to support upgrading. These activities clearly seek to improve conditions on the ground, but are criticized for lack of post-donor sustainability and also raise concerns due to their lack of market orientation.

Other vehicles, including the USAID-funded MSME programme in Cambodia and a similar model in Vietnam advanced by VSF aims to facilitate market-based interactions between producers and private service providers, major input and veterinary goods suppliers, and financial institutions to facilitate the development of private-sector “embedded” services to the same end. These approaches are, in principal, designed to survive beyond their funding cycles, since the facilitation of new relationships among commercial actors along the value chain. Important questions about the quality of services provided by profit-motivated value chain operators have been raised in response to these models, and the sustainability of improvements in producer performance and growth remains to be seen. Furthermore, these models tend to target the most commercially viable/savvy smallholders and may lack applicability to the general smallholder population.

6.2 Issues/challenges facing Asian smallholder swine production and opportunities for follow-up

Demand-Side Issues

- 1) Emerging consumer preferences for lean pork meat accompanying urbanization and rising incomes.
- 2) Supermarket penetration and impact of cold chain
- 3) Slaughterhouse/abattoir upgrading and interaction with food safety and quality

Possible follow-up:

- Detailed case study on Betagro (Thailand) initiative to introduce branded products into traditional hot market environments;
- Further research on 2005 Thai initiative to improve provincial slaughterhouse/ abattoir quality (status unknown).
- Research on smallholder participation in growing Vietnam supermarket meat distribution system.

Market Structure Issues

- 4) Lead firms and strategies in integrating swine production (contract farming, etc) and impacts on smallholders;
- 5) Capacity of small producers to respond to changing demand, and related strategic challenges in sector support and regulatory policy(ies). Strategies for “mainstreaming” smallholders.

Possible follow-up:

- Study of MSME and VSF Vietnam programmes using non-distorting market facilitation strategies. Possibly comparative study addressing the two models. Patrice would be good candidate for this work, as he is familiar with the model.
- Philippines: San Miguel and lead firms role in producer education and upgrading

Industry Sustainability Issues (Health and Disease-Related)

- 6) Transboundary disease control issues, with reference to **SPS** and food safety standards, and the effect of TADs on market volatility.

7) Intensification-related risks to human and animal health¹⁴

Probable follow-up:

- Perhaps in concert with the above, a study on the AI-Swine market interaction in Vietnam and subsequent crowding/over-supply of market, aggravating FMD and PRRS transmission;

Factor Conditions Issues:

- 8) Production cycle-based lending options and the need for alternatives to contract farming to provide risk mitigation for producers

Possible follow-up:

- Further investigation of Bangkok Bank's lending activities to support small-producer participation in national swine market
- Investigation of small- and micro-credit schemes supported by Vietnam's MARD and effectiveness of governance and delivery mechanisms.

¹⁴ **Industrial Livestock Production and Global Health Risks**, J. Otte, D. Roland-Holst, D. Pfeiffer, R. Soares-Magalhaes, J. Rushton, J. Graham and E. Silbergeld, Pro-Poor Livestock Policy Initiative, A Living from Livestock Research Report, June 2007

Appendix 1: Recommendations for Follow-Up in Cambodia to Enhance Competitiveness of Local Industry

Issues and Recommendations

Producer Performance and Animal Health Issues	Possible Solutions
<ul style="list-style-type: none"> ▪ High swine mortality rates and lack of producer technical skill for upgrading. ▪ Limited producer access to veterinary and medical services. ▪ Lack of resources for implementation of government animal disease control strategies. ▪ Producer risk-lipitsupplier risk due to lipitsupplier's role in providing credit. 	<p>Use existing commercial networks: Expand outreach through local lipitsuppliers to transfer skill and knowledge about vaccination to producers.</p> <p>Support local credit schemes for better disease control: Assist lipitsuppliers in developing credit mechanisms that encourage and teach improved swine raising techniques by borrowers, focusing on vaccination and disease control.</p> <p>National-level embedded credit tools: Work with banks or MFIs and large lipitsupplier companies to develop embedded credit tools that encourage producer growth through vaccination and animal health risk reduction. Support these efforts with regional market monitoring capacity.</p> <p>Breeder education and outreach: Extend and outreach to breeders to encourage vaccination as a profitable production strategy.</p> <p>Relationship development for improved health services: Facilitate relationship development between lipitsuppliers, wholesalers/traders, and VAMVs to encourage producers to engage animal health services.</p>

Issues and Recommendations

Domestic Breed Supply and Unsafe Animal Trade	Possible Solutions
<ul style="list-style-type: none"> ▪ Low swine productivity due to lack of breed availability. ▪ Lack of access to adequate supplies of piglets and breeding stock. Informal piglet imports are low quality. ▪ Risk of future imports to meet market demand. ▪ Conflicting incentives for enforcement of swine embargo and lack of RGC control over production of stock. 	<p>Ensure high quality piglet supply through official policy: Work towards a participatory and transparent regulated import regime for breeding stock and piglets based on industry participation to ensure adequate supply through regulated channels.</p> <p>Locally-appropriate, sustainable breeds: Enhance Cambodian swine breeds by banking from ACIAR-Vietnam breed and feed initiative (1995-2001) to develop high-yield, sustainable breeds adapted to domestic feed resources.</p> <p>Continue bilateral and technical cooperation: Continue to support and strengthen MAFF quarantine and inspection capacity through technical support, and support bilateral agreement implementation.</p>

Issues and Recommendations

Value Chain Upgrading and Competitiveness	Possible Solutions
<ul style="list-style-type: none"> Opportunities for development in the sector as source of sustainable competitive advantage. 	<p>Investor outreach: Work with MAFF-AMC to develop the sector profile and information on market opportunities to support the sector investment.</p> <p>SME and entrepreneurial development: Initiate agro-entrepreneurial development system to support and mentor sector entrepreneurs skills.</p>
<ul style="list-style-type: none"> Limited entrepreneurial capacity to support value chain upgrading. 	<p>Link investors to local needs: Convene investor forum to develop better linkages between new investors and sector participants.</p>
<ul style="list-style-type: none"> Limited managerial capacity to support value chain upgrading. 	<p>Educate traders and stimulate future markets: Trader education network to encourage better business practices and teach basic regulatory, and futures market experimentation to develop the retail futures trading.</p>
<ul style="list-style-type: none"> Limited domestic participation of value chain investors. 	<p>Long-term agricultural workforce development: Support improved agricultural workforce development through introduction of FFA-model vocational education in low-skill producers.</p>
<ul style="list-style-type: none"> Poor slaughterhouse capacity impedes value chain upgrading. 	<p>Use the profit motive to improve slaughterhouses: Initiate entrepreneurial development and upgrading program for Cambodia's slaughterhouse operators focused on developing brand products to promote improved conditions and performance and access to growing export market sector.</p>

Issues and Recommendations

Regulatory and Business Environment Issues	Possible Solutions
<ul style="list-style-type: none"> Destructive governance of the value chain through closed trading networks at the provincial level. Provincial variation in regulatory costs for slaughter and trade activities. No transparent trader and abattoir licensing procedures. 	<p>Provincial associations: Implement provincial value chain advocacy strategy to help value chain participants organize associations and advocate for improved implementation of the regulatory framework.</p> <p>Improve SD 108 through Prakas: Work for improved clarity and predictability of new slaughterhouse licensing legislation (SD 108).</p> <p>Overhaul trader licensing: Eliminate or substantially reconfigure trader licensing requirements.</p>
<ul style="list-style-type: none"> Need to develop a robust international framework legislation. 	<p>Framework legislation: Collaborate with industry to develop new framework legislation that promotes growth of national sector as well as international investment that contributes to the value chain's assets.</p>
<ul style="list-style-type: none"> Discriminatory customs procedures for import of livestock industry inputs. 	<p>Camcontrol Reform: Support the demonstration of Camcontrol as outlined in Gasoolie, 2006.</p> <p>Simplify input import procedures: MAFF, Camcontrol and CED should clarify and simplify procedures for input imports, to meet domestic feed sector needs. Drastically simplify JP 363/74 on management of veterinary medicine (g).</p>

Update of GF-TADs Activities

Slide 1

FAO Regional Office for Asia and the Pacific

Update of GF-TADs Activities

Strengthening the contribution of agriculture to economic growth in Asia

Slide 2

FAO Regional Office for Asia and the Pacific

Background

- Second GF-TAD Steering Committee Meeting, Bangkok, Thailand, July 2007
- Structure:
 - Regional Specialized Organization (RSO)
 - Regional Support Unit
 - Epidemiology Center and Lead Laboratory
 - RSOs: ASEAN, SAARC, SPC
 - Each RSO will meet prior to the conduct of the Third GF-TAD Steering Committee Meeting

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FAO Regional Office for Asia and the Pacific

Update of Activities

- RSO Meetings - pending
- FMD
- CSF Workshop
- PRRS
- AI

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FAO Regional Office for Asia and the Pacific

FMD Activity (1)

The Role and Significance of the Carrier State in the Asian Swamp Buffalo in the Transmission and Control of Foot and Mouth Disease in Southeast Asia

Project Duration: Three years (3 years)

Implementing Agencies:

- Lead Agencies:
 - Australian Biosecurity Cooperative Research Center (AB-CRC)
 - Food and Agriculture Organization (FAO) of the UN
 - Murdoch University, School of Biomedical and Sciences
 - Office of the International Epizootics (OIE)
- Cooperating Agencies:
 - World Reference Laboratory (WRL) for FMD, Institute for Animal Health, Pirbright Laboratory, Ash Road, Pirbright, Surrey, United Kingdom
 - Regional Reference Laboratory (RRL) for FMD, Pakchong, Thailand
 - Australian Animal Health Laboratory (AAHL) Geelong, Vic. Australia

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FAO Regional Office for Asia and the Pacific

FMD Activity (1)

Overall Objective: The overall objective of the project is to clarify the role and significance of the carrier state in Asian Swamp Buffalo (ASB) in the transmission and control of Foot-and-Mouth Disease (FMD) in Southeast Asia.

Specific Objectives:

- To determine the frequency of FMDV carriers in outbreaks of FMD in ASB
- To determine the duration of the persistence of FMDV in ASB.
- To conduct a comparison of diagnostic tests for use in ASB
- To evaluate intervention strategies in relation to the transmission or control of FMD in ASB
- To make recommendations to the SEAFMD Campaign and member countries on strategies for animal movement management and the control of FMD in Buffalo in Southeast Asia

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FAO Regional Office for Asia and the Pacific

FMD Activity (2)

Role of FMD Vaccination in Cambodia and Lao PDR, part of the Lower Mekong FMD Zone

- Due to several requests received from FAO RAP and APHCA for FMD vaccines, there is a need to better develop a plan for vaccine sourcing and usage,
- To assess the vaccination strategy of countries especially in the Lower Mekong area, and if needed, a new strategy be developed to include vaccine requirements.
- Work to commence in November

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FMD Activity 3

- GCP/PHI/049/AUL Eradication of FMD in the Philippines
- OSRO/BGD/701/CHA Emergency FMD Vaccination in Bangladesh
- TCP/DRK/3104 Emergency assistance for early detection, response and control of foot-and-mouth disease outbreaks
- GCP/CMB/028/EC
 - FMD surveillance and vaccination as part of the Animal Health Component of the EC project to Cambodia on Support to Livestock Production Project
- Risk Based strategies for the control of emerging strains of Foot-and-Mouth Disease (FMD) virus in Bhutan

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FAO Regional Office for Asia and the Pacific

CSF Activity

FAO/IE Regional Workshop on Classical Swine Fever (CSF) Control Strategy for Southeast Asia in collaboration with the Bureau of Animal Industry, Philippines, 7-8 July 2008

Outcome: Strategic Framework for CSF Control for Southeast Asia

GOAL:

- Control and eventual eradication of CSF by 2020

OBJECTIVES:

Phase 1: Preparation phase - To develop regional and national plans to include all the basic infrastructure, mechanisms, required capacities required to run an animal health program

Phase 2: Control Phase - To implement the measures stated in the national plans with regular assessments conducted to monitor the status of the country/region.

Phase 3: Eradication Phase - To assess the program activities and regional disease status, as it prepares for the steps needed for eradication

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FAO Regional Office for Asia and the Pacific

PRRS

Emergency Workshop on Porcine Reproductive and Respiratory Syndrome (PRRS) 24-25 September 2007

- Objectives:
 - To discuss PRRS, the disease and its epidemiology
 - To identify country needs/gaps as per the elements required in a preparedness plan on PRRS and other pig diseases
 - To plan the way forward

Pipeline Regional TCP

- Assistance on diagnosis and management of PRRS and other swine diseases to improve swine health status in selected countries
 - Cambodia, China, Lao PDR, Myanmar, Philippines, Thailand, Vietnam
 - Three country endorsements

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FMD Vaccine Bank

Slide 1

FAO Regional Office for Asia and the Pacific

FMD Vaccine Bank

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Slide 2

FAO Regional Office for Asia and the Pacific

Background

- 30th APHCA Session approved the proposal to explore the establishment of an FMD Vaccine (or Antigen) Bank
- Working Group was formed with India, Pakistan, Mongolia, Myanmar, Lao and Thailand as members
- Working Group met March 2007 in Bangkok, Thailand.
- Also present during the meeting were OIE SEAFMD, Intervet and FMD RRL
- 31st APHCA agreed to explore with vaccine companies the options listed by the working group

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Objectives of the Meeting

- To define the specification for the material to be stored in the FMD seed virus bank
- To discuss the mode of access and replenishment of the bank
- To outline the TOR or specifications for a tender for the location and maintenance of the bank.

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FAO Regional Office for Asia and the Pacific

Vaccine Bank vs. Antigen Bank

- An antigen bank is most useful in case of variability of or new emerging field strains in a country and could be stored indefinitely.
- A vaccine bank is composed of stored vaccines with defined pathogens but with a limited shelf life.

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Options

- **Option 1: Establishment of an antigen bank to run for two years initially. The antigen bank will store the following antigen types:**
 - O Manisa – to make 300,000 vaccine doses
 - A – to make 100,000 vaccine doses
 - Asia1 – to make about 100,000 vaccine doses

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FAO Regional Office for Asia and the Pacific

Options

- **Option 2: The second option is to establish a vaccine bank and order the following vaccines for storage at the bank for two years.**
 - Type O – 300,000 doses
 - Type A – 100,000 doses
 - Type Asia1 – 100,000 doses

Vaccines need to be disposed off before expiration of vaccines.

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Options

- **Option 3: A third option is to contract a vaccine company to make the vaccines mentioned in Option 2 available when needed so that there is no need to dispose off the vaccines when the shelf life of said vaccines is to expire.**

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Vaccine Company A Proposal

- Requires Antigen Bank to produce 300,000 doses of vaccine
- Counter proposal of a rolling stock of vaccines for a three year contract of 100,000 doses with the following cost:
 - Stock cost
 - monovalent: USD 0.18 per dose per year (USD 18,000 per year)
 - trivalent: USD 0.42 per dose per year (USD 42,000 per year)
 - Emergency supply cost
 - monovalent: USD 0.36 per dose
 - trivalent: USD 0.82 per dose

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Vaccine Company B Proposal

- Antigen Bank to formulate 100,000 doses not advised
 - Establishment Fee: 0.5 euro/dose (5 year contract)
 - Storage/year Fee: 2500 euro annually
 - Delivery fee of vaccines: 0.5 - 1 euro/dose
- Vaccine Bank for two years
 - Monovalent: 0.8 euro/dose (min. of 0.5M doses)
 - Trivalent: 1.0 euro/dose (min. of 0.3 M doses)
- Leasing Agreement with FAO:
 - Yearly fee of 40,000 euro for 5 years for Ag Bank
 - Vaccine production - 0.8 euro/dose
 - Automatic replenishment of Ag free of cost

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Disease Emergency Assistance Fund

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FAO Regional Office for Asia and the Pacific

Disease Emergency Assistance Fund

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- Approved by the APHCA Executive Committee during its Executive Committee Meeting held last 5 July 2007 in Colombo, Sri Lanka.
- Seed money for this Fund comes from the interest of the APHCA trust fund

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Disease Emergency Scenarios

- Emerging diseases occurring in the country for the first time
- A disease occurring with a sudden surge after a period of "dormancy"
- A disease recurring in a disease free zone.

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FAO Regional Office for Asia and the Pacific

Fund Ownership and Use

- Owned by APHCA member countries and will be available only to APHCA members.
- The Fund will be managed by the APHCA Executive Committee with assistance from the APHCA Secretariat.
- A seed fund of USD 25,000 will be made available.
- The fund will cover costs for outbreak handling such as : in-country travel expenses, purchase of vaccines, diagnostic kits and other emergency supplies (drugs, disinfectants, PPE, packaging and shipment of samples etc.), casual labor and printing of communication materials

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FAO Regional Office for Asia and the Pacific

Update

- Request from Philippines to use the fund for sample collection and testing of a suspected atypical PRRS

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**Workshop on GIS Applications in Animal Production and Health
(Philippines, 3-7 March 2008)**

Slide 1

FAO Regional Office for Asia and the Pacific

Workshop on GIS Applications in
Animal Production and Health

Philippines, 3-7 March 2008

Strengthening the contribution of agriculture to economic growth in Asia

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Slide 2

FAO Regional Office for Asia and the Pacific

Background

- The Environmental Animal Health Management Initiative (EAHMI) was implemented in the Philippines to explore and advocate alternative innovative approaches to animal disease management for smallholders, in a similar manner to that of Integrated Pest Management (IPM) for crop farmers.
- EAHM is a convergence of ecology, epidemiology and farming system studies.
- It also refers to the theory and practice of assessing, correcting, controlling and preventing factors in the natural and social environment of animals that may have adverse effects on the health of animal and/or human populations

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Slide 3

FAO Regional Office for Asia and the Pacific

Background

31st APHCA, 2007
Presentation on Environmental Animal Health Management and GIS applications in animal production and health
Joint international workshop agreed to be hosted by the Philippines and APHCA
Funded jointly by GCP/PHI/050/ITA
Environmental Animal Health Management Initiative, Philippines and FAO-APHCA

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FAO Regional Office for Asia and the Pacific

Workshop Details

- 14 countries participated
- Objective: to familiarize senior officers with the basic principles of GIS and demonstrate a range of applications in animal production and health.

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Slide 5

FAO Regional Office for Asia and the Pacific

Programme Topics

- Global and regional perspectives on the importance of GIS in decision support for sustainable agricultural development, EAHM and mitigation of adverse impacts
- Metadata and Geonetwork: international standards and open source software to document store and share the geospatial information
- GIS applications for animal production and health information systems
- Introduction to Remote sensing and GIS I, GIS II, GIS III
- Small group GIS demonstrations and discussions

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FAO Regional Office for Asia and the Pacific

Recommendations

- APHCA reviews options available for facilitating national and sub-regional initiatives
- Facilitate regional capacity building, institutional collaboration and use of standardized datasets of animal resource distributions and environmental conditions
- Specific country request of more detailed GIS training for use in animal health and production

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FAO Regional Office for Asia and the Pacific

Developments

- Proposed training on GIS for animal health to include development of training materials, conduct of the training and development of a GIS training manual
- Approval of GCP/RAS/244/ITA Subregional EAHMI for enhanced smallholder production for southeast Asia

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Highly Pathogenic Avian Influenza H5N1 Observations on regional dynamics

APHCA Meeting Bangkok, October 27th 2008-12-04

Laurence J Gleeson

**Emergency Center Transboundary Animal Diseases
FAO regional Office of Asia and Pacific**

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**Highly Pathogenic Avian Influenza H5N1
Observations on regional dynamics**

**APHCA Meeting
Bangkok, October 27th 2008**

**Laurence J Gleeson
Emergency Centre for Transboundary Animal Diseases
FAO Regional Office of Asia and Pacific**

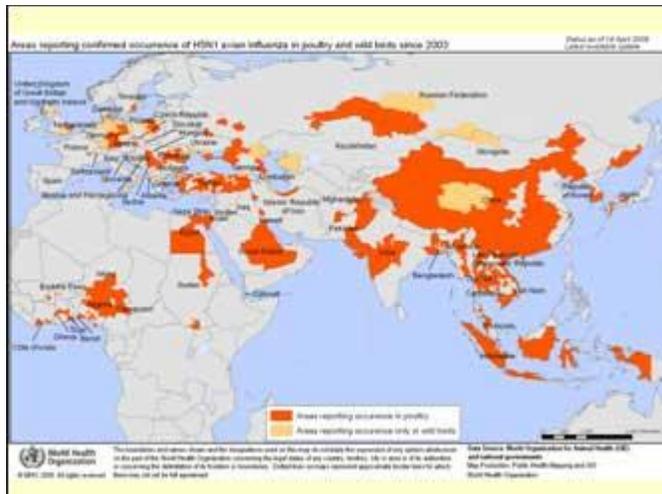


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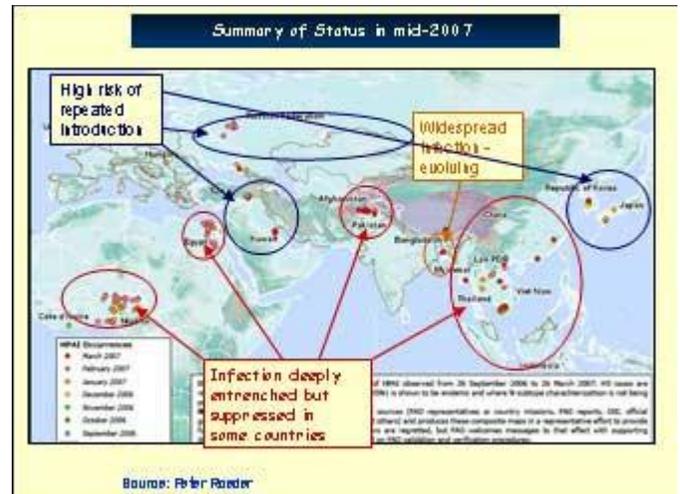
 Observations on regional dynamics of H5N1: June 2008

Acknowledgement:
The observations presented included a combination of thoughts of colleagues that have been presented at various HPAI program review meetings in recent times. Sources include Ken Inui (FAO Vietnam), Wantanee Kalpravidh (FAO ECTAD RAP) and Dennis Carroll (USAID Washington). Gene sequence analysis information has been obtained from public or published sources.

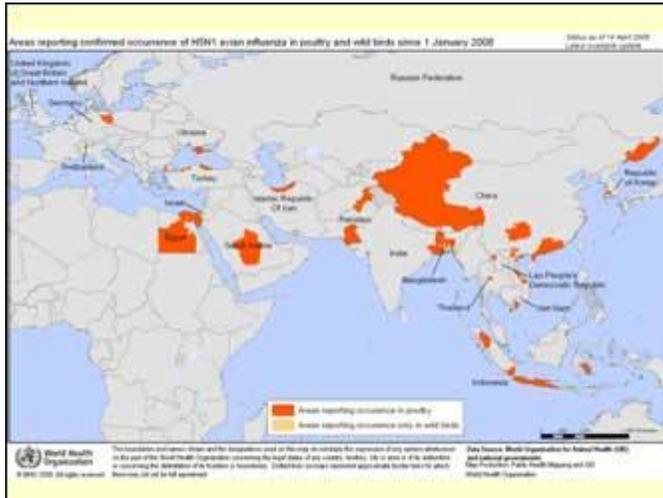
Slide 3



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Observations on regional dynamics of H5N1: October 2008

Country situation review

- Bhutan:** no outbreaks reported
- Bangladesh:** disease has become established since Feb 2007, significant epidemic early 2008, no outbreaks for 5 months then again in late September
- Cambodia:** sporadic outbreaks of disease, last recorded in April 2007
- China PR:** disease is endemic but partially controlled by vaccination
- India:** sporadic outbreaks, increasing frequency in mid 2008 in West Bengal, now controlled
- Indonesia:** disease is well entrenched and not yet effectively controlled, but surveillance suggests incidence may be declining in some areas

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Observations on regional dynamics of H5N1: June 2008

Country situation review

- Lao PDR:** sporadic outbreaks of disease, most recent associated with ducks in north
- Myanmar:** sporadic outbreaks of disease, most recent in north
- Malaysia:** sporadic outbreaks (rare)
- Nepal:** no outbreaks reported
- Papua-New Guinea:** no outbreaks reported
- Philippines:** no outbreaks reported
- Sri Lanka:** no outbreaks reported
- Thailand:** sporadic outbreaks of disease (endemic focus?)
- Vietnam:** disease is endemic but partially controlled by vaccination

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Observations on regional dynamics of H5N1: June 2008

Movement of infection/disease

- (i) Local
 - live birds and live bird marketing systems
 - contaminated meat or eggs
 - fomites (egg trays and people)
 - wild birds? (crows, sparrows, pigeons)
- (ii) Transboundary
 - short distances – live birds including fighting cocks, fomites, technical equipment
 - long distances – fomited, commercial technical operations, migratory birds, smuggled exotic birds

spent hens (vaccinated, can be infected)
contaminated meat or eggs - market forces are very important

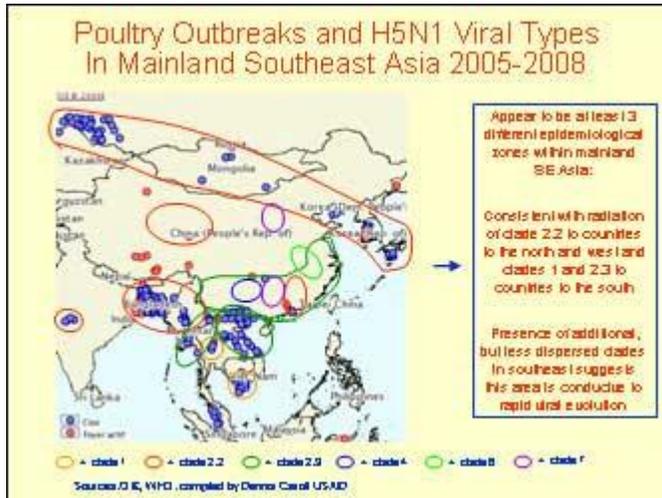
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Observations on regional dynamics of H5N1: June 2008

- Viral genetic sequencing and sequence analysis is used to group H5N1 viruses into closely related families called clades
- When viruses belong to the same clade it means that they are closely related or come from a common progenitor virus
- This system was devised internationally to enable more ready classification and so linking of viruses
- There are 7 basic clades of the current H5N1 strain but recently the viruses in clade 2 have come to predominate, so that many subclades have been designated to enable finer discrimination of the relationships

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Observations on regional dynamics of H5N1: June 2008

Bangladesh and India (viruses belong to clade 2.2 of H5N1)

Outbreaks in western India in 2006 appear to have been controlled and eliminated

Outbreaks commence in Bangladesh in Feb 2007 (source unknown)

Outbreaks in eastern state of India between Bangladesh and Myanmar (source unknown)

Further outbreaks in West Bengal India with quite close physical relationship to Bangladesh (very likely cross border spread).

Porous borders and lot of people movement, very difficult to control

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Observations on regional dynamics of H5N1: June 2008

Myanmar

May 2006 outbreak (clade 2.2) – investigations hinted that DOC and spent hens were probably regularly imported to the area from China.

March – October 2007 (clade 2.3) – the origin is not known but likely association with establishment of a reservoir in ducks

November – December 2007 (clade 2.3) – originated with the movement of ducks across the border from Yunnan to Shan state – local trading and cheap price.

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Observations on regional dynamics of H5N1: June 2008

Lao PDR

2004 – virus outbreaks were clade 1, probably originating from cross border movements from Vietnam and/or Thailand

Feb 2006 – clade 2.3.4 found on duck surveillance

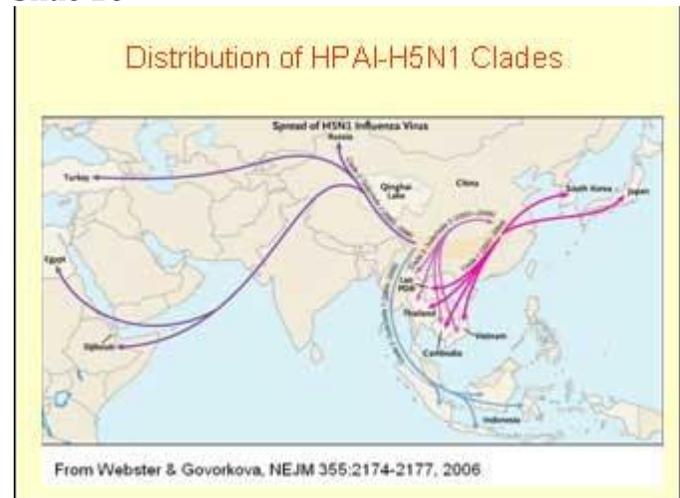
July 2006 – clade 2.3.4 caused larger outbreak in chickens (new introduction and leaked to one site in Thailand due to fomites)

2007 – clade 2.3.4 caused a larger outbreak in many sites in Lao and one site in Thailand (again due to fomites)

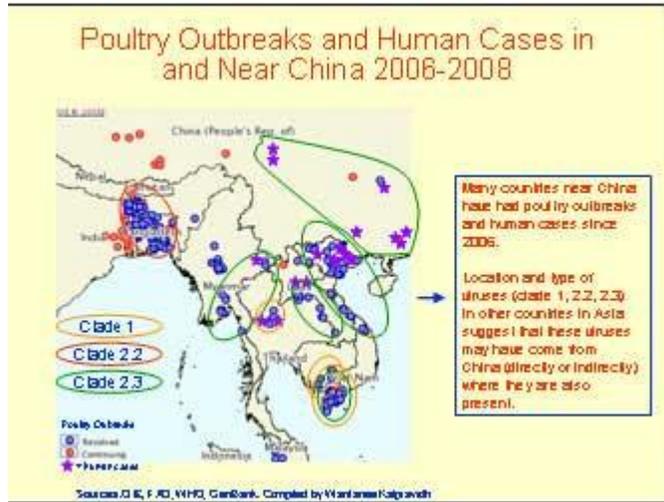
2008 – clade 2.3.4 remote villages, probably related to Shan State or southern China

2008 – clade 2.2? - associated with duck farmers with strong connection to PR China

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Observations on regional dynamics of H5N1: June 2008

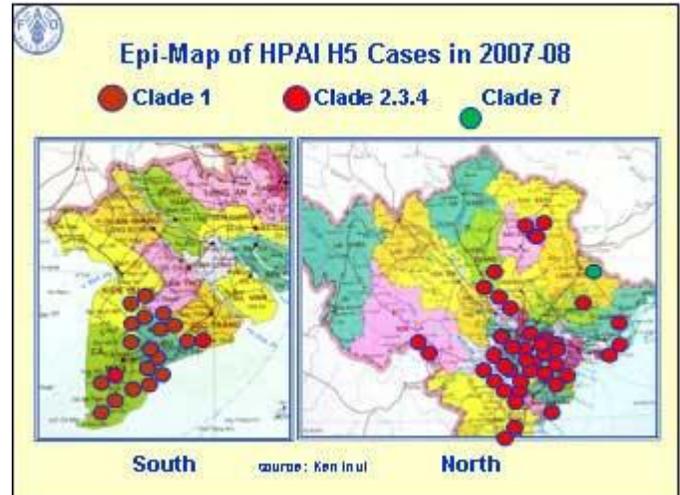
Possible Epidemiological Linkages Between Poultry Outbreaks in China and Neighboring Countries During 2003-2008

- Multiple lineages of H5N1 virus (e.g. clade 1, 2.1, 2.2, 2.3) all appear to have been present in China months or years before being detected in other countries in Asia and beyond
- Routine vaccination of poultry in China has provided an opportunity for the virus to be moved to other countries with apparently healthy poultry
- Wild birds may have also played a role in disseminating clade 2.2 virus to other countries in Asia and beyond

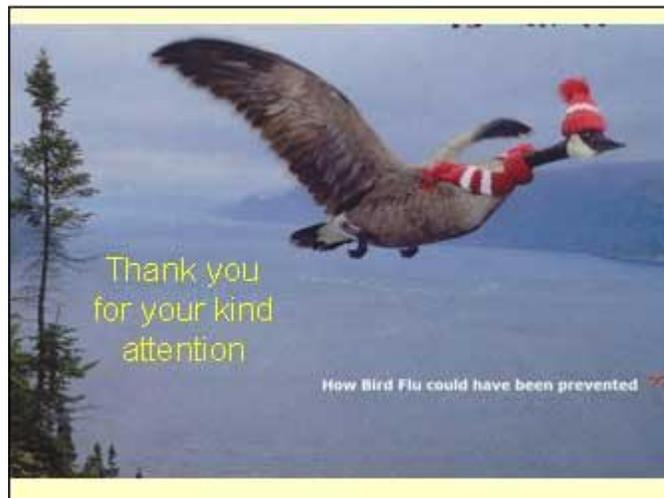
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APHCA's Joint Activities on Technical Capacity Building in Member Countries

Slide 1

APHCA's joint activities on technical capacity building in member countries:



Slide 2

Workshop and working group meeting on BSE and other prion diseases



To pursue with national and regional capacity building on BSE/prion diseases diagnosis and surveillance, the 3rd OIE/FAO-APHCA workshop and working group meeting on BSE and other prion diseases [in collaboration with the China Animal Health and Epidemiology Center (CAHEC)] was organized in Qingdao, PR China, between 23 and 25 September 2008 (using the APHCA TCDC fund to cover international travel costs of selected APHCA participants).

Slide 3

Chronology of BSE-related workshops co-organized by FAO-APHCA and OIE Asia-Pacific Office:

Trainings and workshops on BSE/prion diseases:

- Three training workshops (using IHC and ELISA) at NIAH Thailand in November 2001, October 2003 and March 2005;
- Joint workshops on BSE risk analysis and public awareness were organized in Chiang Mai in October 2003.
- Two advanced training workshops (using WB and IHC) organized at NIAH-Japan in November-December 2005 and January 2007.
- P.R. China hosted the 3rd OIE/FAO-APHCA Regional Workshop and Working Group Meeting (in collaboration with CAHEC), in Qingdao, between 23-25 September 2008.
- Rep. of Korea proposed to host the 4th Regional Workshop and Working Group Meeting in Anyang, tentatively in March 2010.

Slide 4

Outcomes of the regional activities on BSE and other prion diseases:



- A working group on BSE/prion diseases diagnosis was formed in 2005.
- There have been regular exchanges of the disease information and know-how.
- Monoclonal antibodies for BSE and scrapies diagnosis were provided by the CAHEC to the BAI of the Philippines in September 2007, through the APHCA Secretariat's contact, free of charge. This provision of biological materials and reagents will continue.

Slide 5

WTO's SPS agreement

A series of (6) workshops on WTO's SPS agreement were co-organized with OIE-Tokyo Office, between 2001 and 2007.

A proposal for the 7th FAO-APHC/OIE Regional workshop on WTO's SPS agreement, to be held tentatively in August – September 2009 was made (with agreement by OIE Asia-Pacific for co-sponsorship and collaboration by DLD of Thailand and FVM-CMU).



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FAO-APHC/OIE Regional Workshop on Brucellosis Diagnosis and Control

- The first workshop on Brucellosis diagnosis and control (with an emphasis on *B. melitensis*) was organized [in collaboration with DLD of Thailand and Faculty of Veterinary Medicine, Chiang Mai University (FVM-CMU)], in Chiang Mai and Lampang, Thailand, between 20 and 23 October 2008. 23 participant and observers from 17 countries participated in this workshop.
- The 2nd workshop is proposed to be organized, tentatively in Khon Kaen, Thailand in June – July 2009 (with agreement for co-sponsorship by OIE Asia-Pacific Office and collaboration from DLD of Thailand).
(With additional APHC budget to promote Brucella diagnosis activities amongst member countries.)



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OIE/FAO-APHC Regional Workshop on Bluetongue Diagnosis and Control (for selected member countries)

- Bluetongue is an important arbo-borne viral disease in ruminants. The pathogenic serovars of bluetongue virus can cause major economic lost and public health hazard.

Institutional strengthening and capacity building activities on the disease are of interest to APHC members. Thus, a regional workshop on bluetongue diagnosis and control is proposed for funding.
- A 4-day regional workshop on Bluetongue diagnosis and control is proposed to be held [in collaboration with the Directorate General of Livestock Service (DGLS)/GOI], at the National Research Institute for Veterinary Science in Bogor, Indonesia, tentatively in April – May 2009.
(OIE Asia-Pacific agreed to co-sponsor this workshop, pending confirmation on collaboration from the DGLS/GOI.)

Slide 8

Veterinary Public Health (VPH) Courses

- The APHC Secretariat technically collaborates with and supports various activities related to VPH to the Faculty of Veterinary Medicine of Chiang Mai University (FVM-CMU), over the past decade.
- FVM-CMU together with the Free University of Berlin offer scholarships to students from Asia-Pacific region and priority is given to APHC countries. Amongst the 4 international students recruited for the third batch in 2007, there were students from India who earlier participated in the BSE and WTO's SPS Agreement Workshops at FVM-CMU, LAOPDR, Myanmar, Nepal and Thailand.



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VPH – Scholarship: for the fourth batch of MYPH students

Scholarships

- Six scholarships are available by the German Academic Exchange Service (DAAD).
- Scholarships by Chiang Mai University, Ministry of Education, Thailand – only for applicants from Southeast Asian region – will be announced in due time.

Application for admission

Deadline for application for admission is **31 March 2009**.

Deadline for application for **DAAD scholarships and Thai government scholarships** are **31 January 2009**.

(Applicant may apply for both scholarships or either one of them.)

For further information, please visit website : www.vphcap.org

**Minutes of the 3rd Working Group Meeting on BSE
and Other Prion Diseases
(Qingdao, PR China, 25 September 2008)**

The working group, consisting of 8 members, one each from PR China, India, Japan, Rep. of Korea, Malaysia, Mongolia, Philippines and Thailand participated in the meeting that followed the two days workshop on BSE and prion diseases (programme details attached). It was a general consensus that the workshop provided another good opportunity for all participants to refresh and update their knowledge and technical skills related to BSE and other prion diseases.

2. The group reviewed the minutes of the second working group meeting held in Tsukuba, Japan on 19 January 2007 and adopted. It also revised the TORs as below:
 - i. The founding working group members (as of 9 December 2005) comprise: 1) all participants of the OIE/FAO-APHCA/NIAH-Japan Regional Hands-on Training Workshop on BSE Diagnosis which was organized at the Prion Disease Research Center, NIAH of Japan between 30 November and 9 December 2005 (these participants were officially nominated by CVOs of their respective countries), 2) officials of OIE Regional Representation for Asia and the Pacific (OIE-Tokyo) and FAO-APHCA, and 3) researchers of the OIE BSE Reference Laboratories, including the Prion Disease Research Center, NIAH of Japan;
 - ii. Japan was included as one of the members of the working group in 2008;
 - iii. The participating countries shall perform/enhance BSE and other prion diseases activities in their respective countries – in accordance with related international standards – OIE Terrestrial Animal Health Code and Diagnostic Manuals, with the ultimate objective to obtain recognition for BSE negligible or controlled status;
 - iv. The participating countries and researchers shall collaborate amongst themselves in performing their respective duties, while OIE Asia-Pacific and FAO-APHCA should play coordinative and facilitating roles;
 - v. Participating countries shall provide their activity reports on BSE and prion diseases situations, including results of laboratory studies such as ELISA, IHC and WB in their respective countries. (*These reports shall be presented at the forthcoming workshops*); and
 - vi. The NIAH of Japan, being one of the OIE reference laboratories for BSE, shall provide technical support to the participating countries.

3. The group discussed various issues related to BSE and other prion diseases in details as the follows:

The issues comprised:

- a rapid screening test (IDEXX-ELISA);

- progress on the development of a real time PCR for detection of ruminant ingredients in animal feed;
 - all participants exchanged on the situations and problems encountered regarding surveillance on BSE and other prion diseases in their countries;
 - overview was given by resource persons on pathogenesis, development on new diagnostic techniques including PMCA, and epidemiological outlook (history in the timeframe and species related on the disease);
 - updates on related OIE Standards and the Official Recognition for BSE Risk Status.
4. In order to continuously and smoothly pursue with the works on BSE and other prion diseases in all the participating countries, the following proposals were made to the co-organizers:
- periodical meetings, trainings and workshops shall be conducted in turn;
 - exchange of expertise i.e. technical personnel and experts among the member countries;
 - exchange of information in the field of BSE diagnosis, applications for status recognition on BSE;
 - facilitate collaborative activities and mechanisms on exchanges of materials, reagents and visits of scientists/experts necessary for laboratory works and studies on BSE and other prion diseases.
5. Strengthening mutual collaborations and dialogues amongst members be enhanced by e-mails or virtual networking by internet forum.
6. Members of the working group can be expanded when need arises or when other countries in the Asia-Pacific Region (member countries of OIE Asia-Pacific or FAO-APHCA) officially express their interests in joining.

The proposal from the Republic of Korea for organizing the next technical workshop and working group meeting at the National Veterinary Research and Quarantine Service in Anyang, Republic of Korea, tentatively in March 2010, was considered and accepted.

Proposal to the 32nd Session for APHCA's joint activity with OIE Asia-Pacific: US\$5,000 under APHCA's TCDC travel budget to cover only airline ticket costs of APHCA member countries (in the OIE/FAO-APHCA Working Group on BSE and Other Prion Diseases) and incurred expenditures in co-organizing the 4th OIE/FAO-APHCA Regional Workshop and Working Group Meeting on BSE and Other Prion Diseases, which was proposed by Rep. of Korea to be organized at the National Veterinary Research and Quarantine Service Center in Anyang, Rep. of Korea tentatively in March 2010.

**Conclusion and Recommendations of the FAO-APHCA/OIE Regional
Workshop on Brucellosis Diagnosis and Control
(with an emphasis on *B. melitensis*)**

(Chiang Mai and Lampang, Thailand, 20 – 23 October 2008)

Considering that:

1. The FAO-APHCA and OIE Regional Workshop on Brucellosis Diagnosis and Control with an emphasis on *B. melitensis* was organized in Chiang Mai and Lampang, Thailand on 20-23 October 2008, to (a) give an update on Brucellosis situation in Asia and the Pacific with an emphasis on current epidemiological situation of *B. melitensis* in the Region, (b) introduce protocol development for control of Brucellosis and (c) provide hands-on trainings on diagnosis of Brucellosis (putting an emphasis on *B. melitensis*).
2. Brucellosis, including caprine and ovine brucellosis caused by *B. melitensis*, has been recognized in most member countries of the Asia and the Pacific Region, with a high rate of positive cases in some parts of the Region, and as a consequence, the high infection rate in human populations. The information on Brucellosis in pigs is not sufficient in the Region.
3. Several laboratory diagnostic tests are available for the identification of *Brucella* and for serological testing (in particular, RBT, CFT and iELISA) but no single serological test is applicable for all purposes of Brucellosis diagnosis.
4. PCR is, at present under development, a quicker diagnostic tool for *Brucella* detection. While the conventional *Brucella* typing methods remain standard tests, there is up-to-now no molecular typing system available to differentiate all *Brucella* strains. In general, all molecular tests are still expensive.
5. One of the constraints to more active Brucellosis diagnosis in the Asia and Pacific Region is to obtain diagnostic reagents such as Rose Bengal Test (RBT) antigen, which is essential for routine laboratory work.
6. It is considered that new tools for diagnosis are necessary but an epidemiology-based strategy is essential for testing regime design and results interpretation.
7. In addition to effective veterinary services, (i) educational programmes to other stakeholders such as farmers, including those for good farming management, (ii) effective enforcement of legislation in conjunction with animal disease control, (iii) public awareness and preparedness of the disease which is transmissible to humans, are all essential for the disease control and the development of long term disease control strategies.

The Workshop on Brucellosis Diagnosis and Control recommends that:

8. A combination of those different Brucellosis tests mentioned in item 3 above should be considered appropriate for practical diagnostic measures in the field, taking into account various factors including the effectiveness for a complementary purpose of laboratory diagnosis, the different laboratory infrastructure and economic coverage capacity for laboratory reagents, etc. at the respective national laboratories.
9. Referring to item 2 above, the member countries should be encouraged to further investigate the epidemiological situation in livestock, in particular *B. abortus* and *B. suis* (for cattle and pigs, respectively).
10. National laboratories should keep the same standard operating procedures. According to the OIE requirements and as CFT is concerned, the national reference laboratory should make an effort to harmonize the operating procedures at least at a national level.
11. Establishment of a Reference Laboratory for Brucellosis for the Asia and Pacific Region should be considered in order to support the strengthening of laboratory capacity and activities of Brucellosis diagnosis and surveillance, and also for national brucellosis control strategies on the short and/or long term basis in the respective countries. Such a Reference Laboratory should provide services on diagnostic reagent and vaccine control as well as *Brucella* typing. For this purpose, the OIE twinning programme should be developed in this Region; for example, between the OIE/FAO Reference Laboratory for Brucellosis (France) and the National Institute for Animal Health (NIAH) in Thailand. Member countries request the modest financial support from international agencies to cover the provision of RBT antigen.
12. Brucellosis control strategies including capacity building at laboratory diagnosis and surveillance should be further strengthened for the disease control and eventual eradication of the disease at the national and regional levels. Member countries request a follow-up workshop/training.
13. Epidemiology and diagnosis of Brucellosis are a key element for the sound development of control strategies, in particular taking into consideration the fact that Brucellosis is a herd/flock disease, and choice of tests and interpretation should always be based on epidemiological reality, as epidemiology of the disease is complex.
14. Selection of control and eradication strategies and decision of control levels, should include some disease control aspects based on the epidemiological situation, policies for the test and isolation/slaughter, animal movement management and for vaccination, while the circumstance surrounding the disease needs to take into consideration the political will, budget availability and capacity of Veterinary Services for disease control, animal/herd identification and availability of quality vaccines.

The exclusive test and slaughter strategy should be limited to the regions/areas, where (i) a herd prevalence of the disease is very low and (ii) adequate budget and the long term political will are secured.

In all other situations, vaccination should be considered as a basic control tool.

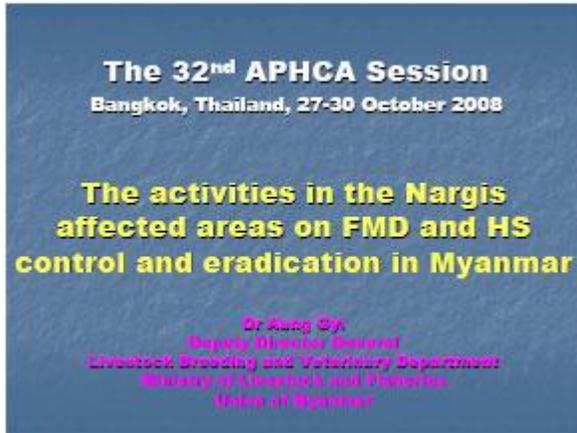
The whole population vaccination should be considered, where the herd prevalence is high and where animal movement could not be effectively controlled.

Where the herd prevalence is moderate and where animal movement is controlled as well as budget is adequate, the combination of a test and slaughter policy and vaccination programme should be considered. Therefore, the primary goal of a control programme should be the good knowledge of situation for the adequate definition of epidemiological units of intervention and a well-designed control policy including vaccination and/or the test/slaughter should be a priority for the progressive control of Brucellosis and eventual eradication of the disease.

International cooperation for Brucellosis diagnosis and control by FAO-APHCA and OIE should be continued for capacity building of national Veterinary Services in the Asia and Pacific region for development of a long term control programme of the disease.

The Activities in the Nargis Affected Areas on FMD and HS Control and Eradication in Myanmar

Slide 1



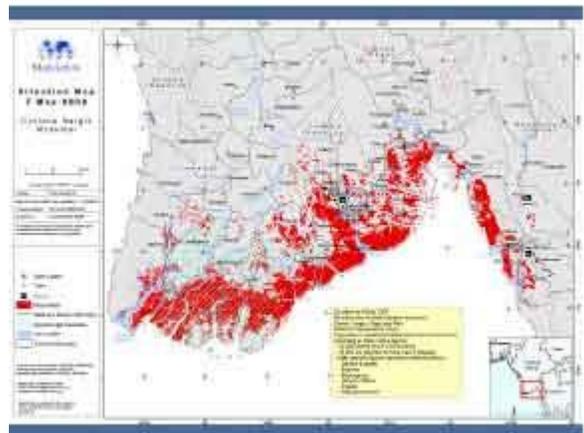
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Slide 3



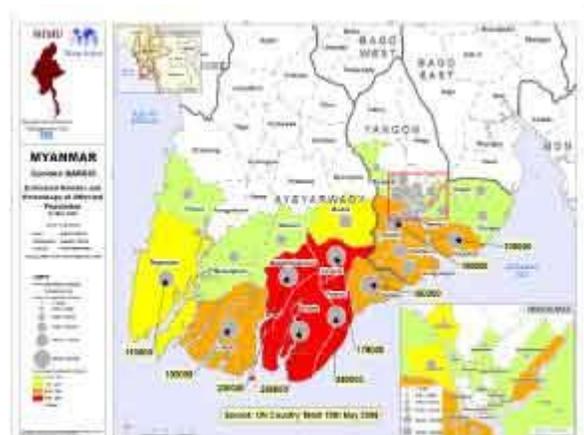
Slide 4



Slide 5



Slide 6



Slide 7

NARGIS Cyclone

- 2nd and 3rd May of 2008, NARGIS Cyclone affected mainly in Ayeyarwaddy and Yangon Division.
- Many casualties and uncountable loss of properties, including buildings, cropping lands, agro-products, fishing boats and utensils for fishing gears, animals and food sources.
- Military, Ministries, International Organizations, Non-governmental Organization, Donors and other well wishers in corporately participated in rescue, relief, rehabilitation and resettlement with immediate action.

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Cyclone hit areas

Ayeyarwaddy Division	7 townships and Other 2 townships
Yangon Division	4 townships and Other 11 townships
Bago Division	Other 15 townships
Kayin State	Other 1 townships
Mon state	Other 2 townships

* Other townships* not seriously affected

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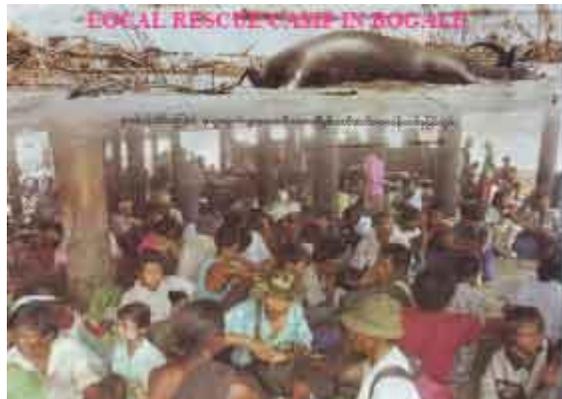
Slide 11

Animals losses in cyclone hit areas

(number in thousand,14.5.08)

Sr No	States/ Divisions	Buffalo		Cattle		Goat	
		Opening stock	Losses	Opening stock	Losses	Opening stock	Losses
1	Ayeyarwaddy	225	132	222	89	18	7
2	Yangon	40	4	174	2	27	-
3	Bago	-	-	-	-	-	-
4	Kayin	15	-	114	-	14	-
5	Mon	24	-	48	-	10	-
Total losses		304	136	559	91	70	7
Losses %		45%		16%		15%	

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Animals losses in cyclone hit areas

(number in thousand)

Sr No	States/ Divisions	Pig		Chicken		Duck	
		Opening stock	Losses	Opening stock	Losses	Opening stock	Losses
1	Ayeyarwaddy	236	68	2466	1112	951	502
2	Yangon	136	-	174	2	27	-
3	Bago	-	-	-	-	-	-
4	Kayin	88	-	113	-	111	-
5	Mon	22	-	251	1	44	-
Total losses		483	68	8191	1251	1563	502
Losses %		15%		15%		32%	

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FMD Status in Myanmar

Fiscal Year	Animals infected	Virus-types
2001-02	2303	"O", Asia1,
2002-03	11712	"O"
2003-04	946	"O"
2004-05	2972	"O"
2005-06	1103	"O", Asia1,
2006-07	2601	"O"
2007-08	500	"O"
2008-09	526	"O" up to Sept

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FMD Incidence in Nargis cyclone hit areas

Sr No	Date of Incidence	Division /Township	Infected Number	Death Number	Sample received	Virus Type
1	11.6.08	Wakema	21	-	4	"O"
	11.6.08	Labutta	97	-	-	-
	17.6.08	Mawkyune	162	-	-	-
2	17.6.08	Yangon	-	-	-	-
	17.6.08	Kawhmu	126	-	3	"O"
Total			406	-	7	"O"

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Ayeyarwaddy Division

Sr No	Township	Infected Number	Sample Receive	Virus Type
1	Wakema	21	4	'O'
2	Mawkyune	162	-	-
3	Labutta	97	-	-
Total		280	4	'O'

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Yangon Division

Sr No	Township	Infected Number	Sample Receive	Virus Type
1	Kawhmu	126	3	'O'
Total		126	3	'O'

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Distribution of FMD vaccines donated from FAO-APHCA and Thai-DLD on 28-8-08 for the Cyclone hit Area

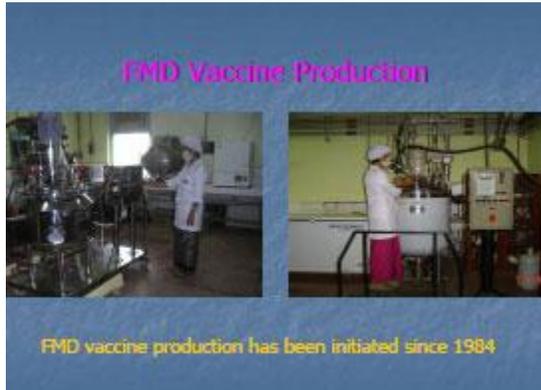
Sr No	Township	Cattle Population	Distributed FMD Vaccine (Doses)	Remark
1	7 Townships in Ayeyarwaddy Division	312834	18500	
1	Nga pu tau	48784	1000	
2	Pyaon	29971	1500	
3	Bogale	27829	1500	
4	Kyauktat	43885	1000	
5	Dedaya	38390	1000	
6	Labutta	14889	3000	
7	Mawmyaying Kyone	25071	1500	
Reserve for Ayeyarwaddy Division			5000	

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Distribution of FMD vaccines (Contd:)

Sr No	Township	Cattle Population	Distributed FMD Vaccine (Doses)	Remark
11	2 Townships in Yangon Division	207489	6500	
1	Kawhmu	98165	3000	
2	Kwan chan kone	97537	1500	
3	Reserve for Yangon Division		2000	
Total			25000	

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FMD Vaccine Production

Year	Cattle Vaccine		Total	Pig Vaccine	Total
	'O' Type	Asia 1 Type			
2000-01	67400	16800	84200	-	84200
2001-02	96000	-	96000	-	96000
2002-03	104600	-	104600	-	104600
2003-04	105200	-	105200	3900	109100
2004-05	117000	-	117000	7000	124000
2005-06	113000	6000	119000	6000	125000
2006-07	164000	3000	167000	27000	194000
2007-08	106800	-	106800	42800	149600
2008-09	14100	-	14100	34300	48400

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LBVD produced HS Vaccine for Margis Cyclone Hit Areas

- 3000 doses distributed to Pyapon District (4-6-08)
- 450 doses each for Bogale, Kyaiklatt and Pyapon, 900 doses reserve for Division, and 750 doses reserve for Pyapon District
- 450 doses each for Wakema and Labutta from Divisional reserve

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LBVD produced FMD Vaccine for Margis Cyclone Hit Areas

- 1300 doses for Mawkyune FMD outbreak (18-6-08)
- 600 doses for vaccination of donated buffaloes (Taik Kyi) (21.6.08)
- 1000 doses for Kawhmu FMD outbreak (22.6.08)
- 600 doses for Pyapon suspected case (23.6.08)
- 100 doses for vaccination of donated buffaloes (Tanintharyi) (24.6.08)

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Current FMD Diagnostic Capabilities

Specimens are collected by field & laboratory staff.

- Virus Isolation
- Antigen Detection (Indirect Sandwich ELISA)
- Antibody Detection (Liquid Phase Blocking ELISA)
- FMD Nonstructural protein ELISA

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ELISA Technology for FMD Diagnosis

IAEA introduced ELISA technology and related facilities since 1994

The image shows two side-by-side photographs of a laboratory setting. In the left photo, two people in white lab coats are working at a table with various laboratory equipment. In the right photo, a person in a white lab coat is sitting at a desk, operating a computer monitor.

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Distribution of 48 Vials of H8 Vaseline donated from FAO-APHCA and Thai-DLD on 26-6-08 for the Cyclone hit Area

Sr No	Township	Cattle Population	Distributed H8 Vaseline (Doses)	Remark
I	7 Township In Ayeayawaddy Division	227082	22100	
1	Nga pu tau	48784	3500	
2	Fyaon	29971	2300	
3	Bogale	27629	2200	
4	Kyalklat	43685	3200	
5	Dedaye	36399	2700	
6	Labutta	14689	1200	
7	Mawlamyaleg Kyune	25971	2000	
	Reserve for Ayeayawaddy Division		5000	

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Distribution of 38 Vials of H8 Vaseline (Contd.)

Sr No	Township	Cattle Population	Distributed H8 Vaseline (Doses)	Remark
II	6 Townships in Yangon Division	207489	14100	
1	Kyauktan	86878	2100	
2	Twante	45909	3300	
3	Kawhmu	36165	2700	
4	Kwan Chan Kone	37537	2000	
5	Khayan	90490	2000	
6	Thone gwa	62529	2000	

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Distribution of HB Vaccine (Contd.)

Sr No	Township	Cattle Population	Distributed HB Vaccine (Doses)	Remark
III	Neighboring Townships in Ayeyarwaddy Division		18800	
1	War Khae Ma	70625	3000	
2	Patheiri	39004	2800	
3	Myaung mya	86742	4000	
4	Ma U Bin	58439	4000	
	Total		60000	

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Distribution of Disinfectant donated from FAO-APHA and Thai-DLD on 28-6-08 for the Cyclone hit Area

Sr No	Township	Cattle Population	Distributed Disinfectant(Lt)	Remark
I	9 townships in Ayeyarwaddy Division	383459	2200	
1	Nga pu tau	48748	150	
2	Pyapon	29971	100	
3	Bogaie	27629	200	
4	Kyablat	43685	150	
5	Dedaye	36399	100	
6	Labutta	14689	200	
7	Mawlamyath kyone	25971	200	
8	Myaung mya	86742	100	
9	Warkhe ma	70625	200	
	Reserve for Ayeyarwaddy Division		800	

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Distribution of Disinfectant (Contd.)

Sr No	Township	Cattle Population	Distributed Disinfectant(Lt)	Remark
II	2 townships in Yangon Division	73702	800	
1	Kawhmu	36165	200	
2	Kwanchan kone	37537	150	
	Reserve for Yangon Division		450	
	Total		3000	

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Provision of Cattle feed



Donor	Ton	Value	
		US\$	Kyat in million
FAO	60		12.13
WSPA	120	35,000	9.94
Total	180	35,000	22.07

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WSPA Providing of Cattle Feed 120 tons (35000 US\$ and 9.945 million kyat)

- 1st time - 30 tons (C.P feed)
- 2nd time - 40 tons (C.P feed)
- 3rd time - 50 tons (LFME feed)
- Total - 120 tons**

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Veterinary services in Nargis hit areas



Sr. No	Division	Vaccination			T/M	Total head (nos.)
		FMD	HS	Total		
1.	Yangon	5228	25422	30650	1286	31936
2.	Ayeyarwaddy	10984	13533	24517	10614	35131
	Grand Total	16212	38955	55167	11900	67067

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Donation to Nargis Affected Area

Sr. No.	Donor	Description	Amount of Donation (kyat in million)
1.	State	Providing 2428 draft cattle & buffalo	850
2.	LBVD	Providing Vet. medicine & Vaccine	3
3.	FAO	Providing 605 draft cattle & buffalo	255
		Providing Vet. medicine & Vaccine	151
		Providing Animal feed	12
4.	WSPA	Providing 94 draft cattle & buffalo	23
		Providing Vet. medicine	3
		Providing Animal feed	52
5.	Myanmar Awba Group Co., Ltd.	Providing 30 draft cattle to Lebulla	27
6.	Yanmar International Ltd.	Providing Vet. medicine	8
Total			1380

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Distribution of draft buffaloes and cattle in Yangon and Ayeyarwady Divisions

Donor	Buffalo	Cattle	Total (Heads)
State	1995	443	2438
FAO	605	-	605
WSPA	94	-	94
Myanmar Awba Group Co., Ltd.	-	30	30
Union	2694	523	3217

6.55 % in Yangon Division and 1.25 % in Ayeyarwady Division

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Plan of Distribution of draft buffaloes and cattle in Yangon and Ayeyarwady Divisions

Donor	Buffalo	Cattle	Total (Heads)	Distributed
FAO(PWC)	605	20	680	680




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Restocking programme

No. of Animal to be distributed	Amount of Money
(1) 2000 Nos. of Pigs	60 million kyats
(2) 20000 Nos. of Chickens	50 million kyats
(3) 10000 Nos. of one month old ducks	10 million kyats

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Distribution Plan





- (1) **Native Chickens:**
One unit of package will include 1 cock and 2 hens 4-5 months age.
- (2) **Native Ducks:**
One unit will consist of 10 Nos. of one month old ducks
- (3) **Breeding Pigs:**
One unit will consist of 1 male and 4 female weaning pigs. LPHC will provide the pig.

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Distribution of native chicken, up to 15th October 2008

Sr. No.	Township	Plan		Distributed		Remaining	
		Unit	Nos.	Unit	Nos.	Unit	Nos.
1.	Yangoon Division	200	600	200	600	-	-
	(a) Kungyangon	80	240	80	240	-	-
	(b) Twantay	60	180	60	180	-	-
	(c) Kawhmu	60	180	60	180	-	-

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Distribution of native chicken up to 15th October 2008 (Cont.)

Sr. No.	Township	Plan		Distributed		Remaining	
		Unit	Nos.	Unit	Nos.	Unit	Nos.
2.	Aveerawaddy Division	6300	18900	2545	7635	3755	11265
	(a) Ngapudaw (HGYI)	300	900	300	900	-	-
	(b) Labutbagyun	1200	3600	239	717	961	2883
	(c) Mawlamyine	800	2400	160	480	640	1920
	(d) Pyapon	1000	3000	600	1800	400	1200
	(e) Bogale	1000	3000	436	1308	564	1692
	(f) Kyaukse	1000	3000	200	600	800	2400
	(g) Dedaye	1000	3000	610	1830	290	1170
3.	Reserved	-	500	-	-	-	500
	Total	6500	20000	2745	8235	3755	11765

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The 69th APHCA Executive Committee Meeting

The 69th APHCA Executive Committee (Ex-Com) Meeting was briefly held prior to the continued business session on 30 October 2008 (*bullet no. 3 of the Minutes of the 32nd APHCA Session refers*).

The Secretary informed the Ex-Com members who did not participate in the pre-session discussion on 26 October (i.e., the delegates from Bhutan, Mongolia, and Nepal) on the issues discussed during the discussion. There was no particular issue raised during the Ex-Com Meeting.

Activity proposal for APHCA 2009: - I

Title	Regional workshop on Brucellosis diagnosis and control (with OIE) (Follow-up programme from the regional workshop in October 2008)	
Background	This will be a follow-up on institutional strengthening and capacity building activities on the disease.	
Activity	<p>A 4-day regional workshop will be organized in collaboration with Thai Department of Livestock Development (DLD) in Thailand, tentatively in June – July 2009.</p> <p>The workshop will be jointly co-organized and co-sponsored by the OIE Asia-Pacific Office (in collaboration with DLD/using facilities of the DLD's NIAH laboratory for brucellosis)</p> <p>Technical backstopping and assistance will be provided by the OIE/FAO Reference Laboratory for Brucellosis in France (c/o Dr. Bruno Garin-Bastuji).</p>	
Funding proposal	Participants (10) Travel and DSA	US\$12,000
	Resource person (co-shared with OIE Asia-Pacific Office)	US\$2,000
	Miscellaneous	US\$1,000
	Total	US\$15,000
Co-sponsoring	<p>Co-shared with OIE Asia-Pacific Office.</p> <p>DLD shall provide local expert(s) to assist in the workshop, logistic and secretarial supports as well as covering local transports.</p>	

Activity proposal for APHCA 2009: – II

Title	Brucellosis diagnosis – Provision of antigen and manual (Follow-up activity from the regional workshop in October 2008)
Background	This proposed activity is to strengthen diagnosis capability on the disease.
Activity	To promote Brucella diagnosis activities amongst member countries in the Region through provisions of: <ul style="list-style-type: none"> i) RBT antigen from DLD-Thailand where the antigen production cost shall be covered by APHCA and delivery costs by the recipient countries, pending antigen verification by OIE/FAO Reference Laboratory for Brucellosis in France, and ii) Reference manual for standard Brucella tests (the manuscript shall be provided by Dr. Bruno Garin-Bastuji, OIE/FAO Reference Laboratory for Brucellosis in France / publication cost shall be covered by APHCA.
Funding proposal	US\$5,000

Activity proposal for APHCA 2009: – III

Title	<p>Regional workshop on WTO's SPS agreement (with OIE)</p> <p>One topic to be selected from: - emerging animal diseases, feed/food safety, animals and animal products traceability.</p>								
Background	<p>To pursue APHCA's joint activities with OIE Asia-Pacific Office on technical capacity building in member countries in the areas of WTO's SPS agreement, a regional workshop on WTO's SPS agreement (on one of the above tentative subjects by the APHCA Secretariat and the OIE Asia-Pacific Office).</p> <p>The topic/subject for the workshop will be selected in agreement with the OIE Asia-Pacific Office.</p>								
Activity	<p>A 4-day regional workshop will be jointly co-organized and co-sponsored by the OIE Asia-Pacific Office [in collaboration with the Thai Department of Livestock Development (DLD) and the Faculty of Veterinary Medicine, Chiang Mai University (FVM-CMU)], in Chiang Mai, Thailand, tentatively in August – September 2009.</p> <p>20 veterinary officers (preferably at policy level) from APHCA and OIE member countries in Asia-Pacific region will be invited.</p>								
Funding proposal	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 70%;">Participants (10) Travel and DSA</td> <td style="text-align: right;">US\$12,000</td> </tr> <tr> <td>Resource person (co-shared with OIE Asia-Pacific Office)</td> <td style="text-align: right;">US\$2,000</td> </tr> <tr> <td>Miscellaneous</td> <td style="text-align: right;">US\$1,000</td> </tr> <tr> <td>Total</td> <td style="text-align: right;">US\$15,000</td> </tr> </table>	Participants (10) Travel and DSA	US\$12,000	Resource person (co-shared with OIE Asia-Pacific Office)	US\$2,000	Miscellaneous	US\$1,000	Total	US\$15,000
Participants (10) Travel and DSA	US\$12,000								
Resource person (co-shared with OIE Asia-Pacific Office)	US\$2,000								
Miscellaneous	US\$1,000								
Total	US\$15,000								
Co-sponsoring	<p>Co-shared with OIE Asia-Pacific Office.</p> <p>DLD and FVM-CMU shall provide local logistic and secretarial supports.</p>								

Activity proposal for APHCA 2009 – IV

Title	Training in animal breeding and genetic analysis
Background	<p>In many of the developing countries of Asia Pacific countries there is no sustainable breeding programme on-going for a longer period of time. It can also be said that there are only few quantitative geneticist in the countries which could provide quality support to genetic improvement programmes in these countries.</p> <p>FAO is supporting 3 TCPS in Mongolia, Myanmar and Nepal to establish genetic improvement programmes for dairy cattle. In the context of these projects a six weeks training course on animal breeding and genetic analysis will be organized from 25 January to 7 March 2009 at the Veterinary Faculty of Chiang Mai. In this course there are 6 places left and it is suggested to attribute these places to experts form APHCA member countries on a competitive basis. APHCA will provide travel and accommodation and pocket money for the 6 selected participants.</p> <p>The final selection of the participant will be done by the Ex-Com of APHCA after review by the Secretariat.</p>
Activity	6 weeks training for 6 experts from APHCA member countries 25 January – 07 March 2009
Funding proposal	US\$ 20,000
Co-sponsors	TCPs in Mongolia, Myanmar and Nepal

Activity proposal for APHCA 2009 – V

Title	Workshop on Bluetongue diagnostic and control (with OIE)	
Background	<p>Bluetongue is an important arbo-borne viral disease in ruminants. The pathogenic sero-vars of bluetongue virus can cause major economic lost and public health hazard.</p> <p>Institutional strengthening and capacity building activities on the disease are of interest to APHCA members. Thus, a regional workshop on bluetongue diagnosis and control is proposed for funding.</p>	
Activity	<p>A 4-day regional workshop on Bluetongue diagnosis and control is proposed to be organized at the National Institute for Veterinary Science, Bogor, Indonesia, tentatively in April – May 2009.</p> <p>The workshop will be jointly co-organized and co-sponsored by the OIE Asia-Pacific Office (in collaboration with the Directorate General of Livestock Service/ Government of Indonesia).</p> <p>16 technical (veterinary) laboratory staff from selected APHCA and OIE member countries will be invited.</p>	
Funding proposal	Participants (8) Travel and DSA	US\$12,000
	Resource person (co-shared with OIE Asia-Pacific Office)	US\$2,000
	Miscellaneous	US\$1,000
	Total	US\$15,000
Co-sponsoring	<p>Co-shared with OIE Asia-Pacific Office.</p> <p>DGLS shall provide local expert(s) to assist in the workshop, logistic and secretarial supports as well as local transports.</p>	

Activity proposal for APHCA 2009 – VI

Title	GIS Training for Animal Health	
Background	The use of GIS is the basic tool used under the Environmental Animal Health Management Initiative. Feedback from the Workshop on GIS Applications on Animal Health and Production indicated that there is a need for a basic GIS training as part of data analysis. The participants agreed that data gathering and management are essential to producing interdisciplinary studies of smallholder livestock production and environmental animal health. Knowledge on GIS will strengthen the capacity of animal production and veterinary services to analyze data from various sources and provide an overall, holistic view of production systems and disease determinants.	
Activity	<ol style="list-style-type: none"> 1. Preparation of training materials (map files, data sets, software sets) 2. Conduct of a 5 day training for representatives from APHCA countries (preferably with data management experience) with the following topics: <ul style="list-style-type: none"> ○ Introduction to GIS ○ Installation of software ○ Working with Data (Vector and Raster Data) ○ Working with Map files ○ Integration of Data for Analysis ○ Applications 3. Preparation of a GIS Manual. 	
Funding proposal	Participants (16) Travel and DSA	US\$ 24,000
	Resource persons/Contracts	US\$ 15,000
	Supplies and Materials	US\$ 5,000
	Miscellaneous	US\$ 1,000
	Total	US\$ 45,000
Co-sponsoring	EAHMI and other projects, Regular Programme, OIE - to be confirmed (20,000); APHCA (25,000)	

Activity proposal for APHCA 2009 – VII

Title	Regional Feed Safety Workshop	
Background	Public concern about the safety of foods of animal origin has recently heightened due to problems that have arisen with bovine spongiform encephalopathy (BSE), dioxin contamination, outbreaks of foodborne bacterial infections, as well as growing concern about veterinary drug residues and microbial resistance to antibiotics. These problems have drawn attention to feeding practices within the livestock industry and have prompted health professionals and the feed industry to closely scrutinise food quality.	
Objective	To identify feed safety issues in the region To develop a plan of action on feed safety	
Activity	1. Survey on feed safety and its issues among APHCA member countries. 2. Conduct of a 3 day workshop for representatives from APHCA countries that would cover the feed industry in Asia, introduction to feed safety, implementation of safe animal feeding standards and Good Production Practices for the livestock industry, feed safety issues, and identification of priority feed safety issues.	
Funding proposal	Participants (17) Travel and DSA	US\$ 25,000
	Resource persons/Contracts	US\$ 10,000
	Miscellaneous	US\$ 1,000
	Total	US\$ 36,000
Co-sponsoring	Regular Programme (10,000); APHCA (26,000)	

Activity proposal for APHCA 2009 – VIII

Smallholder Dairy Development:

Background: APHCA has placed a priority on smallholder dairy development and FAO, in concert with the Common Fund for Commodities, has developed a Smallholder Dairy Development (SDD) Strategy for the Asia-Pacific region to enhance the involvement of smallholder dairy farmers in the rapidly evolving markets. The CFC agreed to fund a fast track project to development the strategy and the following activities, financed by APHCA, FAO, and CFC were undertaken over the past year.

Activities undertake over the last year:

- Using a structured, participatory and market-oriented approach, FAO designed a regional strategy and investment plan (endorsed and supported by regional stakeholders, both policy and private sector) for smallholder dairy development.
- Rapid lessons learned studies from nine countries provided generic characterization and identified models and factors that have influences smallholder participation in dairy food chains. These countries represented three broad categories of smallholder market access:
 - good access (e.g. China, India, and Thailand,
 - limited access (e.g. Bangladesh, Mongolia, Pakistan), and
 - marginal access (e.g. Philippines, Sri Lanka, Viet Nam)
- Three more detailed value chain analyses of selected business models were undertaken in India, Philippines and Vietnam, incorporating an innovative, structure analytical framework approach to assess the competitiveness of the models
- A series of country-level stakeholder validation meetings were also organized.
- The strategy was developed at a workshop held in Chiang Mai, Thailand from 25-29 February 2008. Fifty-three delegates participated from the public, private and NGO sectors of 18 countries across the region. This includes representatives of some of the largest cooperative and private sector dairy companies from the most populous countries.

Activities on-going

- Organizing an informal expert meeting on “Designing Country-Specific Dairy Development Strategies”. To be held in Bangkok, November 17-20th. Programme attached.
- Project formulation for CFC regional dairy project: to be financed next year and cover Bangladesh, Myanmar, and Thailand
- TCP on linking school milk programmes to small-scale dairy development (document drafted, needs to be reviewed by Rome)

Budget for dairy activities in 2007/2008: \$202,361 cost shared between CFC (\$110,697), FAO regular programme, Rome and RAP (\$50,746), and APHCA (\$35,348)

Activities to be undertaken next year (specific details in section 44 and 47 of the strategy document):

- Set up and run Dairy Asia information network
- Establish the Dairy Asia Association

Budget for activities in 2009: APHCA \$20,000 / FAO \$20,000. The CFC regional project (\$2.5 million with country cost sharing of an additional \$3 million) should support some south-south collaboration on the development of the regional network. The Thai government has committed itself to \$1 million/year for four years for the establishment of the dairy training center in Chiang Mai as a regional training center.

APHCA/FAO Publications (released or to be released)

- Proceedings of an FAO/APHCA/CFC-Funded Workshop
- Strategy and Investment Plan for Smallholder Dairy Development in Asia
- Asian milk for health and wealth: Regional lessons on smallholder dairy Development

Activity proposal for APHCA 2009 - IX

Pigmeat Competitiveness

Background: Asia is home to more than 600 million hogs, approximately two thirds of global totals and pigmeat consumption has risen from 30 percent of the region's total intake in 1980 to over 55 percent by 2006. While Asia's swine sectors vary greatly in structure, all countries in the region are faced with rising feed prices, resource constraints, growing liberalization of markets and structural changes in food markets which are challenging the ability of small and medium pig farmers to supply consumer demand for quality product. In response to this, APHCA is searching for ways of better responding to developing countries requests for assistance for enhancing competitiveness of local livestock sectors.

Activities undertake over the last year:

- To better respond to these requirements for assistance for enhancing competitiveness of local livestock, in this case the pig sector¹⁵, and identifying opportunities for ensuring smallholder access to markets, APHCA and FAO have developed a conceptual framework which outlines the process for assessing the competitiveness of hog sectors around the region. A draft paper is attached for your consideration.
- Joint funding with USAID, the EU (through the FAO-managed Smallholder Livestock Production Project), and FAO was used to undertake a study on **Swine Marketing in Cambodia: Reducing Market Distortions, Improving Competitiveness, and Ensuring Safe Trade.**
- Industry meetings were held with various stakeholders to review activities needed to ensure competitiveness of the Cambodia pig sector.

Budget for pig competitiveness activities in 2007/2008: US\$ 6,000 of FAO (from Rome) funds were used to develop the conceptual framework on pig competitiveness; US\$5,000 of RAP's funds which used to co-finance the Cambodia marketing study.

Activities to be undertaken next year:

Use the competitiveness framework to undertake case studies in 4 countries (\$20,000 or \$5,000/country)

Budget for activities in 2009: APHCA \$20,000/FAO \$20,000. Investigate collaborative activities which can be undertaken in partnership with other organizations, such as ILRI, in the region.

¹⁵ Dairy competitiveness is already being addressed through the CFC-funded project on smallholder dairy development.

Activity proposal for APHCA 2009 – X

Meat inspection case studies / slaughterhouse

(based on the proposal made in 2007: Economic Incentives and Training to Ensure Food Safety and Encourage Value - Addition Along the Livestock Food Chain)

Background:

While regional and national food safety legislations and regulations are being developed in many Asian countries, the enforcement of sanitary and health standards is complicated by weak central and provincial governments and lack of economic incentives for compliance. This is particularly true for the livestock sector where rudimentary slaughter facilities, underdeveloped value-added processing capacity, and local consumption patterns have fostered only minimum investments in local capacity to enhance food safety of animal products¹⁶.

It is recognized that new avenues need to be explored to provide incentives and opportunities to bring livestock operators into better compliance with existing standards. It is particularly true where meat products are widely sold in wet markets where there are few incentives for slaughterhouses and local butchers to improve meat quality and ensure compliance with the SPS standards endorsed by CODEX and OIE.

Within the context of the commitment of the Animal Production and Health Commission for Asia and the Pacific's (APHCA's) commitment to enhancing food safety along the livestock chain (cite 2007 activities on food safety workshop, slaughterhouse design), it is recommended that a bottoms-up approach be used to create economic incentives for value addition along the supply chain. The entry point would be through the development and promotion of branded livestock product development, accompanied by food safety enhancement and slaughter house upgrading and investment (through creative funding mechanisms). This approach recognizes that any move towards transforming livestock markets and enhancing food safety of meat products needs to be initiated through opportunity-driven ways to build social capital among abattoir operators/butchers/traders with the hopes of introducing upgrading into the livestock value chain. It also recognized that investments in branding affords butchers with more competitive margins and higher throughputs, thus providing opportunities to reward selected farmers with better market access and higher farm gate prices.

Several experts have suggested that the ownership of brands (branded meat products) provides a market-driven incentive for abattoirs to engage in better management of hygiene and compliance, since branded products can be more easily traced to their production origin(s), and since branded goods processors accrue

¹⁶ The need for additional work on food safety legislation, capacity building (including inspection), enhanced consumer awareness (among other issues) was emphasized by participants from 18 Asian countries in an OIE/APHCA-FAO organized workshop (October 22-24th, 2007) on food safety issues related to food products of animal origin.

more value added. Branding promotes ownership and accountability, and the development of branded product opportunities in many Asian may be the key to encouraging/inducing slaughterhouse operators to improve the professionalism of their operations and the quality of their products. If supported by a rigorous practical educational/exposure process, mentoring and support, as well as longer-term commitments by donors for certain types of investments in upgrading of slaughterhouse facilities (refrigeration, storage, slaughter equipment, etc.), it could provide the impetus for realignment of the economic interests of abattoirs. This not only has the potential of enhancing food safety/quality along the chain while rewarding producers for better quality animals but it also supports APHCA's goals of safe animal trade and disease control in the region if accompanied by the requirements for animal health certification at slaughter.

Activities:

To follow up on food safety initiatives undertaken by APHCA with the goal of leveraging lessons learned into broader project designs for external funding, it is proposed that:

1. An initial study reviewing abattoir management, economic incentives for enhancement of facilities, creative ways of financing investment in privately/municipally operated operations. US\$5,000
2. Country specific case studies be initiated of firm (abattoir) specific constraints of adhering to existing legislation (four case studies-looking at different sized abattoirs, linked into different value chains, in different countries) US\$5,000/case study (to be potentially cost shared with another organization¹⁷): APHCA would fund two case studies
3. Pilot initiatives to be undertaken in two selected countries in Asia which have on-going livestock development projects (financial support should come from the projects themselves with some supporting funds from APHCA: US\$5,000/ project to cover cost of trainers). These interventions would include:
 - The identification of interested abattoirs owners/managers/traders/butchers and a forging of links to interested retail outlets, consumers.
 - Technical training on meat cutting, waste management, humane slaughter (using training capacity from the Animal Product Development Center, Manila — building on expertise generated through the CFC-funded project on Asian Meat Processing which was finalized in late 2006).
 - Business management skills training;
 - Linking abattoir owners to interested producers who, formally or informally, agree to supply animals of the desired quantity, quality, at designated times. It would also ensure that all animal slaughtered had

¹⁷ The Japan funded project “Enhancing Food Safety by Strengthening Food Inspection Systems in ASEAN countries”

health certificates, thus limiting scope for slaughter of illegally imported animals (abattoir training conditional on these linkages)

4. The final output would be drawing together the lessons learned on options for creatively upgrading of local abattoirs which link enhancing food safety along the chain (same consultant as first, drawing in the case study results).

This could potentially be supported by the organization of a regional workshop (with potential joint funding with the Japanese project-is currently under negotiation). In addition, this idea has been informally shared with STDF (Standards Trade and Development¹⁸)

The results would be incorporated into a project proposal to submit to donors for funding, with a focus on in-country training, legislative support, which proposes up-scaling the initiative into a broader array of APHCA countries

Funding Proposal for APHCA (2008 – 2009):

1. Initial study and final lessons on strategies to upscale abattoirs through creative financing options : US\$5,000
2. Country case studies: 4 case studies at US\$20,000 (APHCA's share : US\$10,000)
3. Support for initiatives in two countries (cost shared with projects) : US\$5,000/country
4. Regional workshop on enhancing food safety of livestock products through inspection/certification and abattoir renovation. (to be potentially financed jointly by APHCA, Japanese project, or other sources) : US\$30,000 (APHCA's share : US\$15,000).

Total cost for APHCA : US\$40,000 (with potential funding from other sources at US\$35,000)

Proposed budget from APHCA in year 2009: US\$20,000 + 5,000 (as a continued activity)
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¹⁸ The strategic aims of the STDF are:

- to assist developing countries enhance their expertise and capacity to analyze and to implement international sanitary and phytosanitary (SPS) standards, improving their human, animal and plant health situation, and thus ability to gain and maintain market access; and
- to act as a vehicle for co-ordination among technical co-operation providers, the mobilization of funds, the exchange of experience and the dissemination of good practice in relation to the provision and receipt of SPS-related technical co-operation.