

Report of the Thirtieth Session of the Animal Production and Health Commission for Asia and the Pacific (APHCA)

Luang Prabang, Lao PDR, 22-26 October 2006



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
**THIRTIETH SESSION OF THE
ANIMAL PRODUCTION AND HEALTH
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ASIA AND THE PACIFIC
(APHCA)**

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**FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS
REGIONAL OFFICE FOR ASIA AND THE PACIFIC
Bangkok, 2006**

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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

Table of Contents

	Page
Minutes of the 66 th Executive Committee Meeting and the 30th Session of APHCA	1
Report of the Secretary	7
Timetable	12
Provisional Agenda	15
Minutes of the 65 th Executive Committee Meeting and the 29 th Session of APHCA	16
Financial Reports.....	24
APHCA Milestones during 1995 - 2006.....	28
Activity proposals 1 – 12 for APHCA.....	33
Special Issues.....	52
Goat Production in the Asia-Pacific Region.....	70
List of Participants	98
Welcoming Speech	104

Minutes of the 66th Executive Committee Meeting and the 30th Session of APHCA

**The 66th executive committee meeting:
Sunday, 22 October 2006, 17.00-18.15 hours**

- The meeting was chaired by Dr Chaweewan Leowijuk, vice-chairperson/delegate from Thailand, in absence of the chairperson/delegate from Indonesia – Mr Mathur Riady. Present were the delegates from India, Myanmar, Pakistan and Sri Lanka.
- The chairperson welcomed the members of the APHCA Executive Committee and thanked the government of Lao PDR for hosting this meeting.
- The secretary also welcomed the delegates and expressed his appreciation for their presence. He informed 12 APHCA member countries will attend the session. Delegates from Indonesia, Iran and the Philippines sent their apologies.
- The session marks the 30th anniversary of APHCA. To celebrate the event a special dinner with a presentation by Dr H. Steinfeld entitled “The Asian livestock sector – past trends and future perspectives” has been arranged at the Grand Luang Prabang Hotel.
- The year 2006 was marked by rehabilitation efforts in the countries hit by the Tsunami, and by new outbreaks of HPAI and its move into Central Asia, Europe and Africa. This clearly underlines the threat of the disease for the poultry population world-wide. Massive donor contributions and the establishment of an Emergency Centre for Transboundary Diseases (ECTAD) with an outpost in the FAO Regional Office in Bangkok are a clear indication how serious the threat is perceived. Staff in the RAP livestock group/APHCA secretariat has been overwhelmed with various activities related to the HPAI. For this reason, a number of APHCA activities planned for 2006 could not be undertaken and have been postponed.
- The secretary informed the meeting about the staffing situation of the RAP livestock group/APHCA secretariat. The departure of the Livestock Policy Officer also influenced the delivery of the programme. Some of the planned activities have not been implemented or their implementation has been delayed, awaiting the arrival of the new officer.
- He gave a brief résumé of the activities undertaken by the RAP livestock group/APHCA secretariat in 2006 by the five priority areas of APHCA.
- He raised the case of FMD outbreaks in Cambodia and Viet Nam. He thanked the Thai Department of Livestock Development for its generosity in providing 10 000 doses of FMD vaccine to Cambodia under the APHCA vaccine bank scheme. He also notified that an additional of 40 000 doses shall be provided subject to Cambodia joining the Commission.
- The executive committee endorsed the agenda proposed for the 30th session.
- The secretary presented the financial statement for 2005 and 2006. The financial statement for 2005 was endorsed for submission to the commission. The annual

contribution by all countries is US\$ 84104. In 2005, US\$100 526 were received and arrears could be reduced by US\$ 16 000 to US\$ 52 000. The cash balance as of 01 January 2006 is US\$ 369 030. In addition to this amount, up to 31 August 2006, US\$ 68 688 have been received. The financial situation of APHCA is sound. The proposed budget for 2007 was endorsed for submission to the commission.

- Cambodia, Mongolia, China, Viet Nam and DPR Korea have been invited to join APHCA. Mongolia has accepted the invitation and will join APHCA at this session. The State Secretary for Agriculture of the Republic of Mongolia will be in attendance. The secretary informed that the Government of Cambodia has rejected the proposal by the DG of Department of Animal Production and Health to join APHCA. No official responses were received from the other countries.
- The executive committee endorsed the 12 activity proposals for 2006-07 for submission to the commission.
- The meeting discussed the statutes with regard to the chairpersonship and agreed that it should be on a “country basis” and not “ad-personam”.
- The delegate from Myanmar conveyed the official acceptance from Livestock Breeding and Veterinary Department (LBVD), Ministry of Livestock and Fisheries to host the next session in 2007.

**The 30th APHCA session:
Monday, 23 October 2006**

1. The opening ceremony was presided over by Dr Phouangparisak Pravongviengkham, Permanent Secretary, Ministry of Agriculture and Forestry, Lao PDR. Welcome addresses were given by Dr Chaweewan Leowijuk, on behalf of APHCA chairperson, Dr Leena Kirjavainen, FAO Representative in Lao PDR representing the Director-General of FAO. The session was officially opened by the chief guest and attended by delegates from 12 APHCA member countries (with the exception of Indonesia, Iran and the Philippines), the proposed new member Mongolia, and observers from ILRI, CIAT, JICA and OIE.
2. The agenda of the 30th APHCA session was adopted.
3. Election of the chairperson and the members of the executive committee: Lao PDR was proposed to chair APHCA and Sri Lanka was proposed for vice-chairperson and were elected. Subsequently, India, Myanmar and Thailand were proposed for executive committee members and also elected. Indonesia, the immediate past chair, turned to be ex-officio member.

The executive committee comprises:

Chairperson:	Lao PDR
Vice-chairperson:	Sri Lanka
Members:	India, Myanmar and Thailand
Ex-officio member:	Indonesia

The outgoing vice-chairperson on behalf of the chairperson, Dr Chaweewan Leowijuk thanked the delegates for their support and requested Dr Bounkhouang Khambounheuang, Director-General of Department of Livestock and Fisheries of Lao PDR to take over the session.

The secretary welcomed Dr Nantsag Batsuuri, State Secretary of Mongolia to the session. The application of Mongolia as new member of APHCA was endorsed by all 12 delegates. Dr Batsuuri thanked the meeting for accepting Mongolia as the 16th APHCA member countries.

4. The minutes of the 65th executive committee meeting and the 29th APHCA session were sent to all delegates. As no comments were received, the minutes were considered approved.
5. Report of activities: The secretary presented the activities conducted by the APHCA secretariat/the RAP livestock group solely or in support to HQ units: AGAP, AGAL, AGAH and projects during 2005-06, irrespective of sources of funding.
6. The update on HPAI was presented by Dr Laurence Gleeson, ECTAD manager.
7. Statement of accounts: The secretary presented the status of the APHCA accounts for 2005 and status of expenditures for 2006.

The statement of accounts with the expenditure of US\$ 63 500, for the year 2005, was approved.

The approved budget for 2006 was US\$106 800, while the expenditures as per 31 August 2006 amounted to US\$16 435. The reason for this under spending is that some activities have not been initiated for reasons stated in the Secretary Report. The expenditures for this APHCA Session and the Workshop, the forthcoming “International livestock in changing landscape (LCL) conference” and the “Pig workshop” will add approximately US\$50 000 for this year’s expenditures.

The secretary stated that the financial situation of APHCA is healthy. He thanked the member countries for their annual contributions. The meeting noted that, at present, only two countries have arrears of more than three years. In 2005, arrears could be reduced by US\$ 16 000 to US\$ 52 000. The cash balance without interests as of 01 January 2006 is US\$369 030.

8. Future workplan/activities : The secretary proposed 12 activities for 2006-07 as the follows:
 - a. International conference – Livestock in a changing landscape (LCL) (using the approved funds for 2006);
 - b. Workshop – Pig systems in Asia and the Pacific (using the approved funds for 2006);
 - c. Animal identification, traceability and movement control;
 - d. Design for hygienic basic small- to medium-scale abattoirs;
 - e. Improved market access and smallholder dairy farmer participation for sustainable dairy development;

- f. Assistance fund to respond to disease emergencies (elaborated by Carolyn Benigno);
- g. Food safety workshop (elaborated by John Copland);
- h. Maintenance of APHCA FMD vaccine seed bank (elaborated by Carolyn Benigno);
- i. Risk-based surveillance workshop (elaborated by Carolyn Benigno) - OIE co-funding to be confirmed;
- j. Joint APHCA/OIE activity on BSE (and other prion diseases) (elaborated by Vishnu Songkitti);
- k. Joint APHCA/OIE workshop on WTO-SPS agreement (elaborated by Vishnu Songkitti); and
- l. Creating a new APHCA/APAARI resource of livestock knowledge in Asia (elaborated by Werner Stur, CIAT).

The following issues were raised:

- Some delegates considered these proposals ambitious and questioned whether the secretariat will be able to implement all the programmes. Prioritization of these activities was suggested.
- Clarification on the FMD vaccine seed bank activities was requested, i.e. whether the vaccine or the seed virus shall be stored. C. Benigno clarified that the vaccine seed virus of the generic types (types O, A and Asia-1) shall be stored for emergency use. An APHCA working group (India, Mongolia, Myanmar, Pakistan and Thailand) will be established to further detail the type of the material to be stored and the mode of access to it.
- The secretariat, provided that there are no new disasters/calamities, is confident to be able to implement these proposed programmes in 2007. The secretariat will prioritize the activities after obtaining necessary inputs from the member countries within 4 weeks and will circulate to the delegates an implementation plan along with the priority list. The secretariat also informed that, due to the special set up of the APHCA trust fund (TF), funds for non initiated activities remain in the TF and are not lost. The secretariat will have to justify to the commission in case any proposed activity could not be initiated. It is planned to have an executive committee meeting sometimes mid 2007 to review progress and status of the programme implementation.
- Delegates inquired about the progress of GF-TAD, particularly with regard to the SAARC countries where great expectations were raised. The secretariat will follow-up with FAO-HQ.

The delegates endorsed all the 12 proposals.

Proposed budget for 2007: The secretary proposed the budget of US\$203 500 for APHCA activities in 2007 - with the exception of the proposal nos. 1 and 2, which fall under the approved budget for 2006.

The delegates endorsed and clearly stated that proposals 6 and 8 be funded from the accumulated interests of around US\$50 000.

The meeting was adjourned and will be continued on Thursday, 26 October 2006.

In the evening, a dinner was hosted by the Permanent Secretary of MAFF, Lao PDR to commemorate the 30th anniversary of APHCA. The secretary presented a short historical review of APHCA. Dr H. Steinfeld presented a review entitled – “The Asian livestock sector – past trends and future perspectives”.

Conclusion and adoption of minutes of the 66th executive committee meeting / the 30th APHCA session

Thursday, 26 October 2006

Chairperson – Dr Bounkhouang Khambounheuang (Lao PDR)

Provisional agenda for the 67th executive committee meeting: The meeting is proposed to be held back to back with the “workshop on long-term livestock rehabilitation”) in mid 2007.

Provisional agenda for the 68th executive committee meeting and the 31st session: The proposed themes for the session were: “livestock management during and after disaster - calamity proofing in livestock management” or “livestock management in calamity prone area”.

Other business:

- The delegate from India proposed that the APHCA secretariat prepare the list of past activities and post on the APHCA website.
- The secretary will make sure that invitations to the LCL conference reach all APHCA delegates.
- The delegate from Bangladesh confirmed that he will follow-up with the GoB regarding arrears with APHCA. The APHCA secretariat will provide the record of contribution by the GoB in due time.
- The delegate from Pakistan requested that hands-on training in “residue analysis of livestock and livestock products” be organized under the APHCA’s TCDC scheme.

The minutes of the 66th executive committee meeting and the 30th APHCA session were adopted with amendments and modifications.

The proposed budget for 2007 was approved.

The delegate from Myanmar invited the 31st session to be held either in In Le of Taungyi district or in Mandalay during the last week of October or the first week of November 2007.

The chairperson and the secretary thanked the host country, the workshop collaborators – ILRI, OIE and all those involved in organizing the APHCA session and the workshop on goats for the excellent arrangements, collaborations and the great hospitality given.

We look forward to the 31st APHCA session in Myanmar in 2007.

The session was closed at 10:30 hours.

Report of the Secretary

I wish to welcome State Secretary Dr Batsuuri from the People's Republic of Mongolia to this APHCA meeting. The Government of Mongolia has accepted the invitation to join APHCA and I am pleased to welcome Mongolia as the 16th member country on APHCA's 30th birthday. The APHCA delegates will, during this session be asked to officially endorse the acceptance of Mongolia as a new member.

The Republic of Mongolia is a country with over 30 million livestock, 2.8 million inhabitants and a land area of 1.5 million km² or approximately 7 times the area of the host country – Lao PDR. Mongolia enjoys 300 days sunshine in a year, but we all know about the harsh winters. Livestock produced on the vast rangeland is one of the most important pillars of the economy and there is an enormous untapped potential in the country to develop it further. Dr Batsuuri, again we welcome you, and we look forward to active contributions and collaborations of your country in the APHCA family.

The year 2006 was again a very eventful year. The aftermath of the Tsunami, earthquakes in Indonesia and Pakistan and HPAI have kept us busy. The threat of a human pandemic continues to keep you, the responsible chief veterinary officers, FAO, OIE and WHO busy and on high alert. The move of HPAI into Central Asia, Europe and Africa clearly underlines the threat of the disease for the poultry population world-wide. Massive donor contributions and the establishment of an emergency center for transboundary diseases (ECTAD) with an outpost in the FAO Regional Office in Bangkok are clear indication of how serious the threat is perceived internationally. Laurie Gleeson, whom most of you know will give an up-date on ECTAD and further details of the FAO programme to control HPAI.

On a more general issue, FAO's organizational transformation is under active consideration by its governing bodies as a matter of continuous adjustment to external events including the evolving aid coordination agenda. In addition to the 'phase 1' reform structural changes approved by the 2005 conference, FAO's Director-General recognizes that further programme and structural adjustments are possible in the future, and that the momentum should not be lost in matching ongoing UN system wide developments and changes at country level building on past recommendations as well as on the ongoing independent external evaluation undertaken by FAO's Council. 'Phase 2' reform proposals are thus build inter-alia on the views expressed by countries at the Regional Conference held in Jakarta in early 2006 – seeking to improve the response capacity of FAO and ensure that a right mix of expertise is placed in coherent organizational groups to achieve the objectives already approved by the governing bodies.

Furthermore Dr Jacques Diouf, FAO Director-General inaugurated, two weeks ago, a new FAO crisis management center (CMC) to fight Avian Influenza outbreaks and other major animal health or food health-related emergencies.

Staffing

I sincerely regret the resignation of the Livestock Policy Officer – Bhavani Shankar – who joined us in October 2005 and who left FAO in August 2006 to return to his university in Reading, UK. Bhavani was a young bright economist who just did not feel comfortable in the FAO environment and wanted to pursue a career in research and teaching. It was a great loss technically and personally. His areas of work and competence were economic analysis of the impact of transboundary diseases including HPAI and the support to the dairy chain study.

The post of Bhavani Shankar was advertised, but it was decided to recruit through a lateral transfer Nancy Morgan from Headquarters. She is an economist from the ES department and Nancy will take up this post on 1 January 2007.

I would like to mention that this trip to Luang Prabang is Carolyn Benigno's 20th mission this year – to give you some idea of the workload in 2006 mainly due to HPAI.

As already mentioned, year 2006 was marked by rehabilitation efforts in the countries hit by the Tsunami, the re-occurrence of HPAI in some countries and by its spread to Central Asia, Europe and Africa. This spread raised alarm bells world-wide. Devastating earthquakes in Pakistan and in Indonesia caused pain and suffering in these already stricken countries and required particular and additional attention by FAO. For this reason, a number of APHCA activities planned for 2006 could not be undertaken and have been postponed. I hope for your understanding.

In the following, I would like to give a brief résumé of the activities undertaken by the RAP livestock group in 2006 by the identified five priority areas of APHCA:

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

Control of trans-boundary diseases

Laurie Gleeson, in the following session, will fully brief you on HPAI the situation and the activities to control the disease.

The GF-TADs (Global framework for the control of transboundary diseases) the joint FAO/OIE initiative was officially launched last year with the first steering committee meeting in Tokyo. SAARC and ASEAN have principally endorsed the GF-TADs concept. Unfortunately, due to the focus on HPAI, no major follow-up has occurred in 2006. We know that particularly SAARC secretariat and the SAARC countries would like to see further action in advancing and implementing the proposal and in establishing the reference laboratories.

ADB is providing support to a sub-regional project entitled “control of transboundary diseases in the greater Mekong” which includes the countries – Thailand, Viet Nam, Lao PDR, Cambodia and the Yunan province of China. The project is headed by the Chief Technical Advisor – S. Morzaria and located in the FAO Regional Office.

Serious outbreaks of foot and mouth disease have been noted in Viet Nam and Cambodia – requiring large amounts of vaccine. Assistance, through the APHCA vaccine bank scheme, was provided to Cambodia in making available 10 000 doses of vaccine. I wish to express my great gratitude to DLD of Thailand and its DG, Dr Yukol for having made available this support. A further request of 40 000 is kept pending as Cambodia is not an APHCA member and officially Thailand can only support vaccine donations to the APHCA Vaccine Bank for distribution to member countries.

With finances from the Government of Italy, the project GCP/PHI/050/ITA: “Environmental animal health management to redress emerging insect-borne and other disease constraints to smallholder livestock” has started in 2006. There is evidence that surra is an emerging disease together with other insect-borne diseases (e.g. Japanese encephalitis group). These diseases intrinsically possess environmental and agro-ecoproduction system dimensions (spread and control). The fact that the Philippines and the region are composed of countless islands may count for epidemic episodes and endemicity. The project will investigate these issues. It is headed by David Bourne with Dr Jose Molina as his senior collaborator.

For purpose of completeness – as Cambodia is not an APHCA member country – I would like to mention that we are in the final stage of negotiating a project “Support to smallholder livestock production in Cambodia under the EC-funded “Smallholder livestock production programme”. FAO will be implementing the animal health component of the project.

Small-scale dairy meat production and processing

A TCP project for the Philippines on “Installing a milk payment scheme” has been approved and the inception workshop was held in August 2006.

Delegates may recall that, at the 28th APHCA meeting, a collaborative activity with the Common Fund for Commodities (CFC) was proposed to develop a “Regional strategy for improved market access and smallholder dairy farmer participation for sustainable dairy development”. After the first submission the proposal was rejected, we got now approval of a fast track proposal earlier this year. However, due to previous commitments, we will not be able to start this programme this year. It is now planned to have the inception workshop in early 2007. A respective proposal will be made when we discuss the work-plan for 2007.

With regard to ongoing or complete activities in 2006, the following projects are to be mentioned:

- The TCP in Pakistan on “Upscaling dairy development”

- The author's contract with Prof Khan from the University of Faisalabad to study dairy buffalo improvement in the Punjab Province which should eventually lead to a TCO proposal
- In our new member country Mongolia a very successful project "Increase supply of dairy products" supported by the Government of Japan will be completed in 2007. There are however strong indications that the Government of Japan will finance the second phase
- The TCPs on small-scale dairy development in Bangladesh, Myanmar and the UNDP-funded Community livestock development project in Bangladesh have already been completed in 2006.
- The regional CFC meat processing project with Samoa, Bangladesh and Myanmar as satellite centers will finish in December this year.

In the pipeline, fully formulated TCP proposals for dairy cattle improvement for Bangladesh, Sri Lanka, Myanmar, Mongolia are awaiting official submission of the respective Governments to FAO. For Nepal, a project will be formulated shortly. The major features of these projects are:

- Establishment of pilot performance recording schemes;
- establishment of a pilot selection scheme/programme; and
- rehabilitation of the AI services.

Food and feed safety

The publication "meat processing" which we wanted to present to this 30th APHCA session is unfortunately delayed. The draft is ready but the review and the printing could not be completed in time. We still expect that it can be sent out before the end of this year.

Carolyn Benigno and John Copland will report separately on the activities.

Industrialization, poverty reduction and environment

The GEF World Bank financed project on livestock waste management with the countries China, Thailand and Viet Nam as direct beneficiaries has become operational after long negotiations in August 2006. Last week, the first meeting of regional coordinating group took place in Hanoi. The project addresses issues of pollution of intensive livestock production. Lessons from the pilot studies in these countries should be replicated in other countries in the region. A concept note for the expansion of this project to other countries has already been submitted to the World Bank who, however, would like first to see some results from the ongoing project.

A consultant being identified in collaboration with LEAD (livestock environment and development initiative) to undertake the requested mission to Pakistan and India to look into the pollution aspects of dairy colonies/parks in the outskirts of large cities.

Some of the studies on economics of diseases and the dairy chain study had to be put on hold due to the departure of the responsible officer. They will be addressed once the new officer will be in post at the beginning of 2007.

Trainings on WTO-SPS, VPH and BSE

Vishnu Songkitti will report about this activity separately.

TCDC

Under the TCDC support for which APHCA has authorized up to US\$ 10 000 to support experts from APHCA countries to attend conferences or to undertake study tours to other APHCA countries, there were requests by Bhutan and the Philippines to support one expert each to participate/attend the ISVEE – XI in Cairns, Australia.

Other activities

Further assistances were provided:

- In the context of the Tsunami relief operations to the livestock restocking and veterinary service rehabilitation exercise in Bandah Aceh. Cattle, buffaloes, goats were purchased and distributed to farmers worst hit by the Tsunami. The veterinary services were provided with drugs, vaccines and basic equipment items to serve these farmers.
- To pig, poultry, small ruminant production in the Pacific islands in the context of the Italian-funded food security project.

Under the animal genetic resources (AnGR) programme, it is worthwhile noting that the strategic priorities for action report has been completed based on the country reports received. In December, the intergovernmental working group on AnGR will meet in Rome. At the same time, a national coordinators workshop will be held. The international technical conference on AnGR will be held in September 2007 in Interlaken, Switzerland.

Timetable

Sunday, 22 October 2006

Arrival of guests

17 00 – 18 00 66th APHCA executive committee meeting (*APHCA executive members: India, Indonesia, Myanmar, Pakistan, Sri Lanka and Thailand*)

Monday, 23 October 2006

Morning

08 30 – 09 00 Registration

09 00 – 09 30 Opening ceremony (*speeches by APHCA chairperson, representatives from FAO and Government of Lao PDR*)

09 30 – 10 00 Tea/coffee break

10 00 – 10 15 Election of chairperson and executive members

10 15 – 12 45 30th APHCA session (*as per the session agenda*)

12 45 – 14 00 Lunch

14 00 – 16 00 30th APHCA session (cont.)

16 30 – 17 00 Move to Grand Luang Prabang Hotel
(*for 30th APHCA Anniversary function/welcoming dinner*)

17 00 – 18 00 Speeches on the occasion of the 30th anniversary of APHCA (*by APHCA chairperson, APHCA secretary*) and special presentation on “Outlook on livestock development in year 2030 and beyond” (*by H. Steinfeld, AGAL*)

18 00 – 20 00 Welcoming dinner (*hosted by the Government of Lao PDR*)

APHCA-ILRI Regional workshop on goats: “goats – an undervalued asset in Asia”

Tuesday, 24 October 2006

- 09 00 – 10 30 APHCA-ILRI Regional workshop on goats (*chaired by H. Wagner*)
- i) General introduction to the workshop;
 - ii) Goats as an enterprise option for smallholders in tropical Asia by G.D. Gray, ILRI;
 - iii) Role of goats in sustainable livelihood of rural people in Asia by S.K. Singh, ICAR, India
- 10 30 – 11 00 Tea/coffee break
- 11 00 – 12 30 Goat development for milk and meat (*chaired by S.K. Bandyopadhyay*)
- i) Dairy goat industry in Thailand by Suravut Bulakul, Sirichai Dairy Goat Co. Ltd., Thailand;
 - ii) Smallholder dual-purpose goat enterprises, milk processing and marketing in Viet Nam by D.V. Binh, NIAH, Viet Nam; and
 - iii) Approaches in goat development & marketing in Lao PDR by P. Phengsavanh, CIAT, Lao PDR
- 12 30 – 14 00 Lunch
- 14 00 – 17 00 Goat genetic resources and genetic improvement (*chaired by G.D. Gray*)
- i) Goat genetic resources in Asia by S.K. Singh, ICAR, India;
 - ii) Options for goat genetic improvement by smallholders by Chandra Nimbkar, NARI, India; and
 - iii) Genetic resources and goat performance improvement initiatives in the Philippines by Edwin Villar, PCARRD, Philippines
- Country initiatives:
- i) Genetic improvement in DPRK by H.G. Wagner;
 - ii) Goats in Pakistan - an overview by Q. Ali;
 - iii) Goat enterprise development in Viet Nam by N.T. Mui; and
 - iv) Meat goat production in Australia by M. Nunn
- 19 00 – 21 00 Dinner (*courtesy of ILRI*)

Wednesday, 25 October 2006

- 09 00 – 10 00 Review of day 1 – country priorities for action(s)
- 10 15 – 12 30 APHCA-OIE Regional workshop on goats (*chaired by C. Leowijuk*)
- i) *Brucella melitensis* in goats – diagnosis, vaccination and other trade related technical protocols by B. Garin-Bastuji, c/o OIE;
 - ii) Special presentation on “OIE pathway for BSE-free status declaration” by Y. Oketani, OIE-Tokyo Office; and
 - iii) General discussion on disease issues in goats
- 12 30 – 13 30 Lunch
- 13 30 – 17 00 Field trip to goat farm (*courtesy of OIE*)

Thursday, 26 October 2006

- 09 00 – 11 30 Adoption of minutes/session report and closing of the session
- 11 30 – 12 30 Lunch
- Departure of participants and guests

Provisional Agenda

1. Opening of the session
2. Adoption of the agenda, induction of chairperson and election of executive committee members
3. Minutes of the 65th executive committee meeting and the 29th session of APHCA
4. Update on HPAI
5. Report on APHCA activities during 2005-2006
6. Statement of accounts of APHCA trust fund for 2005 and other financial matters
7. Future workplan/activities: - GF-TADs, SSD project in Asia, GEF-AWI, state of the world on AnGR, small-scale slaughterhouse and meat processing, joint APHCA-OIE workshop on pathway for BSE-free declaration, ILRI knowledge network, etc. (plus new proposals from members)
8. APHCA programme of work and budget for 2006 and 2007
9. APHCA-ILRI regional workshop on goats (in collaboration with OIE)
10. Provisional agenda for the 67th executive committee meeting and the 31st session of APHCA
11. Venue and dates for the 67th executive committee meeting and the 31st session of APHCA
12. Other business
13. Adoption of the minutes/report of the session

Minutes of the 65th Executive Committee Meeting and the 29th Session of APHCA

The 65th executive committee meeting:

Sunday, 25 September 2005, 17.00-18.30 hours

- The meeting was chaired by Dr M. Afzal, delegate from Pakistan, who has taken over from Dr R.H. Raja upon his retirement. Present were the delegates from India, Indonesia and Thailand. The delegate from Nepal had not yet arrived.
- The chairperson welcomed the delegates and thanked Indonesia for hosting this meeting.
- The secretary also welcomed the delegates and expressed his appreciation for their presence. He informed that all APHCA member countries, with the exception of Iran, have accepted the invitation. He started his report to the meeting that the general situation is marked by the continuous outbreaks of HPAI since 2003/04 in a number of APHCA member countries and the risks of the emergence of a pandemic of human influenza. Some countries have been hit in addition by the tsunami and suffered serious losses economically and in staff resources. This has contributed that the national veterinary services have been stretched to the limit or even beyond. HPAI has also affected the work of the RAP livestock group which has to focus almost exclusively on support to countries in their efforts to control HPAI. The officers and staff in RAP livestock group/APHCA secretariat have been involved in organizing conferences, meetings workshops and training courses (29). They have also represented FAO in various regional meetings of ASEAN, SAARC, OIE, WHO (11). Substantial financial contributions from FAO-TCPs (US\$5.5 million) and a number of donors (USA, Germany, Switzerland and EU – totaling well over US\$10 million), have been or are being made available to countries in the Region to control HPAI. Appropriate use of substantial funds will require a full commitment of all the staff concerned.
- The continuing threat of HPAI has led the APHCA secretariat to modify the theme of the workshop attached to the 29th APHCA session to “FAO-APHCA/OIE Regional avian influenza economic assessment workshop”. AGAL, FAO-HQs, has kindly agreed to support this workshop with US\$ 10 000 while OIE provides two resource persons.
- The proposed agenda for the 29th Session of APHCA was approved.
- The meeting briefly reviewed the financial statement and cleared it for submission to the session. The cash balance as of 1st January 2005 was US\$ 332 004. The contribution by countries up to 5 September 2005 was US\$ 83 224.91 against US\$ 84 104 due. This good response is due to the fact that two member countries paid part of their arrears. The current outstanding contributions amount to US\$ 69 387.88. An additional US\$ 20 000 in

contributions is expected this year from countries which have different budgetary cycles. The budgetary situation is considered good.

- The secretary reported on the first meeting of the steering committee of the GF-TAD for Asia held in March 2005 in Tokyo. Considering that APHCA is a commission representing 15 Asian countries through their CVOs or Directors-General of livestock services and given the mandate of APHCA, the ex-com members feel strongly that the APHCA chairperson should become a member of this steering committee. Respective recommendations shall be formulated during the business session.
- The term of the chairperson and the members of the ex-com is expiring and have to be re-elected. According to the APHCA tradition, the host country will be proposed for the chair. The Indonesian delegate indicated his availability and agreed to stand for the election. He indicated, however, that he will not be able to attend the full APHCA session due to pressing HPAI issues in the country.
- BSE – The secretary proposed that the activities in the areas of BSE diagnosis, surveillance, risk assessment, management and communication be phased out in 2006. The delegate from India suggested that some assistance might be required once OIE has come up with the criteria for recognition of BSE freedom, if countries require assistance in collating information to prepare dossiers so that their BSE status can be assessed. The advanced hands-on training course on BSE diagnosis and surveillance for selected APHCA countries will be held jointly with OIE and the Government of Japan in Tsukuba science city, Japan, between 30 November and 9 December 2005.
- The issue of the re-appearance of *Brucella melitensis* and its threat as a zoonotic disease was raised by the delegate of Thailand who requested APHCA to organize a relevant workshop. This suggestion was supported by the delegates of Pakistan and India. A workshop on *Brucella* in sheep and goats addressing *Brucella* in general and *Brucella melitensis*, including vaccination, will be proposed to the session.
- The issue of management of waste (from cattle farms) in the urban centres of big cities in South Asia was raised again and APHCA should do something in this field. This includes the question of composting of cattle manure.
- Lao PDR confirmed its invitation to host the next session, which would mark the 30th anniversary of APHCA. It was recorded that this invitation has been maintained, and although this would contradict to the agreed two year's cycle meeting outside Thailand, APHCA should proceed.

The 29th APHCA session:

Monday, 26 September 2005 - morning

6. The opening was presided over by the Assistant to the Governor of Bali who also officially opened the APHCA session. Dr M. Afzal, on behalf of APHCA, welcomed the delegates and observers. Other welcoming speeches were delivered by Mr Mathur Riady, Director-General of Directorate General of Livestock Services of

Indonesia, Dr Yoshiyuki Oketani, representative of OIE Regional Representation for Asia and the Pacific, Dr Juan Lubroth, representative of FAO-HQ. The Session was attended by delegates from APHCA member countries (with the exception of Iran and Nepal – the latter joined subsequently), and observers from Cambodia, PR China, Viet Nam, ACIAR, ILRI and OIE.

7. The Agenda was adopted.
8. Election of the chairperson and the members of the executive committee: For the chair, Indonesia, Thailand and Sri Lanka were proposed. Thailand and Sri Lanka declined and Indonesia was elected. Thailand was then proposed for vice-chair and was elected. India, Myanmar, Philippines and Sri Lanka were proposed for ex-com members. Philippines declined due to fact that the delegate has only recently been appointed to the present position. He promised to play an active role in the future. There were no further nominations, thus, the three countries were elected. Pakistan, being immediate past chairperson, turned to be ex-officio member.

The executive committee comprises:

Chairperson:	Indonesia
Vice-chairperson:	Thailand
Members:	India, Myanmar and Sri Lanka
Ex-officio member:	Pakistan

The outgoing chairperson, Dr Afzal thanked the delegates for their support and requested Mr Mathur Raidy, Director-General of Directorate General of Livestock Services of Indonesia to further chair the session.

9. The minutes of the 64th executive committee meeting and the 28th APHCA session were reviewed and approved by the delegates.

10. Statement of accounts:

The secretary presented the status of the APHCA accounts for 2004 and status of expenditures for 2005. The approved budget for 2004 was US\$100 598, while the expenditures amount to US\$44 973. The reason for this under spending is the already mentioned fact that RAP livestock group/APHCA secretariat focused on HPAI-related activities. Furthermore, substantial co-funding for various activities was made available by other agencies such as OIE, JLTA, JICA and by FAO-HQ. The APHCA secretariat is most grateful for these contributions. All delegates appreciated the activities of the secretariat in liaising for the co-funding activities. The financial situation of APHCA has improved as countries regularly pay their annual contributions and two countries have paid a substantial part of their arrears. At present, only one country has arrears of more than three years' contributions. The cash balance without interests as of 1st January 2005 is US\$332 004.

The statement of accounts for the year 2004 was approved.

11. Report of activities:

The secretary presented the activities conducted by APHCA and the RAP livestock group solely or in support of HQ divisions: AGAP, AGAL, AGAH and projects during 2004-05, irrespective of sources of funding and following the APHCA agreed priority areas.

Control of transboundary animal diseases

- Avian influenza – addressed in the workshop
- GF-TAD SAARC – establishment of a regional support unit
- GS-HPAI and ASEAN initiative
- GF-TAD meeting of the first steering committee
- Classical swine fever
- Small-scale dairy and meat production and processing
 - New projects and TCPs approved.
 - CFC proposal submitted, comments received – further processing awaited
- Feed and food safety
- Industrialization, poverty reduction and environment
 - GEF-PDF-B phase of animal waste management completed full project (to start in 2006)
- Training on WTO's SPS, BSE and VPH

In the subsequent discussion, the delegates requested further clarification with regard to the composition of the GF-TAD steering committee for Asia and the Pacific and the selection of the three CVOs in the committee. The representative from OIE explained that these CVOs are the three OIE regional commission members. The delegates, considering the role of APHCA and the fact that it represents 15 Asia-Pacific member countries, proposed that the APHCA chairperson should be included in this steering committee. The APHCA secretariat is requested to approach the FAO-HQ to request a review of the selection of the CVO representatives on this steering committee and to ensure that the chairperson of APHCA is included.

The delegates from Pakistan and India repeated their request to look into cattle waste and manure management in the urban dairy production of the big cities in their countries.

Other specific issues requiring feed-back by the delegates were addressed in detail as the follows:

- a. FAO-APHCA/OIE/JICA Regional workshop on classical swine fever (CSF) control in Asia, in collaboration with the Bureau of Animal Industries, Philippines;
- b. FAO-APHCA/OIE feed and food safety;

- c. FAO-APHCA/OIE joint activities on WTO's sanitary and phytosanitary (SPS) agreement, bovine spongiform encephalopathy (BSE) and veterinary public health (VPH); and
- d. Strategic priorities for action report in the context of the "first report on the state of the world's AnGR".

The 29th APHCA session (continued):

Monday, 26 September – afternoon

Chairperson – Dr Syamsul Bahri (Indonesia)

- 7 The following activities for the year 2006 are proposed by the secretariat for the approval by the delegates:
 - a. 2nd workshop on feed and food safety – US\$30 000
 - b. Workshop on Brucella in sheep and goats with specific attention to *B. melitensis* as a zoonotic threat and the use of vaccination – US\$20 000
 - c. Author's contract for an APHCA publication on breeding plans, with specific attention to small-scale dairy improvement – US\$12 000
 - d. Support to finalize an APHCA publication on meat and meat products by the CFC project – US\$10 000
 - e. Consultant for waste/manure management and manure composting for urban and suburban dairy production in big cities in South Asia – US\$15 000
 - f. A proposal for small-scale dairy in Asia and the Pacific to answer the following questions:
 - i. what is the economic/resource impact of changing the mix of dairy types in a province;
 - ii. what is the impact of small change in inputs (e.g. dairy type, feed, land use);
 - iii. should the community/province increase the number of low input or intensive dairy farms;
 - iv. how can a particular dairy co-operative reduce costs while maintaining good production; and
 - v. Changes in the demand and options to meet these demands.

Through the development of a flexible sector model of smallholder dairying that incorporates options for:

- evaluate and assess options for meeting changing market demand for milk and milk products
- several scales of production
- several scales of resource allocation
- providing capacity to illustrate differences in optimal solutions based on:
 - economic returns
 - resource allocation
 - level of production

The proposed budget is US\$80 000 for two years (of which up to US\$50 000 will be contributed by APHCA and at least US\$30 000 from other sources).

In a subsequent discussion, delegates requested clarification with regard to the choice of countries, the linkage with other activities such as the PPLPF and ILRI as well as the International Farm Comparison Network. Delegates agreed in principle, subject to further clarification, which will be circulated to the delegates.

The new (amended) budget proposal was circulated to the delegates for review and for final decision at the wrap-up meeting on 29 September 2005.

Further requests by the delegates:

- Bhutan requested support in small-scale slaughterhouse and meat processing facilities. This gave rise to a general discussion with regard to meat inspection, meat hygiene, meat processing, halal slaughter, slaughter-slabs and slaughterhouse hygiene. The great deficiency in these areas was highlighted and the need for assistance was stressed. The CFC project provides some support but much more is required. Malaysia, through its own TCP programme, provided assistances to some countries through several meat processing and inspection training courses.
- Papua New Guinea inquired about the possibility of support to smallholder honey producers and in residue monitoring to meet international export requirements. As honey bees are not covered by APHCA and residue monitoring is part of the FFS activities, the secretariat will follow up this request and investigate the possibility of a TCP to develop a residue monitoring plan.
- The meeting requested the Secretariat to convey APHCA's appreciation to Dr J.Q. Molina and Dr Tri Satya Putri Naipospos for their support and contributions to APHCA during the past years and in particular to Dr Naipospos for her support in organizing the 29th APHCA session and the AI workshop in Bali.
- The secretariat was requested to pursue with PR China in joining APHCA and to invite new members such as Afghanistan, Cambodia, and Viet Nam.

¹ Conclusion and adoption of minutes of the 65th executive committee meeting/the 29th APHCA session

Thursday 29 September 2005 - afternoon

Chairperson – Dr Chaweewan Leowijuk (Thailand)²

The minutes of the 65th executive committee meeting and the 29th APHCA session were adopted with some amendments and modifications.

The proposed budget for 2006 with the necessary amendments for the regional dairy initiative was approved.

The delegate from Lao PDR invited the 30th session to be held in Luang Prabang, during the second week of October 2006.

The delegate from Myanmar proposed to host the 31st APHCA session in Yangon or Mandalay in 2007.

Other business:

The delegate from Australia informed the meeting about the forthcoming International Symposium on Veterinary Epidemiology and Economics, which will be held in Cairns, Australia, between 6 and 11 August 2006. The main themes of this symposium comprise:

1. Aquatic animal epidemiology;
2. Investigation of disease distribution and determinants (companion/food animals and wildlife);
3. Animal health delivery and response;
4. Tools and training for epidemiologists;
5. Evaluation of animal disease;
6. Global response (to AI, BSE and FMD); and
7. Epidemiology of emerging and zoonotic diseases

The secretary informed the meeting that sponsorship for officials from APHCA countries to the above symposium, in the context of the APHCA partnership programme (still limited to the least costly airfare only), can be envisaged subject to the agreement of the APHCA executive committee and acceptance of the paper by the symposium organizer.

¹ The FAO-APHCA/OIE regional avian influenza economic assessment workshop (27-29 September 2006)

² As the chairperson was urgently called back by his minister, the vice-chairperson took the responsibility in chairing and closing the session on 29 September 2005

The representative from ILRI informed the meeting about the International Conference on Livestock Services Enhancing Rural Development which will be organized in Beijing, PR China, between 16 and 22 April 2006.

The delegate from Lao PDR requested that the APHCA website should be more regularly updated with details on relevant APHCA events and activities.

The representative from OIE informed the meeting about the OIE's forthcoming events:

1. The 24th conference of the OIE regional commission for Asia, the Far East and Oceania, 15-18 November, Seoul (Korea, Rep of); and
2. OIE regional meeting on avian influenza control (legislation and preparedness including carcass disposal workshop) and OIE workshop on development of animal health legislation (highly pathogenic avian influenza prevention and control) to be organized in Asia in January 2006; and
3. Session on vaccines and vaccination of transboundary animal diseases to be organized in Asia in February 2006.

The delegate from Bangladesh urged the APHCA secretariat to support and follow-up the country's request for FAO assistance in activities relevant to HPAI.

The delegate from Papua New Guinea requested training in TAD-Info. He was informed that the country is part of a recently approved regional project on disease information systems with a component on training.

The delegates reminded the secretariat to send the letters of appreciation to Dr Molina and Dr Naipospos.

The chairperson and the secretary thanked the host country and all those involved in organizing the APHCA session and the AI workshop for the excellent arrangements and the great hospitality.

The session was closed at 17:30 hours.

Summary of the actions requested:

- a. Circulate for final endorsement the proposal of small-scale dairying.
- b. To explore with / propose to FAO-HQ that the APHCA chairperson become a member in the regional GF-TAD steering committee.
- c. Workshop on Brucella in sheep and goats with specific attention to *B. melitensis* as a zoonotic threat and the use of vaccination.
- d. Consultant for animal waste management and composting.
- e. Small-scale slaughterhouse and meat processing facilities.
- f. Possibility of TCP or other support to residue monitoring.
- g. Support to countries once OIE pathway for BSE-free declaration is decided.

Financial Reports

Status of Account

Funds received	Amount in USD
3051 Prior years contribution received (up to 31/12/04)	1 778 757
3052 Prior years intrests earned ***	41 718
Total	1 820 475

Sums received from member countries during January 2005 – December 2005	
3051 Contributions received in 2005	100 526
3052 Interests earned in 2005***	10 152
Total	110 678

Accumulated interest received since APHCA started till 31 Dec 2005:	(41 718 + 10 152)
Total	51 870

***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 2005)	
5011 – Salaries professionals	0
5012 – Salaries GS	12 533
5013 – Consultants	704
5014 – Contracts	0
5020 – Locally contracted labour	0
5021 - Travel	43 884
5023 – Training	0
5024 – Expendable procurement	1 164
5025 – Non-expendable procurement	0
5026 – Hospitality (at the workshop/training)	0
5025 – General operating expenses	5 215
Sub-total	63 500

Cash balance as of 1 January 2006

Prior years - <i>contributions</i> up to end 2004 (without interest)	1 778 757
Year 2005 - <i>contributions</i> (without interest)	100 526
Prior years - <i>expenditures</i> up to end 2004	1 446 753 (minus)
Year 2005 - <i>expenditures</i> up to end 2005	63 500 (minus)
Cash balance: 1 January 2006	369 030

**Status of Contributions
(as at 31 August 2006)**

(Expressed in US\$)

Member Governments	Outstanding 31/12/2005	Contribution due for 2006	Received up to 31/8/2006	Outstanding at 31/8/2006
Australia	20.22	10 724.00	10 718.86	25.36
Bangladesh	28 300.00	6 502.00	6 007.00	28 795.00
Bhutan	216.00	2 128.00	4 614.35	(2 270.35)
India	12.96	10 724.00	10 676.97	59.99
Indonesia	6 510.57	6 502.00	12 988.87	23.70
Iran	11 544.94	6 502.00	-	18 046.94
Lao PDR	1 643.08	2 128.00	2 599.92	1 171.16
Malaysia	-	6 502.00	6 480.00	22.00
Myanmar	(18.52)	2 128.00	-	2 109.48
Nepal	(1 940.00)	2 128.00	2 128.00	(1 940.00)
Pakistan	20.00	6 502.00	-	6 522.00
Papua New Guinea	10.00	2 128.00	-	2 138.00
Philippines	5 716.72	6 502.00	6004.62	6 214.10
Sri lanka	50.94	6 502.00	6 469.94	83.00
Thailand	-	6 502.00	-	6 502.00
Totals	52 086.91	84 104.00	68 688.53	67 502.38

Approved APHCA Trust Fund Budget and Expenditures for 2006³**(Expenditures and Balances as at 31 August 2006)****(in ORACLE)****(Expressed in US\$)**

Type	Account	Due in 2006	Received (as at 31 August 2006)	
Contributions	3051 TF contribution	84 104	68 689	
	3052 TF interest	-	-	
TF AA 97 AA89142916700 MTF/INT/005/ MUL	Account	APHCA Approved budget	Expenditures⁴	Balance
Expenditure	5011 Salaries professional ⁵	0	0	0
	5012 Salaries GS	13 800	11 166	2 634
	5013 Consultants	25 000	0	25 000
	5014 Contracts	6 000	0	6 000
	5020 Locally contracted labour	2 000	466	1 534
	5021 Travel [includes CP's travel (5 000) and Fellowships (10 000)]	25 000	1 093	23 907
	5023 Training	15 000	0	15 000
	5024 Expendable procurement	10 000	919	9 081
	5025 Non-expendable procurement	5 000	1 768	3 232
	5026 Hospitality	1 000	0	1 000
	5028 GOE	4 000	1 023	2 977
Total		106 800	16 435	90 365

³ Approved by APHCA at its 29th Session held between 26-29 September 2005 in Bali, Indonesia.⁴ The figures included in this column include also commitments.⁵ No professional post for APHCA is filled using APHCA funds.

Proposed and approved APHCA Trust Fund Budget for 2007*(includes estimated contributions to APHCA by FAO)***(Expressed in US\$)**

Type	Account	Due in 2007		
TF AA 97 AA89142 916700 MTF/INT/005/ MUL				
Contributions	3051 TF contributions	84 104		
	3052 TF interest	-		
	Account	APHCA Budget	FAO's estimated contributions²	Total
Expenditure	5011 Salaries professional ⁶	0	96 600	96 600
	5012 Salaries GS	15 000	23 000	36 800
	5013 Consultants	55 000	10 000	35 000
	5014 Contracts	10 000	14 000	24 000
	5020 Locally contracted labour	2 000	0	2 000
	5021 Travel	96 500	10 000	106 500
	5023 Training	10 000	2 000	12 000
	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		203 500	167 600	371 100

⁶ No professional post for APHCA is filled using APHCA funds.

² FAO's estimated joint contributions to the APHCA activities from its Regular Programme budget.

APHCA Milestones during 1995 - 2006

Contrary to the serious financial crisis in 1995 – 1997, when the APHCA trust fund was in negative balance (-US\$11,606 in January 1997), the commission was well maintained and several activities were carried out. The APHCA secretariat tried it best to co-organize with the APHCA member countries and other international agencies/organizations. These activities are listed as the follows:

Joint activities with member governments, FAO-HQ and other international agencies/organizations

Under TCDC with member countries:

India

- APHCA-Government of India - Regional workshop/training on diagnosis of major poultry diseases with a particular reference to gumboro disease, Namakkal, Southern India, 19 – 23 March 1995.

Indonesia

- APHCA/APCAS-GOI - Regional workshop on livestock statistics, Bogor, Indonesia, 23 – 29 October 1995.

Sri Lanka

- APHCA/Government of Sri Lanka - Regional training course on haemorrhagic septicaemia, Peradeniya, Sri Lanka, 13 – 26 February 1999.

Thailand

- APHCA/DLD - Regional training course on duck production, Bangkok and Chonburi, Thailand, November 1996.
- APHCA/DLD - Regional training course animal quarantine management, Bangkok and Cha-am, Thailand, November 1996.
- 2nd APHCA/Faculty of Veterinary Medicine, Chiang Mai University of Thailand/GTZ-BgVV/Free University of Berlin - Regional training course on serological diagnosis of important livestock diseases and zoonoses, and maintenance of laboratory equipment” in Chiang Mai, Thailand, 25 January – 12 February 1999.
- 3rd APHCA/Faculty of Veterinary Medicine, Chiang Mai University of Thailand/GTZ-BgVV/Free University of Berlin - Regional training course on serological diagnosis of important livestock diseases and zoonoses, and maintenance of laboratory equipment” in Chiang Mai, Thailand, 25 October – 12 November 1999.
- APHCA/Faculty of Veterinary Medicine, Chiang Mai University of Thailand/GTZ-BgVV - Regional training course in food microbiology and hygiene” in Chiang Mai, Thailand, 22 November – 3 December 1999.

- APHCA/DLD - Regional training course on meat products canning in Chiang Mai, Thailand, 23 – 26 November 1999.
- APHCA/DLD - Regional training on meat canning technology in Chiang Mai, Thailand, 7 – 11 November 2000.
- Regional workshop on water buffalo development in cooperation with the Japan Livestock Technology Association (JLTA), and DLD of Thailand, in Surin, Thailand, 8 – 10 February 2001.
- Coordinated with the Faculty of Veterinary Medicine, Chiang Mai University (FVM-CMU), Thailand and the Free University of Berlin on the Master of Science on veterinary public health (M.Sc.-VPH) courses which accept students from APHCA countries since 2002.
- FAO/DLD/JICA - Regional workshop on veterinary epidemiology and its application, Bangkok, Thailand 27 – 31 October 2003.
- FAO/DLD - Regional laboratory training course on CSF, FMD, rinderpest and PPR, Bangkok and Pakchong, Thailand, 11 – 21 November 2003.

With AGA:

- Regional workshop on area-wide integration of crop-livestock activities (AWI), Bangkok, Thailand, 18 – 20 June 1998.
- APHCA/EMPRES Regional expert consultation on rinderpest control, Kandy, Sri Lanka, 8 – 10 February 1999.
- APHCA/AGAL Regional workshop on area-wide integration (AWI) of crop and livestock activities in selected Asian countries including important outcomes of the previous AWI workshop, Bangkok, Thailand, 17 – 20 September 2001.
- APHCA/AGAH Regional workshop on preparing for and managing disease emergency, Manila, Philippines, 25 September 2001.
- Regional workshop on buffalo development, Manila, Philippines, 25 September 2001.
- APHCA/AGAL Regional brainstorm workshop “fostering the policy dialogue in support of equitable, safe and clean livestock farming”, Bangkok, Thailand, 19 – 22 February 2001.
- APHCA/AGAP Expert consultation/workshop on protein sources for animal feed Industries, Bangkok, Thailand, 29 April – 3 May 2002.
- APHCA/AGAP Regional workshop on feed and food safety, Subang Jaya, Malaysia, 25 August 2002.
- Co-organized global environmental facility (GEF) AWI workshop to prepare a GEF-regional project development framework (PDF-B) for funding “East Asia livestock waste management project”, Bangkok, Thailand, in March 2002.
- Pro-poor livestock policy facility (PPLPF) workshop - public policy challenges in the Asian livestock sector: looking to 2030, Bangkok, Thailand, November 2002.
- Pro-poor livestock policy facility (PPLPF) workshop – poverty alleviation, environment and public health: developing enabling policy environments for the livestock sector, Cambodia, June 2003.
- APHCA/AGAH Regional consultation on progressive control of FMD and other TADs, Lahore, Pakistan, August 2003.
- APHCA/LEAD/Thailand Development Research Institute (TDRI) - Structural changes in the livestock sector, Bangkok, Thailand, 27 – 30 January 2004.

- APHCA/AGAP Workshop on small-scale dairying (SSD), Chiang Mai, Thailand, 29 September – 1 October 2004.
- 1st Livestock waste management project implementation plan (PIP) preparation meeting, Thailand, 22 April 2005.
- 2nd Livestock waste management project implementation plan (PIP) preparation meeting, Thailand, 27 April 2006.

With OIE:

- APHCA/EMPRES/OIE Regional workshop on animal disease contingency planning, Kochi, India, 4 – 6 September 1999.
- APHCA/OIE Regional workshop on animal disease risk analysis, Kochi, India, 7 – 9 September 1999.
- APHCA/OIE/APHISA Training workshop on information networking, Faculty of Veterinary Medicine, Kasetsart University, Bangkok, Thailand, 13 – 16 December 1999.
- APHCA/OIE/WHO Regional workshop on veterinary public health and zoonoses, Dhaka, Bangladesh, 6 – 7 November 2000.
- APHCA/OIE Workshop on WTO's sanitary and phytosanitary (SPS) agreement, Dhaka, Bangladesh, 8 – 9 November 2000.
- APHCA/OIE 1st Regional workshop on WTO's SPS agreement [with full co-operation of the Thai Department of Livestock Development, Free University of Berlin, and Japan Livestock Technology Association], Faculty of Veterinary Medicine, Chiang Mai University, Thailand, 9 – 12 July 2001.
- 1st APHCA/OIE/DLD Regional hands-on training workshop on bovine spongiform encephalopathy (BSE) diagnosis and surveillance, Bangkok, Thailand, 19 – 22 November 2001.
- APHCA/OIE 2nd Regional workshop on WTO's SPS agreement, Chiang Mai University, Thailand, 8 – 12 July 2002.
- APHCA/OIE 3rd Regional workshop on WTO's SPS agreement, Chiang Mai University, Thailand, 8 – 11 July 2003.
- 2nd APHCA/OIE/DLD Regional hands-on training workshop on BSE diagnosis and surveillance, Bangkok, Thailand, 6 – 8 October 2003.
- APHCA/OIE BSE workshop and consultation meeting on risk analysis and public awareness (in collaboration with JLTA, DLD and FUB), in Chiang Mai, Thailand, October 2003.
- FAO-APHCA/OIE Sub-regional consultation on establishing a regional support unit for GF-TADs in South Asia, Kathmandu, Nepal, 26 – 30 April 2004.
- APHCA/OIE 4th Regional workshop on WTO's SPS agreement, Chiang Mai University, Thailand, 12 – 16 July 2004.
- APHCA/OIE/JLTA/DLD Regional workshop on feed and food safety, Bangkok, Thailand, 19 – 22 July 2004.
- 3rd APHCA/OIE/DLD Regional hands-on training workshop on BSE diagnosis and surveillance, Bangkok, Thailand, 28 – 31 March 2005.
- APHCA/OIE 5th Regional workshop on WTO's SPS agreement, Chiang Mai University, Thailand, 15 – 18 August 2005.

- APHCA/OIE/NIAH-Japan Regional hands-on training workshop on BSE diagnosis, including western blotting (WB), Tsukuba Science City, Japan, 30 November – 9 December 2005.

With ILRI/CGIAR

- Support the ILRI/CGIAR in organizing workshops on “identifying priority areas for international action for the development of livestock technologies”, organized in Bangkok, Thailand (South-east Asia workshop), 30 April – 1 May 2001; and in Hyderabad (South Asia workshop), India, 4 – 5 May 2001, respectively.
- Co-organized regional SoW-AnGR training of trainers workshop for Asia in Bangkok, Thailand, 26 November – 1 December 2001.
- Co-organized ILRI/SIDA/SLU/FAO workshop on capacity building for sustainable use of animal genetic resources in developing countries – South-east Asian planning workshop in Bangkok, Thailand in February 2002.
- Co-organized, with ILRI and JLTA, the workshop on research and development strategies for the livestock sector in South-east Asia through national and international partnerships, in Bangkok, Thailand, in March 2002.
- ILRI/SIDA/SLU workshop - capacity building for the sustainable use of animal genetic resources in developing countries, Bangkok, Thailand, January 2003.

APHCA and HPAI (exclude series of activities on HPAI)

- APHCA special session on HPAI in Chiang Mai, Thailand, 27 – 28 September 2004.
- APHCA/OIE special session on regional avian influenza economic assessment workshop, Bali, Indonesia, September 2005.

Exploring possibility to cooperate with private sector:

During the 21st session in 1995, the secretary proposed to expand APHCA activities under the limited budget situation, the commission also suggested that the APHCA chairperson could send the letter to the concerned FAO Unit, Rome, inquiring a possible change of the standing FAO publication regulations so that “ASIAN LIVESTOCK” - an official FAO/APHCA publication could legally accept the commercial advertisement and sponsorship. The APHCA chairperson will also seek a legal advice from Rome for possible organization of the joint FAO/APHCA – private sector activities on the cost-sharing basis. Actions were taken by the APHCA secretariat but no positive response received, so far.

Website:

APHCA homepage and Asian Livestock on web started in 1998.

Membership fees increments:

- 8 percent increase in 1999
- 8 percent increase in 2003

Publications/CDs

2002

- Manual on the diagnosis of Nipah virus infection in animals (RAP 2002/01)
- Some issues associated with the livestock industries of the Asia-Pacific region (RAP 2002/06)
- A basic laboratory manual for the small scale production and testing of I-2 Newcastle disease vaccine (RAP 2002/22)
- The livestock industries of Thailand (2002/23)
- Report of the 26th APHCA session (RAP 2002/24)
- Report of the Second OIE/FAO-APHCA workshop on WTO's SPS agreement (printed by APHCA and OIE)
- Report of the OIE/FAO-APHCA/DLD regional workshop on BSE diagnosis and surveillance (printed by APHCA and OIE)

2003

- The yak - second edition (RAP2003/06)

2004

- CD-ROM - “FAO/OIE emergency regional meeting on avian influenza control in animals in Asia (Bangkok, Thailand, 26-28 February 2004)”.
- CD-ROM - “The inception workshop - TCP/RAS/3006 - diagnostic laboratory and surveillance network coordination for control and prevention of avian influenza in Southeast Asia (Bangkok, Thailand, 28-30 July 2004)”.

APHCA TCDC

- Exchange of experts and travel – as approved at the 27th APCHA session in Pakistan, an amount of US\$10,000 was allocated for the following trips:
 - In September 2004, airline ticket costs of two laboratory scientists from LBVD, Myanmar (to attend the AI diagnostic workshop in Harbin, China) were covered under this fund.
 - In 2006, airline tickets for one official each from Bhutan and the Philippines to Cairns, Australia to attend the ISVEE-XI.
- List of non-governmental organizations (NGOs) in livestock sector of the APHCA member countries has recently been compiled. The same is distributed at the 28th APHCA session and uploaded in the APHCA website.

Activity proposals 1 – 12 for APHCA

Activity proposal 1

Title: Livestock in a changing landscape (LCL), global consultation and integrated analysis (27 November - 01 December 2006, Bangkok, Thailand)

Background: This conference addresses the emerging challenges of livestock production and includes a comprehensive analysis of the entire range of environmental, health and social consequences of extensive, intensive and mixed forms of livestock production.

This effort involves a collaborative partnership that includes the Livestock, Environment and Development Initiative (LEAD) affiliated with the UN Food and Agriculture Organization (FAO), the Scientific Committee for Problems of the Environment (SCOPE), the Swiss College of Agriculture, the French Agricultural Research Centre for International Development (CIRAD), and the International Livestock Research Institute (ILRI) – a CGIAR programme.

It was considered an important venue to give CVOs or Directors of livestock services of APHCA member countries the opportunity to attend.

APHCA executive committee has been informed of and no objection was raised against this activity. This proposal shall be presented for approval by the APHCA session.

Activity: One representative from each APHCA member country will be invited to the consultation.

Funding proposal: APHCA contribution: travel and DSA up to US\$ 25 000 for APHCA delegates and miscellaneous

Travel and DSA for 16 delegates	US\$ 24 000
Miscellaneous	US\$ 1 000

Co-sponsors: As stated above

Activity proposal 2

Title: Pig systems in Asia and the Pacific: How can R&D enhance benefits to the poor? (23 - 24 November 2006, Bangkok, Thailand)

Background: In Asia and the Pacific region and particularly in SE Asia, pig keeping is important to the livelihoods of millions of poor people. As the demand for pork continues to rise in the region, increases in pig numbers, increased trade in live pigs, commercialization and increasing scales of pig production present both opportunities and threats to the livelihoods of the poor. These poor people include poor pig producers, who work in, or live in association with, pig production, processing and marketing, and poor consumers of pig products. As these changes happen, what is the role of research and of the research and development community in ensuring that the poor benefit? And if researchable issues are addressed and development interventions identified, what are the best ways of ensuring that the answers are applied as quickly and effectively as possible?

This workshop - “Pig systems in Asia and the Pacific: how can R&D enhance benefits to the poor?” is a milestone in a continuing process to share information among key R&D stakeholders, to promote dialogue on current and emerging issues, to identify important research questions and effective development interventions and to identify and strengthen the links between research and development. The outputs from this workshop will be widely disseminated and, through further actions by participants, will lead to a refreshed and relevant research and development agenda.

Technical aspects – both for research and for development interventions – and existing processes of sharing information and joint action for pig systems R&D will be reviewed by leading experts and practitioners in the region. Drivers of change that affect pig systems and the poor in Asia will be identified and discussed and emerging issues and new ways of working in the R&D community will be identified. These sources of innovation and change will be discussed in the context of development outcomes that directly affect the poor.

Expected outcomes:

- Information on R&D priority activities in the region shared and new mechanisms for sharing information identified;
- effective development interventions and important gaps requiring research identified, and options for R&D projects and resource mobilization developed; and
- new relationships created and existing networks for R&D strengthened.

Activity: Workshop

Funding proposal: Contribution of up to US\$10 000 for the workshop to be held back-to-back with the International Livestock Consultation.

Co-sponsors: ILRI

Activity proposal 3

Title: Animal identification, traceability and movement control

Background: An animal identification and traceability scheme for livestock is the basis to:

- establish registers of holdings, herds, animals, owners and keepers;
- provide records relating to births, deaths, slaughters and movements;
- facilitate certification of animals for movements (in country trade and export);
- provide the basis for necessary certification with regard to the origin of animal products;
- track and trace movements of animals in case of disease outbreak;
- provide records of identification markers supplied to farmers;

and eventually also:

- provide common reference data (holdings, herds, individual animals) which can be linked to a number of other databases, e.g. disease surveillance, animal/milk/health recording, selection programmes, payment schemes, prevention of fraud and statistical information to government departments.
- prepare countries to meet the requirements under WTO-SPS agreement

Activity: A 5-day workshop for representatives from APHCA countries will address the following issues

- Legal and overall institutional framework
- Discuss issue of public versus private
- Institutional, organizational requirements
- System requirements
- Sustainability of the system will predominantly depend on:
 - costs for running the operating agency and the database
 - costs for the field services
 - participation of farmers in the costs (public versus private good)
 - acceptance of the system by farmers, slaughterhouses and trade
- Regional collaboration harmonization

The workshop will be supported by 2- 3 international experts

Funding proposal:

Participants (16): travel costs and DSA	US\$ 24 000
Resource persons	US\$ 10 000
Miscellaneous	US\$ 1 000
Total	US\$ 35 000

Co-sponsors: To be identified

Activity proposal 4

Title: Design for hygienic basic small- to medium-scale abattoirs

Background:

- Meat processing and food safety starts with humane killing and hygienic slaughtering of animals.
- Slaughterhouses near big cities are often in poor conditions and in rural areas they are generally completely absent.
- Many requests continue to come from developing and transitional member countries for development of the meat sector, starting from the basic abattoir level. This is mainly driven by high consumer concern for improved safety.
- FAO does have a modular design for small-scale abattoirs but it requires improvement and may not be suited to a broad range of countries' needs. Activity to focus on small- and possibly medium-scale depending on demands identified.

Activity:

1. Identification of countries' needs
2. Review of the designs presently available
3. Review abattoirs in selected countries
4. Prepare comprehensive TOR for an institution or engineering company to prepare drawings and identify design options
5. Contract with company
6. Organize a 3-day workshop to review drawings, technical specifications and discuss options by relevant senior technical from livestock or planning departments
7. Identify potential sites for pilot testing
8. Finalize publication

Funding proposal:

Activities 1 – 4	US\$ 15 000
Activity 5 (tentative)	US\$ 40 000
Activity 6	US\$ 15 000
Publication	US\$ 10 000
Total	US\$ 80 000

Co-sponsors:

AGAP	US\$ 20 000
RAP	US\$ 20 000
APHCA	US\$ 40 000

Activity proposal 5

Title: Improved market access and smallholder dairy farmer participation for sustainable dairy development

Background: Dairying represents one of the fastest returns for small-scale livestock keepers in the developing world. It provides a small but regular return to farmers, especially to women; improves household nutrition and creates off-farm employment - as many as one job for each 20 litres of milk collected, processed and marketed⁷. The highest growth in demand for milk and dairy products is in the Asia-Pacific region. FAO proposes to organize a 4-day regional workshop leading to the development of a regional strategy for improved market access and smallholder dairy farmer participation for sustainable dairy development. This will be achieved by:

1. Identifying the key constraints that limit access of smallholder milk producers to milk and dairy product markets and how they can be overcome. This will be undertaken during a series of three case studies on the market chain which will be done by national institution or consultants under the guidance of FAO and through cost sharing with FAO.

2. Organizing a participatory regional workshop which presents and reviews the findings of the studies, defines the needed skills and tools to sustainably address constraints to smallholder dairy access to, and participation in, growing dairy markets in the region. FAO will present the Market-Oriented Dairy Enterprise (MODE) approach⁸ and suggest using smallholder dairy enterprise groups as the entry point, to equip the groups with the skills and technologies needed to improve their access to markets, from improvements in processing and packaging skills to improvements in marketing, including trade, regulations and policies which currently limit smallholder enterprise market access and participation.

3. The development of a regional strategy/funding proposal, based on workshop inputs and recommendations, finalized for submission to partners for funding consideration. It will clearly address the issues identified above, be based on lessons from the region and focus on sustainably improving smallholder dairy market access.

[* CFC has agreed to fund the proposal to start in 2007.]

Activity: As per attached proposal

Funding proposal: To confirm 2004 APHCA funding commitment of US\$ 20 000 for the development of the project annually – up to US\$ 100 000 for the full project over 5 years

Co-sponsors: CFC, AGAP, RAP

⁷ Employment generation through small-scale dairy marketing and processing, FAO Animal Production and Health Paper 158, FAO Rome, 2004.

⁸ MODE – Market-Oriented Dairy Enterprise approach is a graduated approach to successful small-scale dairying based on lessons learnt by FAO and other dairy development interventions.

Fast track proposal submitted through: the Secretary, Inter-Governmental Group on Meat and Dairy Products

Project title: Improved market access and smallholder dairy farmer participation for sustainable dairy development

This fast track proposal has been prepared to source support from CFC for planned small-scale dairy development activities requested by Less Developed Countries (LDC's) in the Asia-Pacific region. The Animal Production and Health Commission for Asia and the Pacific (APHCA) is a lead partner in developing this proposal given its mandate and demands from APHCA member countries⁹ for an increased role and activities in small-scale dairy development activities in the region.

Summary: Dairying represents one of the fastest returns for small-scale livestock keepers in the developing world. It provides a small but regular return to farmers, especially to women; improves household nutrition and creates off-farm employment - as many as one job for each 20 litres of milk collected, processed and marketed¹⁰. The highest growth in demand for milk and dairy products is in the Asia-Pacific region. FAO proposes to organize a 4-day regional workshop leading to the development of a regional strategy for improved market access and smallholder dairy farmer participation for sustainable dairy development. This will be achieved by:

1. Identifying the key constraints that limit access of smallholder milk producers to milk and dairy product markets and how they can be overcome. This will be undertaken during a series of three case studies on the market chain which will be done by national institution or consultants under the guidance of FAO and through cost sharing with FAO.

2. Organizing a participatory regional workshop which presents and reviews the findings of the studies, defines the needed skills and tools to sustainably address constraints to smallholder dairy access to, and participation in, growing dairy markets in the region. FAO will present the Market-Oriented Dairy Enterprise (MODE) approach¹¹ and suggest using smallholder dairy enterprise groups as the entry point, to equip the groups with the skills and technologies needed to improve their access to markets, from improvements in processing and packaging skills to improvements in marketing, including trade, regulations and policies which currently limit smallholder enterprise market access and participation.

⁹ APHCA member countries include Australia, Bangladesh, Bhutan, India, Indonesia, Iran, Lao PDR, Malaysia, Myanmar, Nepal, Pakistan, PNG, the Philippines, Sri Lanka and Thailand (and Mongolia – effective 1 Jan. 07). See APHCA website at: <http://www.aphca.org>

¹⁰ Employment generation through small-scale dairy marketing and processing, FAO Animal Production and Health Paper 158, FAO Rome, 2004.

¹¹ MODE – Market-Oriented Dairy Enterprise approach is a graduated approach to successful small-scale dairying based on lessons learnt by FAO and other dairy development interventions.

3. The development of a regional strategy/funding proposal, based on workshop inputs and recommendations, finalized for submission to partners for funding consideration. It will clearly address the issues identified above, be based on lessons from the region and focus on sustainable improving smallholder dairy market access.

The proposed project has a provisional starting date of March 2006 and a tentative budget of US\$ 150,000.

Participating countries: Bangladesh, Bhutan, India, Indonesia, Iran, Lao PDR, Mongolia, Myanmar, Nepal, Pakistan, Papua New Guinea, the Philippines, Sri Lanka and Thailand.

The Background: Demand for milk and dairy products in the developing world is expected to grow at an annualized rate of 2.6% over the next two decades. Growth in demand for milk and dairy products is highest in the Asia-Pacific region. Demand for liquid milk is growing fastest in Asia at 11% per annum (p.a.), some of which is replacing reconstituted imported milk products. However, despite strong demand growth, per capita consumption in Asia is estimated at 9.3kg/capita compared with 78.4kg/capita for the EU¹². Much of the growth will come from increasingly discerning urban dwellers, many with rising disposable incomes wanting safe, attractively packaged, nutritious and value-for-money products. In many countries, however, the demand for milk and dairy products is being met by imports. FAO data indicate developing countries are still importing milk and dairy products worth over US\$8 billion annually, US\$5 billion of which are designed for developing countries in Asia. The development of the regional dairy sector reported to be limited and, in many cases, unable, to meet the growing demands for quantity, quality and diversity of products demanded by modern consumers. There is therefore significant scope for import substitution.

The development objective is to improve the livelihoods of small-scale dairy farmers through improved participation in the supply and marketing of safe, better quality milk and dairy products, in the Asia-Pacific region.

The workshop objective is to develop, in a participatory manner a regional strategy to sustainably improve market access for smallholders. This will be achieved through learning from successful dairy development interventions in the region with the contribution of the planned three case studies, participation of relevant regional experts and through extensive group work during the workshop.

Due to the participatory approach of the project, it can be assured that the regional strategy to be developed will focus on the informal and small-scale sectors that currently hold the largest share of the market in the participating countries. Small-scale farmers, dairy traders and small- to medium-scale processors will be the main ultimate beneficiaries. The workshop will focus on the informal and small-scale sectors that

¹² Source: Dairy Supply Chain Forum, <http://www.defra.gov.uk/foodrin/milk/supplychainforum/agraceasreport.htm>

currently hold the largest share of the market in the participating countries. Small-scale farmers, dairy traders and small- to medium-scale processors will be the main ultimate beneficiaries of the project.

Rationale Milk is a natural and healthy food and a major contributor to rural food security and poverty alleviation in many developing countries. One of the key limitations to the entry into and up-scaling of the small-scale dairy sector is the lack of knowledge at farmer group level of market opportunities, technical know-how and technology. Small-scale dairy entrepreneurs in developing countries cannot access the essential market information and skills required to employ appropriate, practical processing technologies and to adapt and develop traditional and non-traditional products for growing local and regional markets.

There are a number of successful examples of dairy development in the region which share common features including groups as an entry point to reach farmers, good governance and a gender sensitive approach. Perhaps the best known example was “the Operation Flood” in India, led by the National Dairy Development Board. India is now the second largest milk producer in the world with the bulk of milk produced by smallholder dairy farmers.

There have also been recent interesting developments in Bangladesh where in addition to “the Milk Vita” success (a former government parastatal which was very successfully privatized) there are now landless dairy farmers supplying milk for the growing national liquid and processed milk market under the Community Livestock Dairy Development Programme (funded by UNDP/Grameen Motsho and the Government of Bangladesh).

The Market-Oriented Dairy Enterprise (MODE) approach will be suggested by FAO as a guide for successful small-scale dairy development in the region. The approach is characterized by a stepwise movement towards being a successful enterprise or business entity which is primarily concerned with milk or dairy products. Essentially three key steps are recognized in the approach: Step 1: Groups are set up and operational; Step 2: A low level of activities is recorded with limited returns and Step 3: A market-oriented approach is adopted and a successful enterprise put in place. The MODE process is characterized by progressions of institutional arrangements and enterprise and market orientations.

Outcome The expected outcome of the fast track project will be to identify constraints to small-scale dairy development, through an agreed upon supply chain approach. The results will be analyzed and reviewed in a participatory regional forum which will provide the inputs to the development of a regional strategy for sustainable smallholder dairy development. This strategy will provide a regional blueprint for regional policy makers and industry stakeholder action on strengthening:

- smallholder market access and participation.
- returns for group member households and their inputs suppliers
- capacity in terms of producer and processor technical ability,
- milk and dairy product safety and quality,

- regulatory frameworks, inspection and the implementation of basic hygienic and good manufacturing practices (GMP)
- policy frameworks to be more inclusive of small- to medium-sized dairy enterprises

Beneficiaries Project beneficiaries will include policy makers, regulators and planners will have direct access to advice and guidance and support in the development of a dynamic and sustainable dairy sector. This will ultimately benefit:

- Small-scale dairy farmers, milk producer’s organizations, dairy traders and small- to medium-scale processors will be the main ultimate beneficiaries of the project;
- consumers who will have access to an increased quantity and quality of safe, diverse and tailored milk and dairy products; and
- national dairy training institutions in participating countries, who will have increased capacity to respond to client demands for market-oriented training, technology and information transfer.

Workshop approach: The workshop strategy encompasses a mixture of developing field-based case study evidence, dialogue among regional stakeholders on issues, priorities, and suggestions for further collaborative action, and the development of a regional strategy.

1. Identifying the key constraints that limit access of smallholder milk producers to milk and dairy product markets and how they can be overcome. This will be undertaken during a series of three case studies in selected countries in the region. The studies which will be done by national institution or consultants under the technical guidance of FAO and based on an agreed market chain analysis approach. The studies will examine the current market chain in the respective countries and determine the opportunities and constraints for targeted interventions to sustainably improve smallholder access to and participation in growing markets.

2. Organizing a participatory regional workshop which reviews the studies and defines the skills and tools needed to sustainably address constraints to smallholder dairy access to, and participation in, growing dairy markets in the region leading to the development of a regional strategy complete with funding proposals. Inputs to the meeting will also be requested from past and ongoing successful dairy development initiatives in the region such as the Operation Flood, the Community Livestock Dairy Development Programme of Bangladesh and the Japanese-funded trust fund project on Rehabilitation of Livestock in Mongolia. FAO will present the Market-Oriented Dairy Enterprise (MODE) approach¹³ as a possible option and suggest using smallholder dairy enterprise groups as the entry point, to equip the groups with the skills and technologies needed to improve their access to markets, from improvements in processing and packaging skills to improvements in marketing, including trade, regulations and policies which currently limit smallholder enterprise market access and participation.

¹³ MODE – Market-Oriented Dairy Enterprise approach is a graduated approach to successful small-scale dairying based on lessons learnt by FAO and other dairy development interventions.

3. Provisional issues to be covered in the regional workshop will include:

- Domestic and regional market and trade opportunities. Can these be addressed through periodic workshops and exchange tours on standards and factors in consumer preferences and market access? (in collaboration with the APO, Japan).
- Approaches in the development of effective policy dialogue and development through effectively linking advanced (e.g. India) and less advanced dairy nations in the region.
- Is there a need to improve the capacity of a regional training centre to develop suitable adaptable technologies and training programme tailored to needs of small- to medium-scale entrepreneurs?
- How to overcome production constraints for competitive dairy production including feeding, genetic improvement, management, etc.?
- How to establish knowledge networks with leading international and regional institutions and partners in the small-scale dairy sector, including INGOs and NGOs: for example, the International Livestock Research Institute and the Grameen Bank/Motsho Foundation in Bangladesh?

4. Through participatory group work, a clear log frame and strategy will be developed. Inputs from ongoing initiatives and the private sector in the region will be key features of the workshop. APHCA member countries, APO and other partners will also indicate their role(s) in future regional dairy development activities. The draft strategy to be developed and agreed at the regional workshop will be finalized by a regional consultant(s) in consultation with the participating countries and submitted to FAO for review and onward submission to CFC.

Output

The output of the fast track project will be a regional strategy/funding proposal finalized for submission to partners for funding consideration. It will clearly address the issues identified above, be based on lessons from the region and focus on sustainably improving smallholder dairy market access. This document could provide a blue print for further collaboration/funding/policy formulation to promote a sustainable small-scale dairy sector.

Indicative budget

An indicative breakdown of the funding required for case study development, the organization of a 4-day regional workshop attended by selected APHCA countries and up to three other LDC's to be agreed with CFC, and the drafting of the strategy document by regional consultant(s).

	(US\$)
Total project cost	163,000
To be funded by CFC	120,000

Detailed Items

Case study consultants (3 countries, 2 m/m)	18,000
Travel (40 participants)	45,000
DSA (including accommodation, visas, etc.)	16,300
Hospitality	1,200
Stationary/photocopying	1,500
Proceedings (format, edit, printing)	7,500
Strategy/proposal drafting (consultant 4 m/m)	24,000
Contingencies (5%)	6,500
Counterpart contributions¹⁴	
Conference and other facilities	3,500
Secretarial support	2,500
Resource persons	15,000
FAO (HQ and Regional Office)	
Workshop planning, organization and servicing	6,000
Technical support by officers	16,000

Partners and Contributions: A number of partners have expressed an interest in supporting and contributing to the workshop and strategy/proposal development, including:

The Food and Agriculture Organization of the United Nations (FAO): FAO, often through partnerships with national and regional bodies, has a proven history of involvement in successful dairy development in the region such as the current United Nations Development Fund (UNDP) funded, Grameen Bank executed Community Livestock Dairy Development Programme in Bangladesh (BGS/98/009) which benefits over 40 000 of the poorest of the poor. With a global presence FAO has access to a diverse range of expertise and approaches which are often tailored for the target beneficiaries.

Learning from past experiences and developing a tailored approach to dairy development is the unique skill which FAO has compared to any other organization. One of the factors which guides our success is a participatory driven process carried out in close partnership with stakeholders including responsible national dairy institutions and both national and international research and development institutions.

Results from former interventions are highly visible and include such well known cases as Operation Flood in India. The above interventions were guided by FAO and based on starting dairy development in a systematic manner using smallholders as the backbone of a vibrant and dynamic dairy industry. These types of interventions are major contributors

¹⁴ To be confirmed by APHCA and APO

to the millennium development goals due to the direct benefits (household food security and regular income) and indirect benefits such as rural off-farm employment.

FAO has also commissioned a literature review on impacts of globalization in dairy markets in South Asia based on the paper entitled “The globalizing livestock sector: impact of changing markets” presented to the 19th session of the Committee on Agriculture in April 2005.¹⁵

APHCA: The main objective of APHCA is to promote livestock development in general. Specifically this includes to promote national and international action 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. For more detail on APHCA, see its website at: <http://www.aphca.org>. During its annual meeting in 2004, APHCA committed up to US\$100 000 to a future strategic intervention for smallholder dairying in the region. FAO will ensure that APHCA members’ concerns are addressed in the regional workshop and that this proposed contribution is included in any future sub-sector development.

The Asian Productivity Organization (APO):¹⁶ was established by Convention¹⁷ on 11 May 1961 as a regional intergovernmental organization. Its mission is to contribute to the socio-economic development of Asia and the Pacific through enhancing productivity. The meaning of productivity has evolved and expanded over the years from simply producing quality products at minimum cost to the improvement of the quality of life for all. The character of the APO is non-political, non-profit, and non-discriminatory.

APO has indicated its willingness to be involved in the formulation process with a view to providing support funding for productivity related activities.

The Government of Thailand has indicated its willingness to provide the Department of Livestock Development (DLD)’s Dairy Training Centre in Chiang Mai for planned capacity building activities and also has relevant enterprise support and improvement services.

Within the region, the **private sector** is also expected to make a major contribution to the workshop initially through provision of expertise for the regional workshop and also through provision of contracted specialist expertise (e.g. in market research and SME improvement).

¹⁵ <http://www.fao.org/docrep/meeting/009/j4196e.htm>

¹⁶ See the APO homepage at <http://www.apo-tokyo.org/>

¹⁷ See the Convention details at http://www.apo-tokyo.org/01about_conv.htm

Activity proposal 6

Title: Assistance fund to respond to disease emergencies

Background: Disease emergencies for this proposal would be defined in the following cases:

- as emerging diseases occurring in the country for the first time;
- as a disease occurring with a sudden surge after a period of “dormancy”; and
- as a disease recurring in a disease free zone

The three scenarios usually create an unexpected need in resources especially in less resourced countries. Field investigations need to be launched immediately. Short term control measures have to be put in place to halt the spread of disease. These activities need operational funds (to include petrol, DSA, vaccines, diagnostic kits, and cost to transport samples, etc.) which are often not at hand when needed.

This proposal therefore tries to bridge that gap of assisting countries in need of operational funds at the first instance that a disease emergency occurs.

Activity: Creation of a standby fund for countries needing assistance in times of disease emergencies with the following suggested mechanism:

- Country in need submits request to the APHCA secretary;
- APHCA secretary circulates to executive committee members for notification and approval (preferably within the day of circulation);
- APHCA transfers funds to the FAO’s country representative office and disburses the funds through the designated officer of the veterinary services;
- Government officer then submits report of the activities and expenses to the FAO representation for forwarding to the APHCA secretary.

Funding proposal: It is suggested to establish the fund with US\$ 25 000. The amount to come from the accumulated interest which can only be used upon clear/special decisions by the member countries. If funds are not used funds remain in the interest account.

Activity proposal 7

Title: Food safety workshop (pending findings of consultant)

Background: Food safety has been identified as a priority issue in the region. The first regional workshop was held in 2004 dealing mainly on the concept of food safety.

A deeper assessment of the food safety direction in the region is needed looking closely on ongoing food safety initiatives, role of the veterinary services and the framework in which food safety is managed and regulated.

The go-ahead will be given by APHCA delegates after the consultant presented his findings at the 30th APHCA session.

Activity: A 3-day workshop for representatives from APHCA countries exploring the direction of food safety in the region.

Funding proposal:

Participants (16) travel and DSA	US\$ 24 000
Resource persons	US\$ 10 000
Miscellaneous	US\$ 1 000
Total	US\$ 35 000

Co-sponsors: Co-funding from OIE (50%) to be confirmed

Activity proposal 8

Title: Maintenance of APHCA FMD vaccine bank

Background: There is a surge of FMD outbreaks again in Southeast Asia. This could spread to other parts of the region if control measures are not put in place immediately. One of the control measures commonly used by countries is vaccination especially if there are significant numbers of susceptible animals. Vaccination is aimed at producing a highly immune livestock population that is if vaccination cover reaches 80% and that if protection levels reach this percentage also.

FMD vaccine is type specific per country and it takes about 6 months to have the vaccine produced and delivered. This is a relatively long time to wait especially if a significant portion of the livestock population needs to be protected.

To ensure that vaccine could be made available when needed, a vaccine bank of common FMD types (specifically O and A) is proposed to be established and maintained at a private commercial company. A vaccine bank shortens the manufacture and delivery of vaccines by two months enabling participating countries to have a supply of vaccines at the shortest possible time.

Activity:

- Creation of a working group (composition to be decided by the APHCA delegates) that would determine the quantity, FMD component types of the vaccine and guidelines to access the vaccine bank.
- Submission of tenders and selection of the lowest quote for the establishment of an FMD vaccine bank that would be maintained by the selected commercial FMD vaccine company for at least 2 years. It is expected that after this period, an APHCA member country will be able to take over the task.
- Assessment of the relevance of the vaccine bank after the contract with the commercial company expires.

Funding proposal: It is suggested to allocate up to US\$ 25 000. The amount to come from the accumulated interest which can only be used upon clear/special decisions by the member countries. Unspent funds are not used funds remain in the interest account.

Activity proposal 9

Title: Risk-based surveillance workshop

Background: Risk-based surveillance is a new concept of surveillance developed during the BSE outbreaks in Switzerland. While both conventional surveillance and risk-based surveillance have the same objectives, the selection of the hazard of interest varies as well as the conduct of the activity itself. Some notable differences:

Elements	Conventional surveillance	Risk-based surveillance
Hazard selection	hazard of interest is selected	hazard is selected using risk assessment
Target area/population	selected at random	selected based on risk factor studies
Timing	based on epidemiology of agent and infection dynamics	same with addition of risk factor studies
Resources	requires more resources	efficient use of resources

Activity: A 5-day workshop for representatives from APHCA countries with the following topics:

- Epidemiological background of conventional surveillance concepts
- Introduction to risk-based surveillance
- Similarities and differences between conventional and risk-based approach
- Situations to apply risk-based surveillance
- Developing a risk-based framework
- Practical exercises

Funding proposal:

Participants (16) travel and DSA	US\$ 24 000
Resource persons	US\$ 15 000
Miscellaneous	US\$ 1 000
Total	US\$ 40 000

Co-sponsors: HPAI projects, OIE to be confirmed (20 000); APHCA (20 000)

Activity proposal 10

Title: Joint APHCA/OIE activity on BSE (prion diseases)

Background: To pursue with and strengthen the national/regional capacity building on BSE (and other prion diseases) diagnosis and surveillance, the following joint APHCA/OIE activities on BSE (and other prion diseases) were conducted in 2005:

- The 3rd APHCA/OIE/DLD Regional hands-on workshop on BSE diagnosis and surveillance, organized at the NIAH-Thailand in Bangkok, between 28 and 31 March 2005; and
- The 1st OIE/APHCA/NIAH-Japan Advanced regional hands-on training workshop on BSE diagnosis (using western blotting), organized at the Japan NIAH's Prion Disease Research Center/OIE world reference laboratory for BSE in Tsukuba Science City, between 30 November and 9 December 2005.

Activity: A 7-day training workshop for selected BSE (and other prion diseases) laboratory scientists from APHCA countries and exploring the setup of BSE (and other prion diseases) working group/network.

Venue: NIAH-Japan's Prion Disease Center, Tsukuba

Funding proposal:

Participants (4) Travel and DSA	US\$ 12 000
Miscellaneous	US\$ 2 000
Total	US\$ 14 000
<i>Resource persons, local costs</i>	<i>(to be covered by NIAH-Japan)</i>

NIAH-Japan provides local costs (i.e. lab chemical and expendable equipment expenses, etc.) + resource persons.

Co-sponsors: Co-funding from OIE (50%) to be confirmed

Activity proposal 11

Title: WTO-SPS agreement workshop

Background: APHCA and OIE [in collaboration with the Faculty of Veterinary Medicine, Chiang Mai University (FVM-CMU), Department of Livestock Development (DLD) of Thailand and Free University of Berlin (FU Berlin)] have jointly organized five OIE/FAO-APHCA regional workshops on World Trade Organization (WTO)'s sanitary and phyto-sanitary (SPS) agreement" in Chiang Mai, Thailand between 2000 and 2005.

The objective of these workshops are to provide information and train government officials in the Asia and Pacific region on risk analysis, management and some parts of risk communication in terms of WTO's SPS agreement and in conjunction with the OIE International Animal Health Codes and Manuals, the FAO Codex Alimentarius and HACCP.

Activity: To organize "the 6th OIE/APHCA Regional workshop on WTO's SPS agreement" in Chiang Mai, Thailand, in 2007.

The theme and subjects of this workshop shall be modified to suit the needs of the APHCA countries.

Funding proposal:

Travel costs and DSA of 8 participants	US\$10 000
Travel costs and DSA of 2 resource persons	US\$ 4 000
Hospitality/General operating expenses	US\$ 1 000
Total	US\$15 000

Co-sponsoring: Another 50% contribution (US\$15 000) shall be provided by OIE for other 8 participants and 2 resource persons. Local costs shall be covered by Thai DLD and FVM-CMU.

Activity proposal 12

Title: Creating a new APHCA/APAARI resource of livestock knowledge in Asia

Background: Knowledge about livestock systems in Asia is created and disseminated by a vast range of people and institutions. Despite modern communication tools, there are many barriers to the effective linkage of research and development programmes. Often, new technologies, approaches and production systems are developed but are not well known beyond their project area. Others have been developed by researchers and promise good results but have not yet been proven to deliver livelihood benefits. Development projects are searching for technologies and methods they can use in their project and often resort to those they are familiar with from previous projects, and these may not provide the most appropriate and effective solutions. The challenge is to design and implement new pathways and new mechanisms that accelerate the rate of knowledge generation and flow, in a way that is both cost-effective and increases the impact of livestock on the livelihoods of the poor.

To initiate this process ILRI and CIAT are proposing to work with APHCA and APAARI, in Southeast Asia initially, to develop a knowledge resource to support existing “research for development” initiatives and stimulate new ways of connecting research to livelihood benefits.

Activity: The Livestock Knowledge Resource (LKR) will be created and located in Bangkok and jointly administered by APHCA and APAARI.

Electronic access will be:

- i) through the web sites (www.aphca.org and www.appari.org) of both organizations with material located principally on the APHCA web server; and
- ii) direct access to the small LKR group which will be created with leadership from ILRI, CIAT, APHCA and APAARI.

Funding proposal:

- | | |
|---|----------|
| 1. Personnel (webmaster / research assistant for one year) | \$20 000 |
| 2. Operating expenses (office, etc.) | \$ 2 000 |
| 3. Travel expenses (two meetings of APHCA, APAARI, ILRI and CIAT) | \$ 3 000 |

Total	\$25 000
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Investment sought from APHCA and APAARI (50/50)	\$12 500
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Co-sponsoring: In-kind contributions from ILRI, CIAT and APHCA (staff time)

Special Issues

Food safety: preliminary report to APHCA

(by John Copland, FAO Consultant)

Slide 1

Food Safety: Preliminary Report
to APHCA
Luang Prabang, 2006

John Copland

Slide 4

Terms of Reference: Food
Safety: cont'd

- Recommend an overall framework in which food safety is managed and regulated
- Design a workshop on food safety that would define the directions of food safety in the region

Slide 2

Terms of Reference: Food Safety

- Review existing food safety activities in Asia Pacific region
 - Literature research
 - Web-based search
 - Interviews with national focal points and staff in a representative group of countries
 - Determine relevant activities of FAO, World Bank, ADB and bilateral agencies eg. EU, AusAID, GTZ, etc
 - Seek opinions of countries not visited during the APHCA meeting
- **Focus is on the primary production of meat only ie farm to market**

Slide 5

Preliminary Findings: Food Safety

- Existing Food Safety Activities
 - Food safety awareness has increased in the last five years
 - Most national governments have in place activities on food safety of variable capacity
 - There is a wide range of food safety activities in the region, with some countries at the international level and others working towards higher standards
 - There is limited published material on the status of food safety of countries in the region.

Slide 3

Terms of Reference: Food Safety
cont'd

- Liaise with veterinary authorities on their respective food safety programs
 - Discuss and visit a representative sample of member countries of APHCA
 - Malaysia, Indonesia, Thailand, Vietnam, Laos, Sri Lanka
- Identify issues on food safety where the veterinary services have an important role

Slide 6

Issues: Food Safety

- Legal Basis
 - The legal basis for the conduct of food safety activities is generally adequate
 - The Ministries of Agriculture (Animal Health) are the main agency, although the Ministries of Health (Human Health) are often involved in meat food safety
 - The level of collaboration ranges from effective to limited in some countries
 - There are overlap and duplication in a few countries

Slide 7

Issues: Food Safety

- The Drivers for improved Food Safety are
 - Increasing consumption of livestock products globally
 - Compliance with WTO Sanitary and Phyto Sanitary (SPS) status for countries joining WTO eg, Laos, Vietnam
 - Increasing interest of consumers, particularly large urban populations
 - Greater regional trade in livestock products
 - Realisation of the need to have adequate SPS capacity to address the likely increase of meat imports after countries join WTO

Slide 11

Issues: Food Safety: Major Risks in the Supply Chain

- Limited interaction and synergy with animal health programs
- Pigs and poultry are carriers of pathogenic organisms, eg Salmonella, E.coli, Campylobacter
 - Estimates that up to 50% of pigs and poultry are carriers of pathogenic agents into abattoirs
- Major risks are
 - Bacterial contamination prior to and during processing at abattoirs
 - Bacterial contamination at markets
 - Poor infrastructure and processing techniques
 - Often poorly trained meat inspection activities
 - Intensive production systems- use of antibiotics, chemicals and hormones

Slide 8

Issues: Food Safety: Limited Implementation

- Major Constraint is the lack of effective IMPLEMENTATION in domestic markets
 - Food safety for the export trade is determined by the importing country and is well covered by the exporting country, eg Thailand's poultry exports
 - Potential livestock exporting countries do not as yet have adequate SPS standards, eg Laos
 - There are limited food safety activities for the domestic market due to low margins of profit of the owners of slaughter houses and the strong demand for low cost wet/hot meat markets
 - Lack of human and infrastructure support at government and local government level impedes application of food safety practice
 - Most abattoirs are owned by local government or private sector and are not well designed to allow efficient processing, adequate hygiene and inspection

Slide 12

Role of Veterinary Services: Food Safety

- The veterinary services have an important and vital role in the food safety of primary production of meat, ie from farm to market
- The total meat supply chain to the market needs to be evaluated and monitored
- Animal health programs should be integrated and linked into food safety programs.
 - the control of outbreaks of animal diseases is of direct relevance to food safety activities and mutually beneficial. Communications between all stakeholders is important
- Provision of adequate training for meat inspectors and targeting poorly designed abattoirs

Slide 9

Issue: Foods Safety: Limited Implementation cont'd

- Lack of control of small scale abattoirs and illegal abattoirs
- Limited public awareness of food safety at rural level
- Large number of smallholders who process pigs and beef/buffalo on an irregular basis hampers implementation and regulation of food safety
- Routine monitoring and surveillance not normally practised extensively. Some efficient local large scale food safety applications
- Limited laboratory capacity for testing of feed and meat residues eg antibiotics, heavy metals, hormones, etc
- In some cases, poultry is not inspected at all and reliance is placed on the private sector to do this

Slide 13

Role of Veterinary Services: Food Safety cont'd

- Provide a focus point on food safety and ongoing epidemiological investigations, eg surveillance, risk assessment management
- Provide adequate structured monitoring and surveillance programs on priority national animal health activities
- Provide scientifically based risk assessment based on surveillance data to identify current and emerging food safety issues and profiles
- Provide an effective risk analysis which will identify priority issues and encourage the use of HACCP principles to prevent and control identified risks in the food chain
- Be a focal point and leader for all food safety matters for the industry, owners and meat inspectors/district officers and industry to coordinate food safety. Periodically review current legislation and update regulations, if necessary, to support appropriate food safety activities

Slide 10

Issues: Food Safety: Limited Implementation cont'd

- Standard of operation of abattoir workers and meat inspectors is low, often resulting in considerable bacterial cross contamination
- Design of most abattoirs is rudimentary, especially small scale units. Water and waste management is often rudimentary
- Variable use of risk analysis to increase efficiency of food safety activities
- In some cases lack of "authority" for Meat Inspectors to condemn carcasses of meat
- Consumers in low economic areas are more interested in food security than food safety. This is an important underlying issue

Slide 14

Draft Regional Framework: Food Safety

- **Overall Goal**
 - To ensure the safety of meat products in the region to improve the welfare of livestock farmers and national interests
- **Objectives**
 - To improve meat food safety standards for both domestic and export livestock markets
- **Background**
 - Food safety is an ongoing priority
 - The focus for the framework should be from farm to market (wet market, wholesale market)
 - The relevance of food safety monitoring and surveillance activities in addition to traditional animal health activities needs to be recognised and vice versa.

Slide 15

Draft Regional Framework: Food Safety: Background cont'd

- Where there is a major decentralisation of government, the approach could be to involve those regions/local governments that are supportive of food safety and use them as a "model" for others to follow
- The role of public and private sector involvement needs to be clearly clarified and a synergistic relation developed
- The conduct of food safety should involve all inputs to the meat production chain, such as feeds and chemicals
- The philosophy should be one of mutual benefits for all stakeholders, government, industry and farmers rather than a police type of approach.

Slide 19

Draft Regional Framework: Food Safety

- **Strategy and Structure of the Framework**
 - **Public Awareness on Food Safety**
 - Target abattoir owners-local government, private sector on food safety benefits and their responsibilities
 - Focus on school education through food hygiene subjects eg wet markets and consumers hygiene
 - Get private sector to assist in general public awareness
 - Harness industry bodies to help with the dissemination of public awareness aspects
 - Conduct 'Train the Trainers' on public awareness and methodology and how to monitor impact
 - In high risk areas, use newspapers and TV news to publicise success or damage in the food sector
 - Attempt to increase the status of food safety in the district or local government area. Identify a champion!

Slide 16

Draft Regional Framework: Food Safety

- **Background cont'd**
 - Given the need to have a continuum from the farm to the consumer, a clear workable relationship needs to be established with other agencies involved, particularly Ministries of Health
- **Matrix of the proposed Framework**
 - Component 1 Development and updating of legislation and regulations
 - Component 2 Development of laboratory testing and validation
 - Component 3 Inspection of imported chemicals, veterinary drugs, feeds and premix
 - Component 4 Control of veterinary drug manufacture and distribution and use.
 - Component 5 Control of animal feed manufacture and use

Slide 20

Draft Regional Framework: Food Safety

- **Strategy and Structure of the Framework**
 - **Training**
 - This should involve training the trainers in meat inspection techniques and skills and good food hygiene
 - Training should also be provided for the abattoir workers so that they are adequately skilled and understand the risk of contamination
 - Development of training modules that can be used widely and are mobile
 - Design and establishment of a model slaughter house for training and demonstration or selection of a suitable abattoir for this purpose.

Slide 17

Draft Regional Framework: Food Safety: Components cont'd

- Component 7 Development of investigation and information systems for tracing back mechanisms ie surveillance, risk assessment, HACCP practice, data bases
- Component 8 Development of inspection procedures, and certification for meat processing plants and products
- Component 9 Assistance in the design and operation of abattoirs to improve efficiency of processing and meat inspection
- Component 10 Public awareness targeted at priority focal points (consumers, industry, slaughter houses, government) and communication between all stakeholders in the meat supply chain
- Derived from Thailand and Malaysia Food Safety Action Plans

Slide 21

Draft Regional Framework: Food Safety

- **Strategy and Structure of the Framework**
 - **Monitoring and Surveillance**
 - Existing epidemiology capacity to include risk assessment and management relevant to food safety in each country
 - A training course on adaptation of epidemiological skills for food safety monitoring and surveillance if there is no in-country capacity
 - Development of structured surveillance designs for national priority animal diseases relevant to food safety, ie Salmonellosis
 - Establishment of functional data base to assist analysis of information and monitoring of food safety priorities and progress
 - Monitoring of good management practice for small scale abattoirs
 - Use existing international information networks for monitoring animal disease risks for livestock trading and border areas, ie NAPHIS and ARAHIS
 - Strengthen certification and registration of abattoirs, meat inspectors and product certification

Slide 18

Draft Regional Framework: Food Safety

- **Strategy and Structure of the Framework**
 - Consolidate activities in National Food Safety Plans
 - Public awareness
 - Training
 - Risk assessment
 - Coordination
 - Legislation?
 - Incorporation of the component matrix

Slide 22

Draft Regional Framework: Food Safety

- **Operation and Coordination of Framework**
 - This would be done on a national basis and in some countries coordination and application of food safety frameworks are in place
 - APHCA would be the regional body to monitor food safety standards and practice in the region?
 - FAO and APHCA members to consider providing some support to the componentis suggested
 - The earlier FAO manuals relevant to food safety be considered as possible building blocks and inputs into any future training
 - Linkages and where appropriate, integration with ongoing and future food safety projects in a synergistic manner should be encouraged eg Vietnam, Cambodia and Laos
 - Involvement of existing Veterinary Public Health Departments in national and international training, applied research and surveillance should be encouraged, eg Sri Lanka, Thailand, Australia
 - The assumption is made that improved infrastructure costs will be covered by the private sector and motivated by export potential.

Slide 23

The Way Forward for Food Safety

- Improve delivery of Food Safety-better designed abattoirs and processes
- Workshop on Food Safety
- Suggested objectives of workshops
 - To draw up National Food Safety Action Plans
 - To address the training requirements of the region, eg public awareness, processing skills and meat inspection
 - Build on past and current activities
 - To strengthen and integrate risk assessment and analysis relevant to food safety into ongoing national veterinary programs

BSE and WTO's SPS agreement
(by Vishnu Songkitti, FAO / APHCA)

Slide 1

APHCA activities on BSE
and
WTO's SPS Agreement

V. Songkitti
FAO-APHCA

Slide 4

BSE (and other prion diseases)

Proposed activity in 2007

- A 7-day training workshop for selected BSE (and other prion diseases) laboratory scientists from APHCA countries and exploring the setup of BSE (and other prion diseases) working group/network.

Venue: NIAH-Japan's Prion Disease Center, Tsukuba
Co-fund from APHCA: US\$14,000

Slide 2

BSE (and other prion diseases)

To pursue with and strengthen the national and regional capacity building on BSE/TSEs (prion diseases) diagnosis and surveillance, the following joint APHCA/OIE activities were conducted in 2005:

- The 3rd APHCA/OIE/DLD Regional Hands-on Workshop on BSE Diagnosis and Surveillance, organized at NIAH-Thailand, Bangkok, between 28 and 31 March 2005.

Participants were from Bangladesh, Bhutan, India, Iran, Nepal, Pakistan, Sri Lanka and Thailand.

Slide 5

WTO's SPS Agreement

The objective of the Workshop is to provide information and train government officials in the Asia-Pacific Region on Risk Analysis, Management and some part to Risk Communication in terms of WTO's SPS Agreement and in conjunction with the OIE International Animal Health Codes and Manuals, the FAO Codex Alimentarius and HACCP.

112 officials/participants were trained, so far.

Slide 3

BSE (and other prion diseases)

- The 1st OIE/APHCA/NIAH-Japan Advanced Regional Training Workshop on BSE Diagnosis (using Western Blotting) was organized at the Japan NIAH's Prion Disease Research Center and OIE world reference laboratory for BSE in Tsukuba Science City, between 30 November and 9 December 2005.

Participants were from China, Korea (Rep. of), Malaysia, Philippines and Thailand.

Slide 6

WTO's SPS Agreement

The 5th FAO-APHCA/OIE/DLD Regional Workshop on WTO's SPS Agreement was co-organized in collaboration with Free University of Berlin (FUB), and the Faculty of Veterinary Medicine, Chiang Mai University (FVM-CMU) at the FVM-CMU, between 15 and 19 August 2005.

16 participants plus 2 observers from 16 countries in the Region participated in the workshop.

Slide 7

WTO's SPS Agreement

Proposed activity in 2007:

- To organize the 6th OIE/FAO-APHCA/DLD Regional Workshop on WTO' SPS Agreement
Venue: Chiang Mai, Thailand.
Co-fund from APHCA: US\$15,000

The theme and subjects of this workshop shall be modified to suit the needs of the 16 participating countries.


Slide 8

Thank you.

Highly pathogenic Avian Influenza

(by Laurence Gleeson, ECTAD Regional Manager, FAO RAP)

Slide 1



Animal Production and Health Commission for Asia
30th Meeting
Luang Prabang, Lao PDR
23rd October 2006

Highly Pathogenic Avian Influenza

Slide 4

What has been achieved ?

- A lot!!!! It is no longer a galloping epidemic as in 2004
- Many 'free' countries have contingency plans and so are in better shape to deal with an incursion than before
- Some countries have reduced the disease to a splutter in the background or eliminated it by stamping out
- Some countries have control programs in place that appear to continually dampen disease right down and monitoring continues
- A lot of training has been undertaken and capacity in the field and laboratories strengthened
- Big efforts made in public education and continue
- Collaboration between agencies had improved markedly
- The HPAI epidemic has proved to be an opportunity for to get some generic support to strengthen animal health services

Slide 2

- What exactly are we trying to achieve in the region?
- What is the engine that drives the HPAI control program?
- How long will the engine have fuel?
- Lessons learned – is our thinking changing
- Revision of the global strategy to take place – how can you contribute today?
- Issues for the future of HPAI control

Slide 5

FAO response

Technical Cooperation Projects (TCPs)
Collaboration with major donors – implemented, committed or in pipeline a total of US\$45M in this region

Major contributors to FAO portfolio

- Asian Development Bank
- Govt. of Australia
- Govt. of Germany
- Govt. of Japan
- USAID

Slide 3

What are we trying to achieve – where are we trying to go collectively?

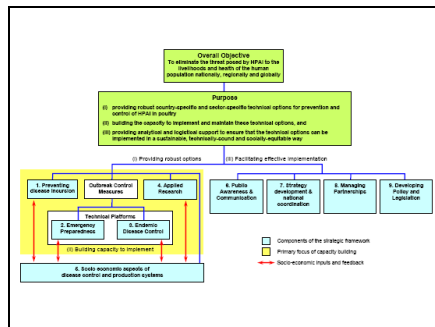
For countries that are free to remain free

For countries that have sporadic outbreaks to quickly and professionally contain the disease

For those countries with endemic disease to implement progressive control programs

To have a positive impact on the public health threats posed by H5N1 for mankind

Slide 6



Slide 7

- We have to accept that the main driver for the international donor agencies is the pandemic threat
- What is the risk? How real is it?
- How long will donor or political interest be sustained in the absence of a serious epidemic outbreak in man? 'Donor fatigue' is real
- Most resources were going into human pandemic preparedness
- Now an increased focus on controlling the disease at source – so there is a lot of attention spotlighting the approaches being used

Slide 11

Why has this situation emerged?

- Population of chickens has exploded in Asia - **short-lived hosts**
- Populations of ducks have increased significantly especially in East and Southeast Asia
- People and so animals have become more mobile with development – for example witness growth in motorbike numbers, so birds move more quickly and further
- Highly pathogenic avian influenza tended to be a problem only in industrialised chicken production systems, looks like there has been a frameshift with H5N1
- This sort of situation was not predicted, certainly not by the animal health sector
- Expansion of industrial production has not been accompanied by compliance with necessary sanitary or biosafety standards – a problem waiting to happen??

Slide 8

- Human health agencies had a 'zero' tolerance position for bird flu in poultry, as any sick chicken was the likely source of disaster, and was critical of the animal health services for 'allowing the disease to get out of control'
- We have had some emotive positions – "humans are acting as the sentinels of disease in poultry". Conclusion: Animal disease surveillance managed by vets is not working!! Have to find every sick chicken to be successful.
- Now there is a no blame position that acknowledges that H5N1 will be here for some time in poultry, and that management of the risks for the human population is the strategy to follow
- There is a balance that needs to be struck

Slide 12

Why so widespread so quickly?

- It had in fact been around for longer than officially recognized. Anecdotal evidence plus was present in Indonesia from midway thru 2003 and had become well established
- Did anything change to bring this about
- Globalisation of industrial livestock production has resulted in other diseases spreading e.g. in commercial poultry – highly pathogenic bursal disease, chicken anaemia virus; in commercial pigs - circovirus infection of pigs, PRRS

Slide 9

Sources of professional difference and tension

International public health authorities had ramped up the concern far beyond the rare human disease that H5N1 infection is/was. Wanted the disease to be eliminated from poultry 'overnight'

Animal health services argued that it had to be tackled as an animal disease and other issues beside disease control to be considered

Impact of disease control measures on people, on incomes, on markets and on trade in general has to be considered in animal disease control, and it still is an animal disease – no 'fast track'

Slide 13

What is the role of migratory birds?

- No doubt that the origins of the H5N1 strain of the virus probably wild water birds
- Since 1996 considerable evolution of the virus has taken place in domestic poultry
- Wild birds have been infected with H5N1 strains that have more recently evolved in China
- Wild water birds might be able to play a part in the local maintenance of the virus in the environment

Slide 10

Who saw this coming? Why was it not predicted?

Avian influenza had done something similar in Mexico and become well established in the poultry population – but H5N2 was not a zoonotic pathogen so it remained an animal health problem

But HPAI had never become established in the semi-commercial poultry systems of Asia or elsewhere

Was a problem of unknown proportions in China and vaccines were being produced to control the disease in poultry – we knew it was there

When it spread to other parts of Asia it was like a bushfire so presumably the problem had been similar in PR China early in the outbreak. Failure of 'early warning'.

Slide 14

How to respond

- Monitoring resident wild birds can give some idea of the risk in the environment
- Monitoring migratory wild birds → risks present
- FAO projects to investigate wild bird role
 - Have probably been involved in the spread of the infection to Europe
 - Indonesia - probably started in a place where wild birds were not likely to have been the source
- Other issues
 - Trade in day old chicks is a good way to spread the infection from place to place
 - Trade in fertile eggs?
 - Other fomites associated with integrated operations across national borders
 - Movement of birds such as fighting cocks

Slide 15

Disease control in general

- The 'compensation' issue is complex and progress must be made to develop clear policy frameworks.
FAO has recently completed an extensive electronic forum and has also developed of a tool box to help formulation of compensation mechanisms.
- Decline in animal health services – not able to cope in some places with the problem and need long term plan and investments.
- Planning and [resources](#) for prevention, emergency response and control is required. Plans need continuous review. Strong links between political and technical arms of government.

National and International Public Good Aspects of HPAI Prevention and Control

Slide 19

Pilot Phase Summary Statistics

	Bandung	Bogor	Malang	Yogya	Total
No. Interviews	250	349	110	220	929
No. Positive	22	23	12	21	78
Percent Positive	8.8	6.6	10.9	9.5	8.4

Slide 16

Disease control strategies – not "one size fits all"
Disease endemic *versus* disease not endemic or not present
Stamping out approach can be effective if detection is early, if movement management can be effectively applied, if compensation can be paid and the producers are cooperative
Stamping out of disease foci and vaccination is appropriate if the disease has become widespread but need manpower and resources
Local culling of infected birds and ring vaccination as a participatory community based is being carried out in Indonesia to good effect – needs evaluation

All require full political understanding, support and commitment

Slide 20

Expansion Phase - August

	RT Positive	Interviews	Rate (%)
Bali	10	184	5.4
Bandung	33	455	7.3
Bogor	30	331	9.1
Malang	31	437	7.1
Medan	2	78	2.6
Tuban	0	78	0
Yogyakarta	25	85	29.4
Total	131	1648	8.0

Slide 17

Disease surveillance

Most disease surveillance in region is so passive it is 'horizontal'

HPAI requires more active approaches to detect and respond

Heavy reliance on 'voluntary' grass roots systems – so far not reporting outbreaks in spite of bulk training

Some countries are using various established networks (eg community health) to get information.

Participatory disease surveillance is active and involves close interaction with communities

Slide 21

Disease surveillance – laboratory services

Laboratory services are seeking support but many are requesting development of high biocontainment facilities

Development of the laboratory system should be as systematic as the rest of the program

Requires a logical development framework



How many suitably qualified staff can support the system into the future? Training issue.

How much does it cost to maintain the facility??

Why not make use of reference laboratories in an organised manner?? Reference laboratories maybe have to be more transparent also?

Slide 18

Diagnosis

Clinical Case Definition	Positive 'Anigen' Test
	

Slide 22

Risk Communication for Policy Makers

- Regarding H5N1 for the moment there is no such thing as zero public health risk; that is impossible to achieve currently
- However it is possible to reduce risk and to manage risk
- Reduce the risk by preventing infection and disease outbreaks in poultry, and effective control when present
- Manage risk by having effective disease surveillance, to exchange information about disease incidence and an informed and responsive public
- Need to have mutual understanding of each others problems and constraints, to have dialogue and be realistic about the issues of control at this time

Slide 23

UN Coordination on HPAI control in animals

It is happening at a global, regional and national level
Global and regional coordination in aspects of commonality such as laboratory networks and exchange of agents and information, development of communication messages and control strategies, and the interface issues between animal and public health

Most important coordination and collaboration at country level – communication, joint investigations, joint implementation, joint programs

Slide 25

Into the not-so-far future what are we looking at??

- 70% of new diseases recently emerged in humans have their origins in animals
- Will the animal-human interface become a key to public health and food safety in the future
- Will the politicians continue to trust this responsibility to veterinary services
- Will we see the emergence of new agencies with greater emphasis on public health?
- Should chicken production for human consumption be more tightly regulated, at least from the disease control end? Issues of consumer attitudes, increased costs

Slide 24

- The rate of human infections appears to be on the rise in Indonesia
- Also occasional reports of human cases from China
- The number of cases in man of regular flu usually increases in the colder months of the year
- The number of outbreaks in poultry in Asia has also shown a tendency to peak in the cool season
- The political heat will rise if a similar trend is seen again this coming cool season

Slide 26

Where to from here ?

- more money is needed for sure
- more commitment from political leaders
- more transparency from govts in reporting
- new strategies to maintain gains?
- more realism from partners?

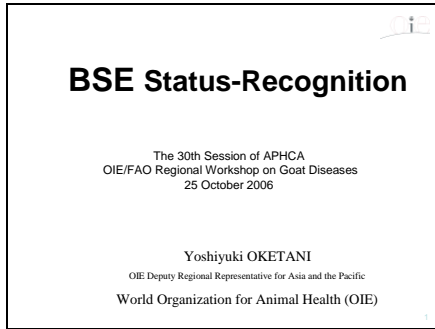
Slide 27

Thank you for your kind attention

BSE status recognition

(by Yoshiyuki Oketani, Deputy Regional Representative for Asia and the Pacific, OIE)

Slide 1

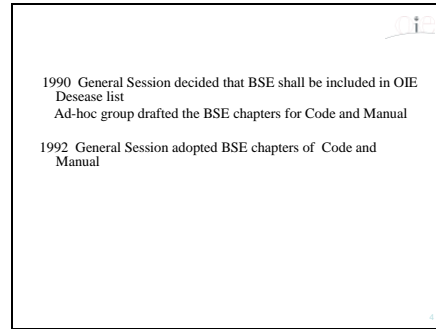


BSE Status-Recognition

The 30th Session of APHCA
OIE/FAO Regional Workshop on Goat Diseases
25 October 2006

Yoshiyuki OKETANI
OIE Deputy Regional Representative for Asia and the Pacific
World Organization for Animal Health (OIE)

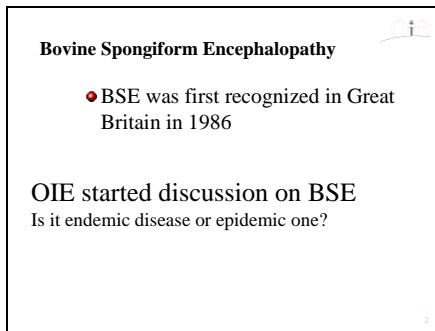
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1990 General Session decided that BSE shall be included in OIE Disease list
Ad-hoc group drafted the BSE chapters for Code and Manual

1992 General Session adopted BSE chapters of Code and Manual

Slide 2

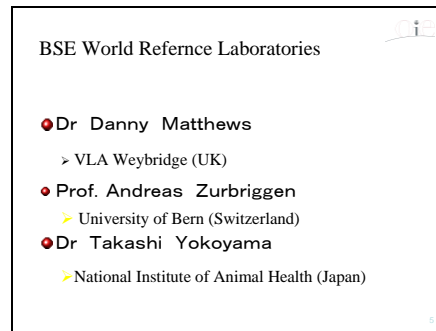


Bovine Spongiform Encephalopathy

- BSE was first recognized in Great Britain in 1986

OIE started discussion on BSE
Is it endemic disease or epidemic one?

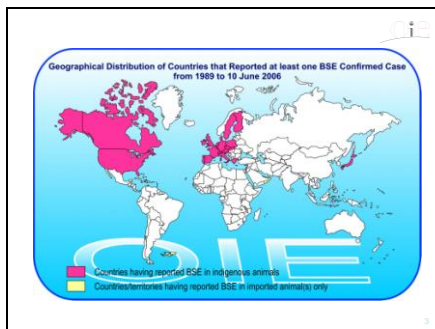
Slide 5



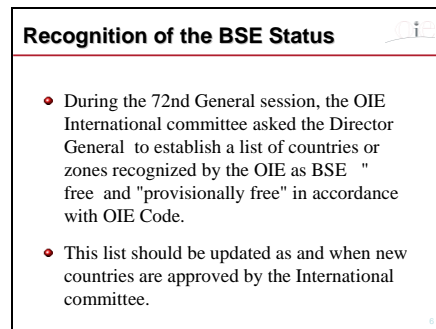
BSE World Reference Laboratories

- Dr Danny Matthews
 - > VLA Weybridge (UK)
- Prof. Andreas Zurbriggen
 - > University of Bern (Switzerland)
- Dr Takashi Yokoyama
 - > National Institute of Animal Health (Japan)

Slide 3



Slide 6



Recognition of the BSE Status

- During the 72nd General session, the OIE International committee asked the Director General to establish a list of countries or zones recognized by the OIE as BSE "free" and "provisionally free" in accordance with OIE Code.
- This list should be updated as and when new countries are approved by the International committee.

Slide 7

BSE status (2004)
(country or zone)

- ① Free from BSE
- ② Provisionally free from BSE
Argentina, Iceland, Singapore and Uruguay
- ③ With a minimal BSE risk
- ④ With a moderate BSE risk
- ⑤ With a high BSE risk

Slide 11

Questionnaire for BSE Status Recognition

- Section 1 – Risk assessment
- Section 2 – Other requirements
Ongoing awareness programme
Compulsory notification and Investigation
Diagnostic capability
- Section 3 – Surveillance
- Section 4 – BSE history of the country, zone or compartment

Slide 8

BSE status (Present)
(country or zone)

- ① Free from BSE
Australia, Argentina, New Zealand and Uruguay
- ② Provisionally free from BSE
Chile, Iceland, Paraguay and Singapore
- ③ With a minimal BSE risk
- ④ With a moderate BSE risk
- ⑤ With a high BSE risk

Slide 12

Section – 1 Risk Assessment

- Release assessment
The potential for the release of the BSE agent through importation of
 1. meat-and-bone meal (MBM) or graves
 2. potentially infected live cattle
 3. potentially infected products of bovine origin

Slide 9

BSE status (future)
(country or zone or Compartment)

- ① Negligible BSE risk
- ② Controlled BSE risk
- ③ Undetermined BSE risk

Slide 13

Section – 1 Risk Assessment

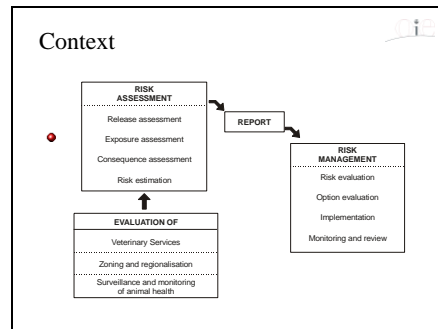
- Exposure assessment
 1. The origin of bovine carcasses, by-products and slaughterhouse waste, the parameters of the rendering processes and the methods of cattle feed production
 2. The potential for the exposure of cattle to the BSE agent through consumption of MBM or greaves of bovine origin

Slide 10

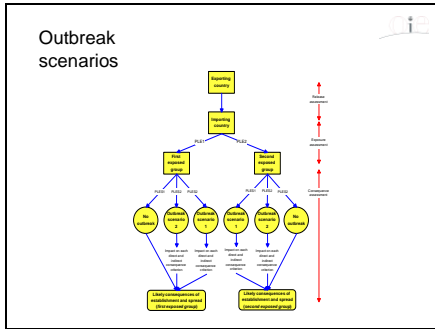
Recognition of the BSE Status

- Any member country wishing to submit an application before the end of 2006 for negligible risk or controlled risk status for BSE, will be assessed against the OIE Code.
- After December 2006, all applications for BSE status will be assessed against the OIE Code current at the time.

Slide 14



Slide 15



Slide 19

Section-3 Surveillance & Monitoring systems

- Does the BSE surveillance programme comply with the guidelines of the OIE Terrestrial Code?

Slide 16

Section – 2 Other requirements

- Ongoing awareness programme
Is there an awareness programme?
What is the target audience?
What is curriculum and how long has it been in place?
Is there a contingency and /or preparedness plan that deals with BSE?

Slide 20

Section-3 Surveillance & Monitoring systems

- Code prescribe the number of cattle, by subpopulation, that need to be tested in order to ensure the detection of BSE at or above a minimal threshold prevalence.

Slide 17

Section – 2 Other requirements

- Compulsory notification and Investigation
What are the measures in place to stimulate notification, such as compensation payments or penalties for notifying a suspect? etc.

Slide 21

Section – 4 BSE History

- Has BSE occurred in the country, zone or compartment?
- How has it been dealt with?

Slide 18

Section – 2 Other requirements

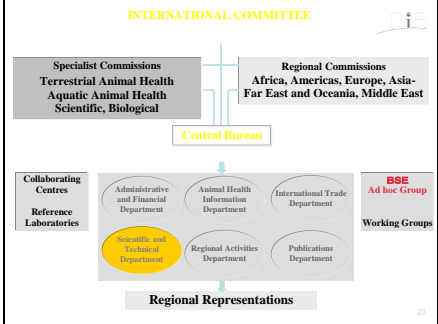
- Diagnostic capability
Are the diagnostic procedures and methods ?
Have those procedures and methods been applied through the entire surveillance period?

Slide 22

Recognition of BSE Status

- The categorization of a country, zone or compartment in either negligible risk or controlled risk is dependent upon, the outcome of the risk assessment described in section 1, compliance with the provisions described in section 2, the results of surveillance described in section 3, and the history of BSE in the country, zone or compartment.

Slide 23



Slide 24

A simple slide with the text **Thank you** in the center. A small number '24' is in the bottom right corner.


The Asian livestock sector – past trends and future perspectives *(by Henning Steinfeld, Chief of AGAL, FAO / ROME)*

Slide 1

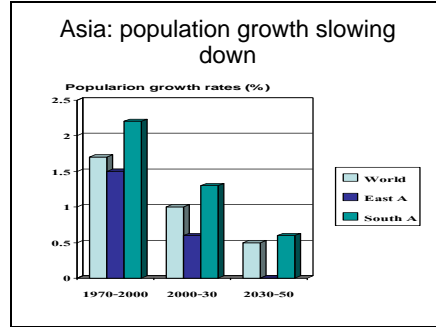
The Asian Livestock Sector

Past Trends and
Future Perspectives

Henning Steinfeld, FAO



Slide 4

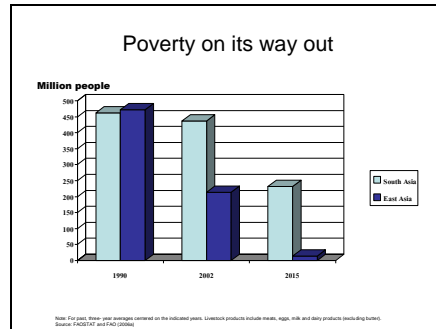


Slide 2

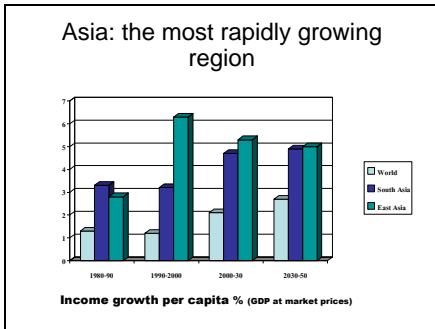
Outline

- Livestock sector trends in Asia
- Structural changes of the livestock sector
- Emerging challenges
- Future role of APHCA

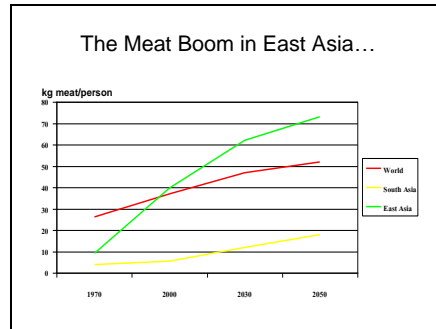
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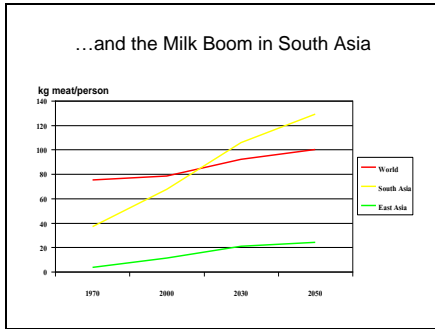
Slide 3



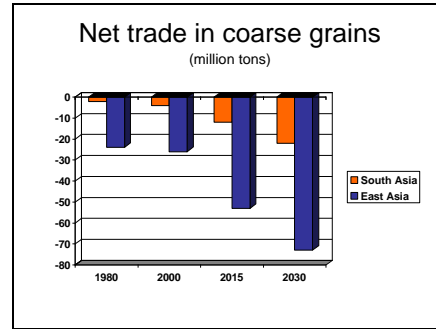
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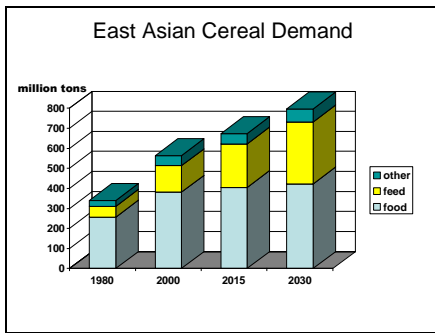
Slide 7



Slide 11



Slide 8



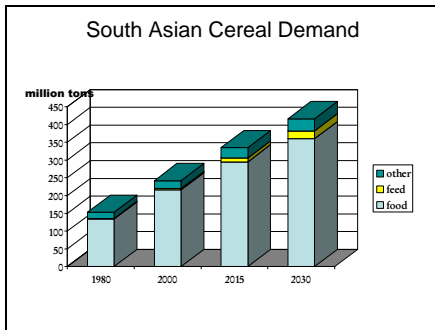
Slide 12

Underneath the Livestock Revolution: Structural Change

Intensification

- technical change most rapid in pigs and poultry – feeding, breeding, health
- facilitated by cheap grains

Slide 9



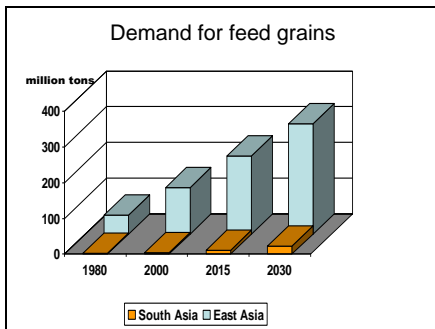
Slide 13

Underneath the Livestock Revolution: Structural Change

Scaling Up

- rapid scaling up in pigs and poultry
- driven by economies of scale (reduced production costs in larger units)
- threat to smallholders

Slide 10



Slide 14

Underneath the Livestock Revolution: Structural Change

Regional Shifts

- concentration of production units near cities and near feed supply (ports)
- leads to serious land and water pollution regionally
- also carries human health hazards and nuisance

Slide 15

**Underneath the Livestock Revolution:
Structural Change**

Vertical Integration

- appearance of large scale agri-business and supermarkets
- development of rigorous health and quality standards
- heightened market barriers for smallholders

Slide 19

Who loses, who wins?

The winners:

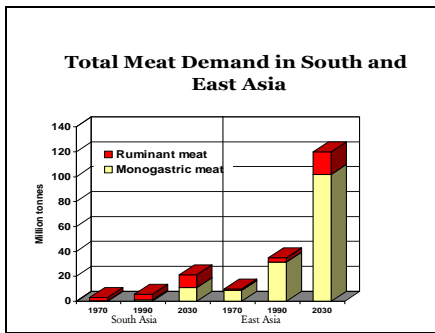
- relatively small number of large producers in high potential areas with good market access; processors and traders
- employment in the food chain
- Middle class urban consumers



The losers:

- small producers forced out of the market
- those affected by resource degradation

Slide 16



Slide 20

Livestock's growing environmental problems

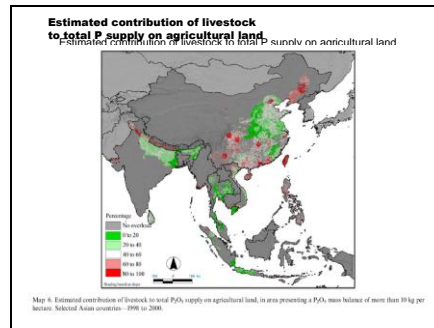
- climate Change (from waste, from rumens, from land use - carbon-dioxide, methane, nitrous oxides)
- land and water pollution from intensive systems
- land degradation from extensive systems

Slide 17

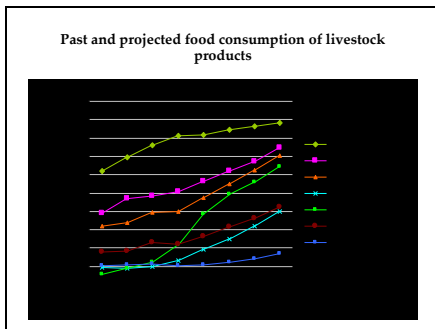
Summary of Trends

- Strong demand for livestock products across developing Asia, driven by
 - income growth,
 - growing populations and urbanisation
- Production keeps mostly pace but imports grow
- Increased production driven by:
 - productivity gains,
 - shift to poultry,
 - cheap feed crops

Slide 21



Slide 18



Slide 22

...and public health?

- Asia is a hotspot of emerging diseases, including zoonoses
- Public health problems of intensive production (e.g. antibiotics)
- Epidemics a continuous and probably growing threat (impact on trade and economic stability)

Slide 23

Shifting focus in nutrition

- Number of overweight people now higher than under-nutritioned
- Part of population in developing Asia still deficient in protein and micro-nutrients - livestock
- New problems: diseases associated with high consumption levels of animal source foods (heart disease, diabetes, various cancers)

Slide 25

What does this mean for APHCA?

- wider range of issues to be addressed – old agenda remains, new issues need to be addressed
- need to seek partnerships outside traditional areas of livestock production and health
- role of APHCA in policy harmonisation and concertation

Slide 24

Summary

- Rapid expansion of production and demand
- Important structural shifts – concentration, vertical integration, larger scales
- changing policy agenda, away from supporting production to promoting environment and health

Slide 26

What does this mean for APHCA?

- APHCA needs China - China needs APHCA
- other important countries are missing (Vietnam, Cambodia)

Slide 27

Thank You

Goat Production in the Asia-Pacific Region

Goat and sheep production in Vietnam

(by Dinh Van Binh and Nguyen thi Mui, Goat and Rabbit Research Centre, Viet Nam)

Slide 1

Goat and sheep production in Vietnam

Slide 4

- Achievements and constrains (2001-2005)**
- Stocks and growth rate
 - Breeding works
 - Production systems
 - Feed resources and feeding systems
 - Animal health
 - Goat interprises
 - Goat processing
 - Marketing

Slide 2

- Introduction**
- One of five main domestic animals in Vietnam
 - Important role in:
 - Farming systems
 - Socio-economic
 - Food security
 - Particularly for poor farmers with few resource
 - High priority on Research and Development by Gov. for last 15 years (Breeding schemes, improving husbandry, animal health, feeding system)

Slide 5

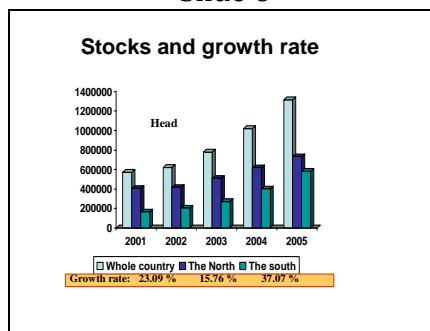
Goat stocks in some country

Countries	Natural land 1000 km ²	Population Mill.	Stocks Mill. heads	In comparison
China	9,600	1284.5	172.9	St.=172 times VN
India	3,200	1065.7	124.5	St.=124 times VN
Pakistan	804	150.0	52.8	St.=52 times VN
Philippine	300	76.5	3.20	St.=3 times VN
Thailand	513	62.93	0.45	St.=0.5 times VN
Indonesia	1,900	200.0	3.70	St.=3.6 times VN
Vietnam	329.7	82.6	1.32	<172 times China; 124 times India; 51 times Pakistan

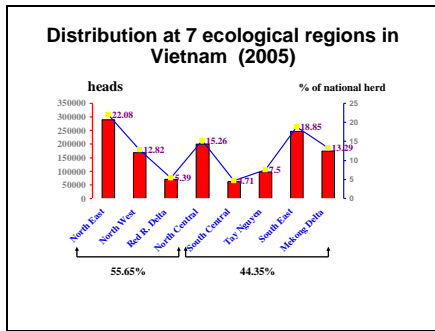
Slide 3

- Objectives**
- Overview :
 - ❖ Situation of goats and sheep raising in the period of 2001-2005
 - ❖ Development orientation in the stage of 2006-2015

Slide 6



Slide 7

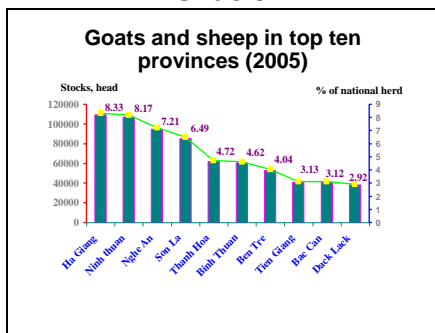


Slide 11

Goat production in Vietnam

Breeding works

Slide 8



Slide 12

History of goat breeds in Vietnam

Local traditional:
Co and Bach Thao (domesticated)

Come from India 1992
Junnapary, Beetal, Barbary

All milking goats
from 1993

Come from American 2002
Boer, Alpine, Saanen

Slide 9

Goat and sheep meat production (2001-2005)

Parameters	2001	2002	2003	2004	2005
Slaughter number, head	160,285	174,136	218,499	285,655	367,973
% of total herd	28	28	28	28	28
Ave. slaughter BW, kg	23	24	25	26	26
Meat production, tones	3688	4179	5463	7227	9567
Meat consump. /person/year, kg	0.045	0.052	0.062	0.088	0.115

Slide 13

Goat Production Systems in Vietnam

Breeds and Types of Goats

Dairy Goats for milk: 2,000 = 0.16 %
, Saanen, Alpine

Meat breeds:

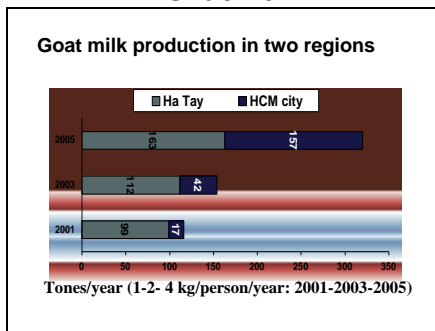
- Co
- Boer
- Cross breeds

1255,362 = 98.04 %

Dual-purpose

- Bach Thao (domesticated)
- Beetal
- Junnapary
- Cross breeds

Slide 10

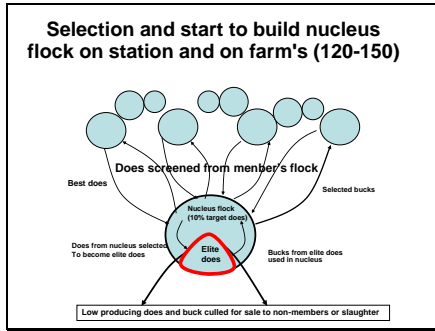


Slide 14

Goat breed herd structure (2005)

Breeds	Stocks, head	% of national herd
Co (grass breed)	618,862	49.21
Bach Thao	165,000	13.12
India (Jum., Be., Ba.)	30,000	2.59
Boer	1500	0.12
Saanen	1000	0.08
Alpine	1000	0.08
Cross breeds	450,000	35.79

Slide 15



Slide 19

Goat Production Systems

Village/Small holder Production Systems

Characteristics
 Poor farmers, not much land, low inputs (medicines, feeds), small herd sizes, little investment, poor knowledge of how to improve production, main production is live animals for meat and sale, no milk, no mohair produced
 Small cross-bred goats but well adapted to the environment

Slide 16

Impacts of goat breeding program

Increased clearly in quantity and quality of goat breeds (15-25%)
 Increased the price of goat breeds (30.000 - 65-75000VN2D/kg BW)
 Income (Improved poor become medium or rich)
 To attracts local policies to invest for extension of goat production (Lac Thuy, Hoa Binh and Ninh Thuan province)

Slide 20

Goat Production Systems

Extensive Production Systems

Characteristics
 Herd sizes (20-50-100-500), poor housed and grazed in grasslands all year, products are mainly live animals and meat

Strategic management of big herds:
 Select and cull animals (1-2 times/year, treat for disease, harvest product)
 Management for meat production

Slide 17

Goat Production Systems

Village/Small holder Production Systems
 Commonly typical of Asia and Africa

Extensive Production Systems (80%)

Intensive System
Sub-Intensive Production Systems (16%)

Intensive Production Systems (4%)

Slide 21

Outputs from existed feeding systems

Extensive	Sub-extensive	Intensive
Orienting product Meat	Meat (fattening)	Milk
Productive potential Very low	Low	Improved High
Income Low income (saving daily)	Low income Get income when fattening before Selling	High income
Risks High	Medium	Very low

Slide 18

Goat Production Systems

Intensive Production Systems
 (Gov. typical or company for breeding)

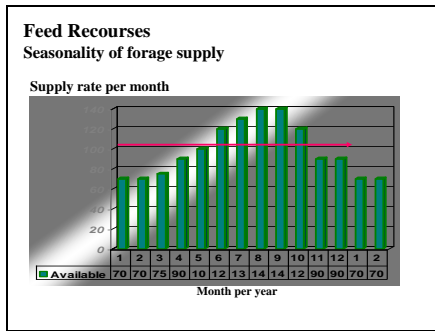
Characteristics
 Medium sized herds (200-500), kept in houses for most of year, high level of inputs (for health and nutrition), product and breed specific meat and milk (meat is secondary product ie culled young and old goats)

Slide 22

Feed and Feeding systems

Extensive	Sub-extensive	Intensive
Feeding modes: Free grazing no feed suppl.	Grazing + Pens Supplied a little	Cut and carry Stall-fed
Feed resources: Forest fodders Weeds from rice field, un-crop field, edges of roads	Grasses from publilsh areas, forest fodders weeds By-product suppl.	Weeds, fodders, grasses, multi- purpose trees By-products Concentrate
Completely Based on Nature	Combination with crop trees (limited)	Better used crop-livestock systems

Slide 23



Slide 27

Using medicinal plants

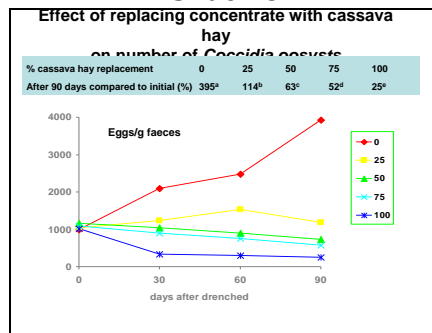
Mimosa, Papaya, Leuceana.. have efficiency to larvae of *Haemonchus* and currently being used in the treatment of parasites. especially in rural to control parasites.

Bamboo roots for treating remained placenta

Slide 24

Animal health

Slide 28



Slide 25

Infection levels of goats

Parasite species	Infection levels of goat breeds			
	Co	Bachthao	Indian	Cross breed
Trematodes				
Fasciola spp	xxx	xx	xx	xx
Paramphistomum cervi	x	x		x
Cestodes				
Moniezia expansa	xxx	xx	xxx	xxx
Moniezia benedede	xx	x	x	xx
Nematodes				
Haemonchus contortus	xxxx	xxxx	xxx	xxxx
Trichostrongylus spp	xx	xx	xx	xxx
Nematodirus spp	xx	x	x	xx
Ostertagiacircuncintra	x	x	x	x
Oesophagostomum spp	xx	x	x	xx
Bunostomum	x	x	x	x
Cooperia spp	x			x
Chabertia ovina	x			x

Slide 29

Results obtained in new technology applied systems

Source: Vietnam monitoring and evaluation of Project, September, 2002-2005

Parameters	Old system (125 goat farms)	New system (118 goat farms)	Change (%)
Mortality (%)	35	17	18
Diseases (Diarrhea) (%)	24	10	14
Weight gain (g/day)	37.5	46.3	23.5
GIP infection (%)	82	63	19
Level infection (epg)	2270	1560	-
Sanitation (%)	10	100	90
Feed supplement (%)	10	100	90
Supply clean water (%)	5	35	30
Deworming (%)	10	100	90
Breeding management	6	75	69

Slide 26

Control parasite by using Anthelmintics

- Chemical control program widespread for control GIP infection:
 - Albendazole (2.5-10/10 kg BW) reduced: 75-100 %
 - Levamisole (8-10 mg/10 kg BW): 80-92 %
 - Febendazole (10mg/kg BW): 70-80 % (nematodes)
 - Mebendazole (12.5 mg/kg BW): 70-80 %
- Increased 15-20% production
- High cost and Resistance with Anthelmintics (negative effect)

Slide 30

Processing technology

- Good impact on milk production to the cheese (Supported by FAO/TCP/IE (1996-1998) but just in small scales
- No any meat processing unit in the whole country

Slide 31

Goat enterprises, new but good achievements

Income of raising goats in the enterprises (2005)

Name of enterprises	Herd size	Production size, head	Income, Million VND/year
Nguyen Minh Chau	500	300	150-200
Nguyen Anh Toan	200	120	60-100
Nguyen Thanh Phi	400 + 100 rabbits	200 + 3000 rabbits	150-200
Pham Ba Dat	70	40	45-50
Nguyen Van Quan	20	12	20-25
Dao Xuan Hoa	35	20	25-30
Le Minh Thang	70	40	50-70
Bui Van Tien	100	50	60-80
Nguyen Van Son	120	70	70-90

Slide 34

Increasing herds

Parameters	Years					
	2006	2007	2008	2009	2010	2015
The stocks (head)	1492,919	1695,956	1926,606	2188,624	2486,277	4176,946
Milk production (ton)	399	510	675	914	1,259	2,473
Rate of slaughter (%)	28	28	28	28	28	30
Goat number to slaughter (head)	418,017	474,868	539,450	612,815	745,883	1253,084
Average LW for Slaughter (kg)	26	28	30	34	34	34
Meat production (kg)	11,705	14,246	17,263	20,836	25,360	42,605

Slide 32

Market of goat and sheep products

- The increase in live goat prices is due to increased demands and tastes of consumers in domestic market
 - In 1996 the price : 8000 VND/kg BW
 - In 2003 : 23,000 VND (pork: 11,000 – 12,000 VND/kg)
 - In 2005: 30,000 VND (65,000 for breeding)
- Price of goat milk in 2001 was 7000 VND/litter (3000 VND/litter cow milk. At present, goat milk is selling for 16,000 VND/litter (in Hanoi) and 20,000 VND/litter (in HCM City), 9000-13,000 VND higher than cow milk
- Goat meat (Live BW) sell thought "Middle-man" with "obliged price"
- No any policy for controlling small ruminant product market in local Gov.

Slide 35

Summary

- Goats are usually owned by the poor and poorest farmers
- Little investment, low production potential
- Impacts on improved technology application and production systems
- Development needs to prioritise:
 - Linkages to traditional markets and marketing systems that can respond to the changing environmental and consumer preferences
 - Product processing systems in the country are neglected and weak, and major economic benefits are associated with improvements to collection, handling, marketing, slaughter facilities and consumer requirements.

Slide 33

Development orientations

- Breeding work:** Creating basic female herd with high quantity for coss program (for meat and milk production), buck rotation in the farm systems
- Feeds:** Feed shortage in dry season must be concerned
- Slaughtering and processing:** Setting up concentrated slaughtering units with different scales and diversity products to meet consumption taste all over the country (as chicken and porks).
- Planning:** Establishing areas of raising goats with different scales different which are suitable to human resources of each area
- Forming collection networks of milk to processing units, business and consumption areas for both meat and milk**
- Model building:** Raising goat-have feed belt – commodity processing areas. Combination with crop, forestry, fishery as the industrial models.
- Environment:** Planning goats and sheep raising areas, actively prepare feeds for the whole year, hygienic houses and suitable to biological features in order to reduce natural grazing, avoiding losses of land, water, forestry resources

Slide 36

Summary (Cont...)

- Diagnosis, treatment and parasitic diseases
 - techniques to improve the quality and seasonal supply of feed
 - Information in new products (milk, cheese, packaged meat, etc), prices and marketing.
- Affirmative large scale development is necessary to shift from subsistence to market-oriented production in whole farm systems, backed by institutional and policy support, and increased resource to increase production and directly benefit and improve the livelihoods of the poor.

Meat goat production in Australia

(by Mike Nunn, Principal Scientist (Animal Biosecurity) Biosecurity Australia)

Slide 1

**Meat Goat Production
in Australia**

Mike Nunn
Principal Scientist (Animal
Biosecurity)
Biosecurity Australia
mike.nunn@daff.gov.au



Slide 4

Cashmere

- Produce fibre and meat
- Small amounts of high quality fibre (12–18 micron): ~12 tonne p.a.
- Produce 50–300 gram p.a.
- Valued at \$90–150/kg

Slide 2

Overview

- Goats in Australia
 - dairy and other
 - feral and rangeland
 - meat breeds
- Meat goat production
 - breeds
 - marketing and exports
- Conclusions and further information

Slide 5

Mohair

- From Angora goats and crosses
- Total production ~220 000 kg, worth \$2.2 million (~\$10/kg)
- Volume fluctuates by price
- Price varies by season, quality
 - fine kid (23–25 micron) \$25/kg
 - adult fine (>30 micron) \$5/kg

Slide 3

Dairy goat production

- Farms small (15–20 does) to large (>250)
- Near main cities
- Focus on fresh milk, cheese, yoghurt
- Saanen, Toggenberg, British Alpine, Anglo–Nubians
- 1–3 litres/doe/day
- 300 day lactation

Slide 6

Meat goat production

- Feral goats
- Rangeland goats
- Specialist meat breeds
 - Boer
 - other meat breeds
 - cross-breeds

Slide 7

Feral goats

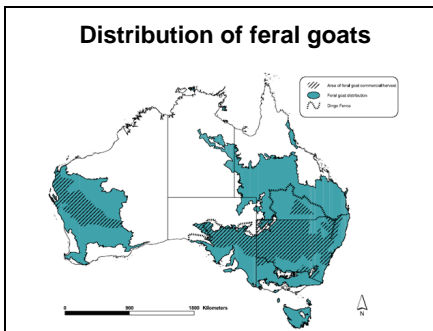
- Australia has ~ 2.6 million feral goats
 - numbers vary depending on season
- From introductions in early European settlement (>1770) and later releases
- Perception changing:
 - agricultural pest (compete with sheep for grazing)
 - environmental pest (degrade vegetation through browsing)
 - commercial resource from wild harvesting
 - genetic resource from capture and breeding

Slide 11

- High weaning weights
- Early maturity
 - sexually active at 3–4 mo. or live weights of 33 kg (bucks) and 30 kg (does)
- High fertility, many multiple births
 - kidding averages 160%, up to 200%

Slide 8

Distribution of feral goats



Slide 12

- Large frame, lean carcasses
 - mature males reach 105–125 kg
 - females 90–100 kg
- Daily weight gains of up to 350g/day
 - males average 36 kg at 3 mo., 100kg at 12 mo.
 - females average 28 kg at 3 mo., 63 kg at 12 mo.

Slide 9

Rangeland goats

- Developed from capture/selection of ferals
- Hardy and low maintenance
- Increasingly used for meat production:
 - by reducing number of bucks and retaining only the best for breeding
 - by introducing bucks of meat breed and cross-breeding

Slide 13

Breed weights

Average mature weight of goat breeds

Breed	kg
Boer	90–125
Saanen	85–100
Anglo-Nubian	80–90
Angora	60–80
Feral; Cashmere	45–80
Barbari	35–45
Dwarf African	20–25

Slide 10

Boer goats

- Specialist meat breed from South Africa
 - developed in South Africa specifically for meat production
- Crossed with other breeds to increase size, carcass weight and yield
 - some also produce cashmere
- Red-headed, white-bodied, with a large frame
 - also a red variety of the breed

Slide 14

Marketing

- Live goats
 - exports most by sea, some by air
- Goat meat
 - commodity goat meat
 - carcasses: skin-off or skin-on (de-haired)
 - specific cuts
 - specialty goat meat
 - capretto (<5 mo., 6–12kg milk-fed kids)
 - chevon (6–15 mo. meat goats)
- Leather

Slide 15

Goat meat exports

- World's largest exporter
 - but <0.1% of world production
- Exports of ~19 000 tonnes p.a.
- Value ~\$70 million p.a.
- Growing at ~10% p.a.
- To US (52%), Taiwan (32%), Caribbean (8%), Canada (6%), South Korea (1%), other (3%)

Main goat meat exporters 2004 (000 tonnes p.a.)

Country	Exports (000 tonnes p.a.)
Australia	~19,000
PR China	~1,000
France	~500
Pakistan	~200
Ethiopia	~100

Slide 17

Conclusion

- Goat meat production in Australia is a small but growing industry
 - built on cross-breeds
- Australia is small producer of goat meat but:
 - a major exporter of goat meat
 - a source of live animals of high health status

Slide 16

Meat goat exports

- ~45 000 live goats exported p.a.
- Value ~ \$4 million p.a.
- Mainly to:
 - Malaysia (45%)
 - Singapore (26%)
 - Brunei (4%)
 - Indonesia (3%)
- Excellent health status
 - free of major OIE-listed diseases

Slide 18

Further information

Meat and Livestock Australia
<http://www.mla.com.au>

Goats Australia
<http://www.goatsaustralia.com>

Boar Goat Breeders' Association of Australia
<http://www.australianboergoat.com.au/>

Goat Market Network
<http://www.goatmarket.net>

Australian Goat Industry Research Database
<http://www.aanro.net/goats/page/browse.htm>

NSW DPI goat website
<http://www.agric.nsw.gov.au/reader/goats>

Bangladesh, where goat is a treasure

(by Salehuddin Mahmud, Director-General, DLS, Bangladesh)

Slide 1

Bangladesh: Where Goat is a Treasure

Dr. Salehuddin Mahmud
Director General
Department of Livestock Services
Bangladesh

Slide 4

Agriculture in Bangladesh

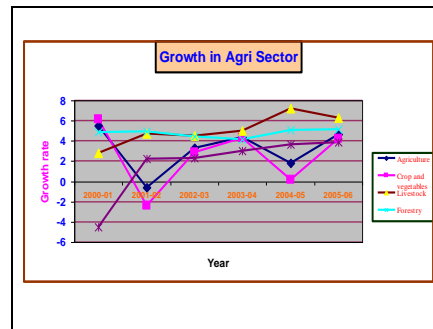
- Bangladesh is a predominantly agricultural country.
- Farmers rely on crop, livestock, fisheries and agro-forestry.
- The share of agricultural to GDP is about 21.77 % and workforce engagement 51%.
- Contribution of livestock sector to National GDP is about 2.93 % and Agricultural GDP is 17.33%.
- The growth rate in livestock sector is steady and high for the last 6 years.
- It rose from 2.81 % of 2001-02 to 7.23 in the year 2004-05.

Slide 2

Introduction

- Goat is probably the earliest domesticated ruminant.
- Found across all agro-ecological zones from the arctic to the equator.
- Despite the animal has long been neglected by the policy makers.
- Recently peoples across the developing world are sensing the importance.
- Bangladesh is one of the pioneering countries for caring the uncared animal.
- The government and society has changed their outlook towards goat.
- Government has launched programmes to support goat rearing.

Slide 5

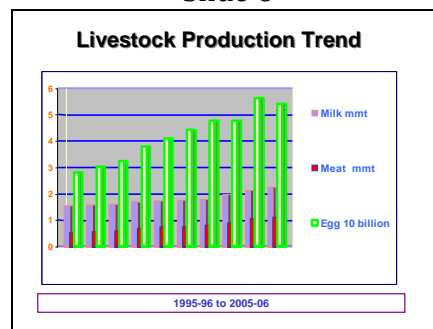


Slide 3

Bangladesh and Its People

- The country is in south Asia
- Bordered by India and Myanmar.
- Area is 143,998 square km.
- Largely a delta with alluvial soil.
- Some hilly area in the south east and North east.
- Climate is of tropical monsoon variety.
- Population is around 138.8 million.
- Has 30 agro ecological zone and most of the zones are suitable for rearing goat.

Slide 6



Slide 7

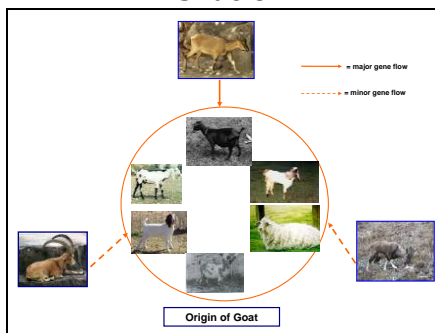


Slide 11

Goats of Bangladesh

- The predominant goat breed of Bangladesh is Black Bengal goat
- The other breeds are Jamna Pari and their cross.
- A few beetles are seen in the country.
- The goats of Bangladesh are probably descendants of the goats of South China, Hunan and Western Taiwan
- Probably traversed with nomads or businessmen to this country crossing the plateau of Tibet.

Slide 8



Slide 12

The advantage of goat keepings

- A small initial investment and a corresponding small risk .
- It can conveniently cared by women and children.
- Inquisitive feed habit and can survive under harsh climatic condition.
- High fertility and short generation interval.

Slide 9

Country	Year wise Population in '000		
	2000	2001	2002
Indonesia	12 585.312	12456.412	12400.0
Philippines	6 245.0	6 197.0	6 250.0
Bangladesh	34 100.0	34 400.0	34 400.0
India	123 000.0	123 500.0	124 000.0
Pakistan	47 400.0	49 100.0	50 900
Iran	25 757.0	25 757.0	25 757.0
Mongolia	11 033.9	10 269.8	8 858.0

FAO Website

Slide 13

Black Bengal Goat

- The Black Bengal goat is generally black in colour.
- Body size is small,
 - Adult bucks weigh 25- 40 kg and Does 20-40 Kg.
- Wither height of adult is 50-60 cm and length is 80-90 cm.
- Ears are small(12-13 cm), pointed.
- The horn of the does are narrow but of bucks are comparatively wide.
- Bucks and Does both have beard.

Slide 10

Goat Breeds

- Breeding or selection for performance of goats is paid little attention.
- Local breeds, have been developed through genetic isolation and natural selection than deliberate human intervention.
- It is estimated that there have been approximately 300 breeds of and types of goat.
- Majority of which is found in the tropics and subtropics.

Slide 14

Goat rearing pattern

- Goats are mainly reared by small holding farmers.
- The farm size in terms of land holding is comparatively low.
- About 52% of the goat is reared by farmers having less than 1.5 acre of land.
- Medium holding farmers keep about 35% of goat
- Big farmers with more than 7.5 acre of land keeps 12.06% of goat.

Slide 15

Production traits of Black Bengal goats:

- First kidding is observed between 12-15 months of age.
- In successive gestations double and triplet kidding are common.
- Average litter size is 1.95 ± 0.05 .
- Meat of this breed is tender and delicious.
- Dressing percentage is 45-47% . But total edible meat percentage may be 55%.
- The goat skin production is about 6-7% of total weight and size varies from 1.5 to 7.0 square feet.
- Milk production is 200-300 gm.
- In some rare cases milk yield may reach 1-1.5 litre.
- Lactation period is generally 2-3 months.

Slide 19

Breeding practice

- Breeding of goat is dependent on natural service which is seriously constrained by declining number of bucks.
- However, with the Government initiatives, the situation is improving.
- Government is reviewing breeding programme including goat-breeding programme.

Slide 16

Management system

- Goats are kept in open places in day time.
- In the night time, in majority of cases, they are mainly kept in the same dwelling with their owner.
- A study conducted in mid 1990s has shown that only 15% farmers could afford separate house for their goat.
- But providing a separate place for keeping goats in the owners own room is a good alternative for better management.
- DLS promote for such housing system

Slide 20

Government Initiative

- Government identified goat rearing as a potential poverty reduction tool.
- Honourable Prime Minister, Begum Khaleda Zia formally inaugurated a National Programme for Poverty Reduction through Goat rearing on 27th April, 2002.
- An action plan was developed for the period of 2002-2007 to facilitate the envisaged activities of the programme.
- The action plan has targeted a growth rate for the plan period.

Slide 17

Feeding system

- Grazing is the main source of feeding of goat in Bangladesh.
- They are mainly graze on fallow land , crop field dividers, bank of river, canals, embankment and roadside and browse on bushes, shrubs and short trees.
- Government is promoting farmers to provide their goat some additional concentrate feeding.

Slide 21

Government Initiative

- ❖ Development of Goat Data Base
- ❖ Identification of Goat Production Zones
- ❖ Goat Production through contract growing farms
- ❖ Establishment of Small and intensive farm at sub-district level
- ❖ Supply of Inputs
- ❖ Supply of Doe and Buck

Slide 18

Health care

- The major diseases are PPR, Goatpox, Ecthyma, Skin diseases, Non specific diarrhoea, Pneumonia, Tetanus , deficiency diseases, etc.
- PPR which was first seen in the country in early 1990s caused a huge loss to farmers.
- Now the disease is brought under control with the extensive use of locally produced vaccine.
- The health care service is provided mainly by DLS upto sub-district level.

Slide 22

Government Initiative

- ❖ Facilitate forage and concentrate production
- ❖ Development of technology
- ❖ Training
- ❖ Publications
- ❖ Loan distribution
- ❖ Adaptive research and demonstration
- ❖ Facilitating marketing and entrepreneur development

Slide 23

Distribution of Credit:
Credit packages –
a.Small Farm holdings rearing 2-4 goats
b.Farm holdings rearing 2 bucks
c.Small Farm holdings rearing 5 goats
d.Small Farm holdings rearing 6-9 goats
e.Small Farm holdings rearing 10 and more than 10 goats

Slide 24

Status of Loan Distribution				
Financial Year	No of Upazila	Allocation (in million)	Distribution (in million)	No of Beneficiary
2003 - 04	400	150	150	26400
2004 - 05	440	75	74.8	12980
2005 - 06	440	37.5	37.5	6620

Slide 25

Goat Research
<ul style="list-style-type: none"> • A goat research division has been established at BLRI. • Government has a plan to develop a separate research institute. • Bangladesh Agricultural University has an artificial insemination
THANK YOU

Goat production in Lao PDR

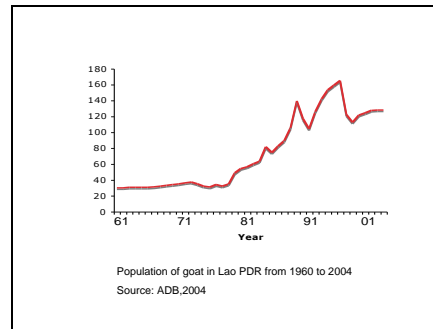
(by Soukanh Keonouchanh, Livestock Research Center, NAFRI, MAF)

Slide 1

Goat production in the Lao PDR

Soukanh Keonouchanh (Livestock Research Center, NAFRI,MAF)

Slide 4



Slide 2

Background

•The importance of livestock to Agricultural GDP

Sector	2001	2005
Crop	59%	58%
Livestock	32%	33%
Fishery	1.5%	2.0%
Forestry&NTFP	6.5%	7.0%

Structure of livestock sector:

1. Pigs	14%	4. Poultry	3.2%
2. Cattle	8%	5. Goats	0.2%
3. Buffalo	8%		

Source: MAF,2006

Slide 5

Goat breeds

- Coat colours are polymorphic with wild-type agouti and black, and their external appearance are Bezoar- type with scimitar-shaped horns, prick ears and straight face profile.
- Body size similar to the Southeast Asian dwarf goats (Kambing-Katjang typed goats) (Nozava et al.,2000)

Slide 3

Population of indigenous goats (1000 heads)

Location	1999	2000	2001	2002	2003	%
Northern	60.1	59.8	51.2	56.7	63.3	46
Central	43.1	53.8	64.4	59.2	58.1	43
Southern	9.2	7.8	11.6	11.7	15.1	11
Total	112.4	121.4	124.2	127.5	136.5	100

Source: DLF,2004

Slide 6

Survey of reproductive performance

- Live weight
 - 32 kg for males
 - 27 kg for females
- Age at first kidding: 0.9 – 1 year
- Number of kids per kidding: 1.7-1.9
- Kiddings per year: 1.4 - 1.7
- Average daily gain: 25 - 35g

Slide 7

Strategies and programs related to goats development

Conservation and use of local goats:

- Increase the awareness of farmers how to manage their goat herds (prevent in-breeding, improve nutrition and health).
- Regulate importation of goats from other countries.
- Participate in agro-biodiversity programmes.

Slide 8

Thank you for your attention

Goat farming in Malaysia

(by G. Sivasupramaniam, Department of Veterinary Service, Malaysia)

Slide 1

GOAT FARMING IN MALAYSIA

G.Sivasupramaniam



Department of Veterinary Services
Jabatan Perkhidmatan Haiwan Malaysia

Slide 4

Issues

- Background of Ruminant production in Malaysia based on Traditional / Subsistent farming
- Self-sufficiency for Ruminant products very low
- Local Ruminant Breeds are of low Genetic Quality
- Land availability for ruminant production limited
- Funds for ruminant production difficult to secure
- Lack of Skilled Manpower / labour for Ruminant production
- Marketing & Market System not established
- First Class Veterinary Service

Slide 2

NATIONAL AGRICULTURE POLICY (NAP3)

Increasing Domestic Production

Strategic Sourcing

Positioning Malaysia In The Global Market

Ensuring Safety, Quality & Standard In Food

Slide 5

Majority of Ruminant farmers are Traditional / Subsistent Farmers

Need to Transform traditional farmers to Semi - Commercial & Commercial farmers through Technological inputs, Expansion & Capacity building

Slide 3

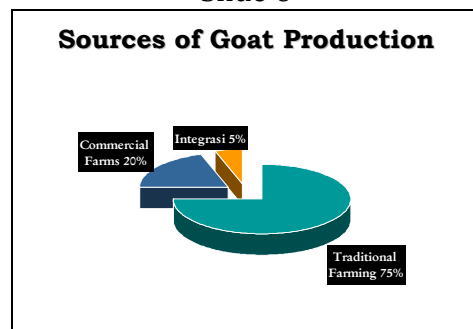
MISSION

Transformation Of Livestock Industry Towards
A Modern Sector, Dynamic & Competitive

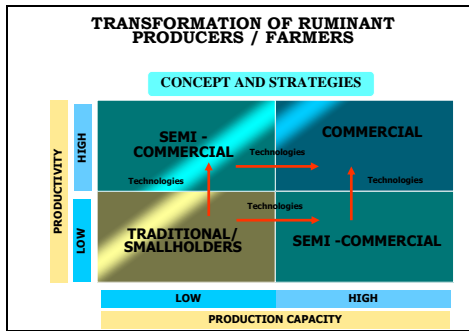
Success Measurements →

- Contribute Towards GDP
- Trade Balance
- Private Sector Participation
- Integration - Vertical & Horizontal
- Advancement in Technology & Innovations
- Disease Free Status
- Healthy Competition
- Environmental Friendly Development
- Food Security

Slide 6



Slide 7



Slide 11

Introduction to Goat Industry

Goat farming is a smallholder industry
 Resources for Commercial goat farming limited
 Growth in the goat sector over last 5 years
 Increase in the per capita consumption
 Demand is steadily increasing. Supply increasing slower than demand
 Self-sufficiency level for goats is low (8-10%)
 Current local demand is met through imports (live animals and frozen meat)
 Retail goat meat price is higher (RM25-30/kg) than chicken and beef
 Seasonal Demand for live animals from the Malay and the Hindu communities for religious and ritual slaughter.

Slide 8

ROLE OF DVS

Permanent & Sustainable Ruminant Production Areas

- Integration of livestock with plantations – TAC Centres
- Milk Collecting Centres – Servicing the Dairy Communities / Industry
- Utilization of Grazing Reserves
- Establishing Permanent Production Zones

Slide 12

OBJECTIVE OF GOVERNMENT

Encourage Commercial and Profitable Goat Farming Enterprises

Slide 9

THE CHALLENGES IN RUMINANT SECTOR

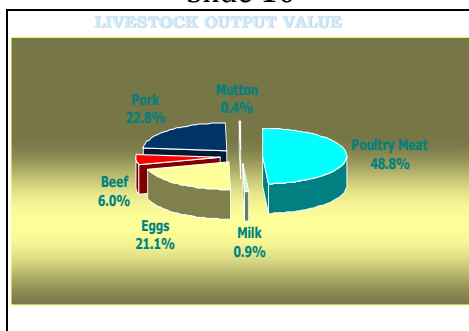
High import bill
Globalization :WTO & AFTA
Food Safety & Quality
SPS Status
Productivity / Efficiency
Competitiveness

Slide 13

CHALLENGES FOR THE BUSINESS

- Small Goat Population – not able to provide sufficient Genetic material
- Difficult to obtain good breeds locally
- Traditional farming system still predominant in the country
- Lack of Skilled Staff

Slide 10



Slide 14

Govt. Targets for Goats

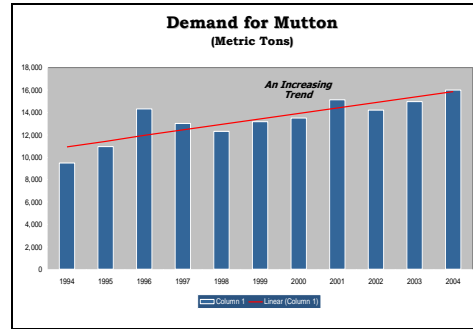
- Increasing local Supply of goats from 8 % to 20% by 2010
- Increase the Goat Breeder Population to over 400,000 heads
- Production of Processed Mutton products
- Output of Value Added Products (VAP) for Local as well as Export Market

Slide 15

MUTTON INDUSTRY

- Mutton Include Sheep And Goat Meat
- Goat meat is called “Chevon”
- Chevon & Mutton are High Priced Meat
 - RM 25-30 per kg. for Fresh Local Meat
 - RM13-16 per kg. for Frozen Imported Mutton
- >90% of local Mutton Demand Is Imported (Australia)

Slide 19



Slide 16

Current Status

Goat Population - 250,000 Heads

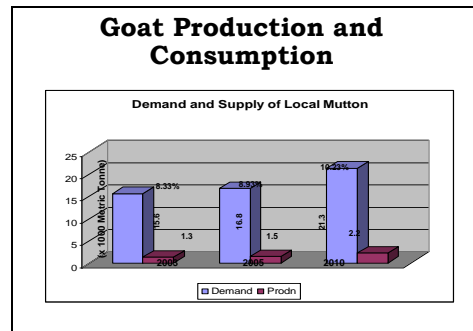
Breeding Goat Population - 120,000 Heads

Per Capita Consumption - 0.6 kg/year

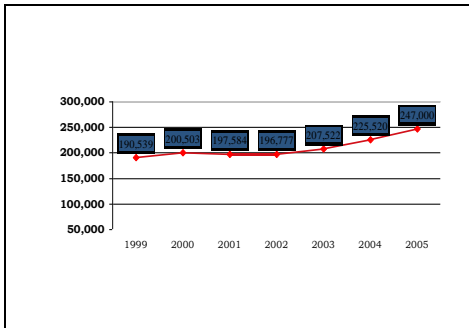
Self-Sufficiency - 8% (1,460 MT - 2005)

Current Production System - Traditional

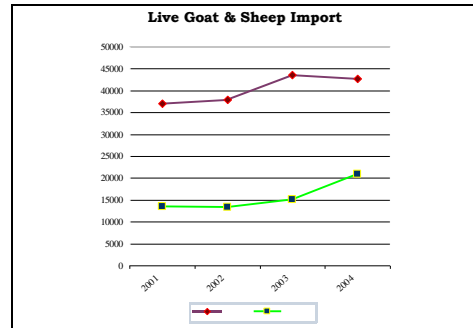
Slide 20



Slide 17



Slide 21



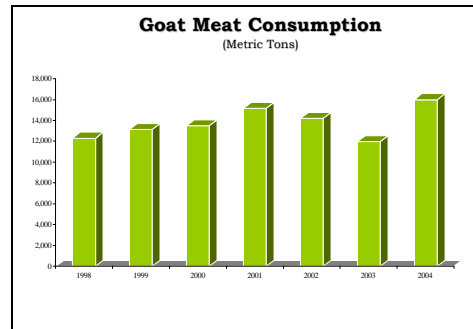
Slide 18

Top 5 States with the highest Population

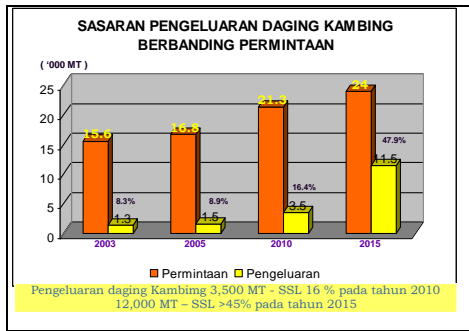
Year 2004

States	Number	%
Kelantan	44,039	20.6
Kedah	35,448	15.7
Perak	31,264	13.9
Pahang	22,705	11.6
Johor	21,803	9.8

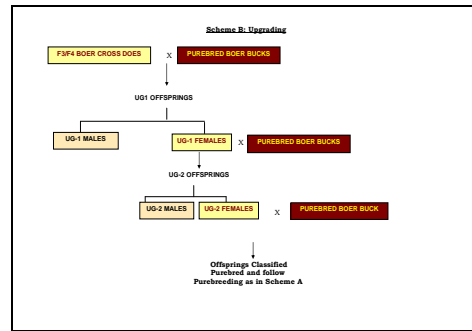
Slide 22



Slide 23



Slide 27

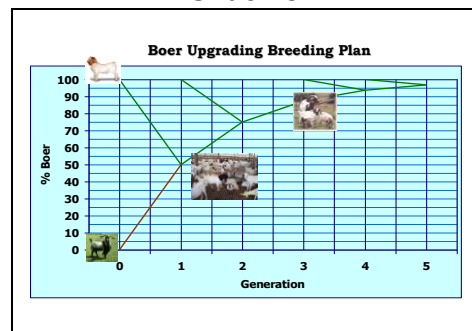


Slide 24

Importation of Breeder Goats 2006 - 2010

- Government → 5,000 heads per year
- Private Sector → 10,000 heads per year

Slide 28



Slide 25

Structured Breeding

3 Strata Farming

- Flow of Genetic Material
Nucleus → Multiplier → Commercial
- Nucleus Farms - Govt / Private
- Multiplier & Commercial encouragement to Private sector

Slide 29

Margin Analysis for Meat Goats

50 Breeding females

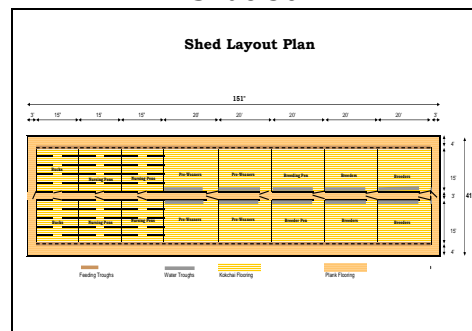
	Wt	Shoghter	Shoghter	Shoghter	Breeder
	30 kg	13.00	14.00	15.00	20.00
1 Income from Goat Sales	30 kg	390	420	450	600
2 Cost of Raising young goats to Market weight (6-7 months)					
a. Fodder Grass		12.00			
b. Concentrate Pellets		21.00			
c. Medication		14.00			
d. Labour Cost		35.00			
e. Depreciation/Amortisation		45.00			
f. Utilities		9.33			
g. Land Lease		14.00			
Gross Margin per Goat Sold		239.67	269.67	299.67	449.67

Slide 26

BREEDING TARGETS

- Annual kidding rate of 150%
- Breeding target is to raise twins that will weigh 32 kg. in seven months
- Daily growth rates for kid goats from kidding to weaning at about 3 months of age range from 150g to 220g

Slide 30



Brucellosis in sheep and goats – diagnosis and control

(by B. Garin-Bastuji, AFSSA, France)

Slide 1

Brucellosis in sheep & goats Diagnosis and Control

B. Garin-Bastuji
European Community and OIE/FAO Animal Brucellosis Ref. Lab.
National Animal & Human Brucellosis Reference Lab.
French Food Safety Agency (AFSSA), Maisons-Alfort, France

APHCA-ILRI Regional Workshop on Goats, Luang Prabang, Lao PDR, 23 - 26 October 2006

Slide 4

Epidemiology of Brucellosis....

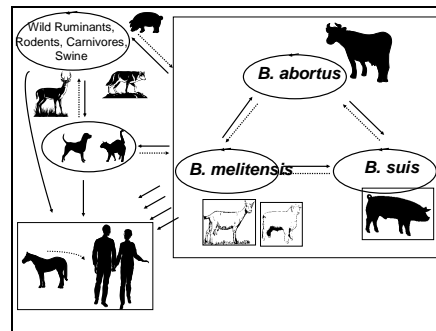
A reminder...

Slide 2

Ovine & caprine brucellosis

- Due to *Brucella melitensis*
 - Gram negative bacteria (α -proteobacteriaceae)
 - Facultative intracellular pathogens of mammals
- Geographical distribution
 - Mediterranean countries, near- and middle east
 - Distributed world wide except
 - USA, Canada & Northern Europe
 - Southeast Asia (?) & Oceania
- Clinical signs (non pathognomonic)
 - abortions, sterility, unthrifty offspring (but normal birth)

Slide 5



Slide 3

Brucella : species & biovars			
Species	Biovars	Preferred natural host Main geographical area	Pathogenicity for man
<i>B. melitensis</i>	1, 2, 3	Sheep, Goats, Wild ungulates Mediterranean countries Middle & Near East	High
<i>B. abortus</i>	1, 2, 3, 4, 5, 6, 9	Bovines, Wild ungulates Europe, America, Africa, Asia	Moderate
<i>B. suis</i>	1	Suids	High
	2	Suids, Hares	Low
	3	Suids	High
	4	Reindeers	Moderate
	5	Wild rodents	High
<i>B. neotomae</i>		Desert wood rats <i>Neotoma lepida</i>	Unknown
<i>B. ovis</i>		Sheep (males)	No
<i>B. canis</i>		Dogs	Low
<i>B. « cetaceae »</i>		Cetaceans	High?
<i>B. « pinnipediae »</i>		Pinnipeds	High?

Slide 6

Epidemiology of Brucellosis

Brucellosis in Man

- Accidental and almost dead-end host
- *B. melitensis* is the most important cause in the world
- Most cases from direct exposure
- Primarily an occupational risk
- Non-occupational cases due to raw milk/milk products consumption
- Geographical distribution depends upon:
 - > local food habits
 - > milk processing methods
 - > animal husbandry types
 - > climatic conditions
 - > standards of personal and environmental hygiene

Slide 7

Epidemiology of Brucellosis

Numbers of *Brucella* excreted by infected females

- 1 cattle abortion/normal birth sheds 10^9 - 10^{13} *Brucella* in the environment
- = dose for experimental infection of 60.000 to 600.000 females :

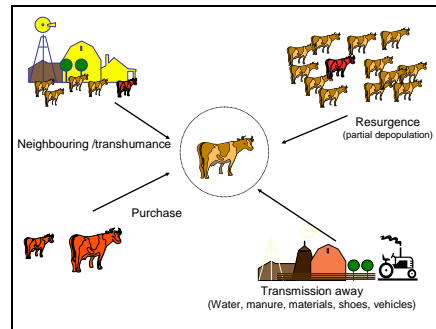
➤ Explains the rapid multiplication of cases and outbreaks

➤ Explains the easy transmission to humans

This number is considerably reduced when the herd/flock is vaccinated with S19 or Rev.1 respectively

This number frequently decreases at sequential parturitions

Slide 11



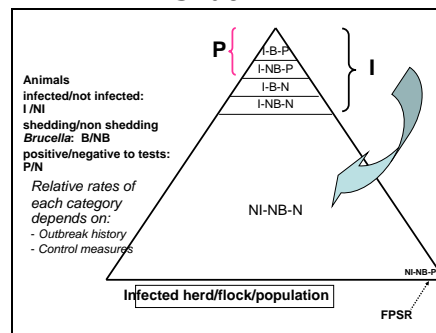
Slide 8

Epidemiology of Brucellosis

Survival of *Brucella* out of their host

- *Brucella* ability to resist outside their mammalian host is relatively high compared with most other non-sporing pathogenic bacteria, under suitable conditions
- *Brucella* are fairly heat-sensitive at low concentration in liquid media (pasteurisation or prolonged boiling)
- *Brucella* do not resist a long time in ripened fermented cheese
 - The optimal fermentation time is estimated at 3 months
 - In normally acidified soft cheese, strictly lactic and short-time fermentation and drying allow the survival time of *Brucella*
 - Previous pasteurisation of milk or cream is the only means to insure

Slide 12



Slide 9

Epidemiology of Brucellosis

Survival of *Brucella* in Meat

- In contrast to dairy products, the survival time of *Brucella* in beef meat is extremely short, except in frozen carcasses
- The number of organisms per gram of muscle is small and rapidly decreases with acid fermentation of the meat
- However: mutton meat or organs underdone?

Slide 13

Diagnostic tools

- **Direct diagnosis:**
 - Detection of the *Brucella* and/or their specific components
- **Indirect : measure of the immune response**

Slide 10

Epidemiology of Brucellosis

Transmission (in animals))

- Entry point
 - Skin
 - Through minor skin abrasions
 - Mucous membranes
 - Conjunctivae, nasopharynx and respiratory tract, oral route, genitalia
- Vertical (in utero): ☞ congenital infection
- Horizontal
 - Direct
 - Infected aerosols
 - Consumption of (and licking) infected materials and milk
 - Contact
 - Sexual transmission (minor?)
 - Indirect (water, manure, materials, shoes,...)

Slide 14

Direct Diagnosis

- Bacterioscopy
- Isolation & identification of *Brucella*
- **Antigens: Immunoenzymology - fluorescence**
 - Not practicable, no standardisation
 - Low specificity, low sensitivity
- PCR

Slide 15

Bacterioscopy (Stamp)

- Samples to be ground
- Several smears needed

Advantages: quick and simple
Disadvantage: presumptive value

- False negative
- False positive (*Brucella ovis*, *Chlamydothyla*, *Coxiella*...)

Slide 19

Selective media

Farrell's medium	Mod. Thayer-Martin
<p>Base: SDA BAB BMB + 5 % serum</p> <p>Antibiotics: (Oxoid SR209A) Nalidixic Acid 5 mg Bacitracin 25,000 IU Natamycin 50 mg Polimixin B (as SO₄) 5,000 IU Nystatin 100,000 IU Vancomycin 20 mg</p>	<p><small>(Brown et al. Marin et al. modification)</small></p> <p>Base: GC medium Hemoglobin sol. 10 %</p> <p>Antibiotics: Vancomycin 3 mg Colistin 7.5 mg Nystatin 100,000 IU Nitrofurantoin 10 mg Amphotericine B 2.5 mg</p>

Slide 16

Isolation & identification of *Brucella*

- The only unequivocal method
- Identification = definitive diagnosis

- 👉 High epidemiological value: biotyping
- 👉 Relatively expensive, long lasting
- 👉 Bio-hazard: needs expertise, procedures and equipment
- 👉 Lack of sensitivity
- 👉 Sample sometimes unavailable (milk, foeto-maternal materials, genital secretions, lymph nodes,...)

Slide 20

Comparison of Farrell and m. Thayer-Martin

<i>Brucella</i> species	Medium	mean CFU
23 <i>B. abortus</i>	Farrell	53.86
23 <i>B. abortus</i>	m T-M	63.16
31 <i>B. melitensis</i>	Farrell	74.48
31 <i>B. melitensis</i>	m T-M	99.50

(Marin et al 1996)

- 182 infected animals
 - 172 Farrell +
 - 180 m T-M +
 - 182 Farrell + or m T-M + (Marin et al 1996)

👉 Simultaneous use of Farrell + mT-M media increases the sensitivity of bacteriological diagnosis

Slide 17

Specimens for *Brucella* isolation

Samples	Live animals	Slaughtered animals
Female	Vaginal discharges Milk*	Lymph nodes** Spleen** Mammary gland** Uterus**
Male	Semen	Lymph nodes** Spleen** Epididymes** Accessory sexual glands**

* Cream+pellet
** Ground (stomacher)

Slide 21

Presumptive identification

- Clinical & Epidemiological context
- Growth on Farrell / mod.T-M (slow > 3-4 days)
- Morphology of colonies (smooth, homogenous, glossy, etc.)
- Gram negative coccobacilli
- Agglutination of anti-*Brucella* serum
- Catalase +, Oxydase +, Urease +
- No use of sugars

👉 Typing : expert laboratories

Slide 18

Distribution of *Brucella* infection

	172 Sheep & goats <small>Blasco et al. 2002</small>	142 Sheep <small>Marin et al. 1996</small>	40 Goats <small>Marin et al. 1996</small>
Cranial lymph nodes	37.4 %	33.8 %	80.0 %
Scapular lymph nodes	26.4 %	33.8 %	50.0 %
Prefemoral lymph nodes	-	36.6 %	47.5 %
Iliac lymph nodes	46.1 %	51.4 %	65.0 %
Mammary lymph nodes	69.2 %	81.7 %	82.5 %
Spleen	28.0 %	36.0 %	25.0 %
Uterus	17.6 %	19.7 %	25.0 %
Milk	60.9 %	62.5 %	74.3 %

Slide 22

Direct Diagnosis

- Bacterioscopy
- Isolation & identification of *Brucella*
- Immunoenzymology - Immunofluorescence
 - Not practicable, no standardisation
 - low specificity, low sensitivity
- PCR

Slide 31

Direct diagnosis (conclusion)
Isolation (or PCR) & Typing of *Brucella*

- **Advantage: unequivocal diagnosis**
- **Disadvantage: long and expensive, limited to equipped and experienced labs.**
- **Not applicable at all stages of an eradication program (too many breakdowns)**
- **Essential in the last stages** (countries, zones or compartments):
 - Diagnosis confirmation
 - Trace-back and forward tracing

Slide 35

Immune response of the infected host - Antibodies

- **Foetus**
 - congenital infection – no Ab before 1st gestation
- **Young**
 - low and transitory response
- **Adults**
 - Response in 1-2 months, sometimes no or low
 - Persistence 6 months or more
 - Fluctuant (lambing/abortions) - milk

☞ **Latent infection - abortion, lambing**
☞ **Great individual variations**
☞ **Tests repetition - Discordance - vaccination**

Slide 32

Diagnostic tools

- **Direct :**
 - *Brucella* isolation and identification
 - Antigens detection
 - DNA detection (PCR)
- **Indirect : measure of the immune response**
 - **Essential for surveillance, control and eradication programs....**

Slide 36

Brucellin allergic skin test (Brucellergene ©)

The Cell responses

IN VIVO

In adults:

- Rapid
- Persistent
- To any *Brucella*including vaccine

IN VITRO

Slide 33

Immune response of the infected host

Brucella are facultative intracellular pathogens

Cellular response
and
Humoral response (antibodies)
are induced

Slide 37

Serological tests – "old" tools

- Rose Bengale (RBT)
 - Generally used as a screening test
- Complement fixation (CFT)
 - Generally used as a confirmatory test

☞ The only OIE and EU official tests

Slide 34

The S-LPS of *Brucella* – The Major antigen

➢ The main cause of cross-reactions!

Slide 38

Serological tests – old tools

- Both tests
 - Sensitive to antibodies induced by all *S-Brucella* species and biovars (*abortus* & *melitensis*)
- RBT
 - Early detection
 - Lacks sensitivity (in infected flocks)
 - Lacks specificity (in low prevalence or free areas)
 - Sensitive to vaccine-induced antibodies
- CFT
 - Later but prolonged detection
 - Lacks sensitivity (in recently infected animals)
 - Lacks specificity (but less than RBT)
 - Sensitive (less) to vaccine-induced antibodies

Slide 39

Serological tests – old tools
How to minimise these failings?

- Modification of RBT (75/25 vs. 25/25) increasing the sensitivity
- Use of complementary tools
 - NH-GDT, less sensitive but more specific of the infection (sub-cutaneously vaccinated flocks)
 - AST, in unvaccinated flocks
 - Culture/PCR in vaccinated flocks in low prevalence or free areas
- Use of epidemiology-based strategy of:
 - performing tests: frequency
 - interpreting tests results (in parallel vs. in series)

Slide 43

In conclusion...

New tools needed but....
....epidemiology-based strategy essential for the testing regime design & the interpretation of results

« In some cases, it would be more profitable to make better use of existing procedures than to continue to develop new ones. » R.J. Chappel, Surveillance, 1989, 16, 3

Slide 40

Serological tests – old tools
Despite these failings:

- In infected flocks/areas
 - The predictive value of positive results in either test is close to 100%
 - RBT has a very high flock sensitivity
 - The use of both tests in parallel increases greatly the individual sensitivity
 - Antibodies due to vaccination avoided by the use of the conjunctival route in replacement animals
- In low prevalence or free areas
 - FPSR (*Y. ent. O:9*) could be identified by:
 - The very low proportion of positive results per flock
 - The low levels and duration of antibodies
 - The use of the brucellin skin test

• Eradication reached in France (2003) and Northern Italy, close in Cyprus

Slide 44

BRUCELLOSIS
Control/eradication strategies

Slide 41

Serological tests – « new » tools
Under evaluation in EU (Commission – EFSA)

- **Protein-iELISA: very low sensitivity and specificity**
- **S-LPS iELISA: sens.> RBT & CFT, but spe. < RBT/CFT**
 - But no standardisation (neither OIE nor EU)
 - And highly sensitive to vaccine induced antibodies
 - No validation at large scale in field conditions
 - Approved in cattle in bulk serum or milk samples
- **C-ELISA:**
 - low sensitivity and specificity in cattle
 - In sheep & goats? First results disappointing
- **Fluorescence polarisation Assay:**
 - OIE official test in cattle.
 - In sheep and goats? First results promising

Slide 45

Control of Brucellosis in human populations

- Control
 - Diagnosis/Reporting (case definition) and treatment
 - Educational activities in at risk groups
 - Educational activities and heat treatment of milk and dairy products
- Surveillance
 - Evaluation of the health state of human populations (surveys, notification system)
 - Identification of risk factors (cases investigation)

Slide 42

Sensitivity and specificity of old and new tests in sheep and goats

Sheep	RB	CF	iELISA	cELISA	GD/NH
Culture +	86-100	88-93	98-100	98-100	82-91
Free	100	100	100	100*	100
Goats					
Culture +	92.5-100	94.5-100	100	NT	94.5
Free	100	100	100	NT	100

**Recent results less good JM Blasco team, 1994, 1999*

Slide 46

Control/eradication strategies

- Health education and information (introduction of basic hygienic measures)
- Detection & Treatment of human cases required...

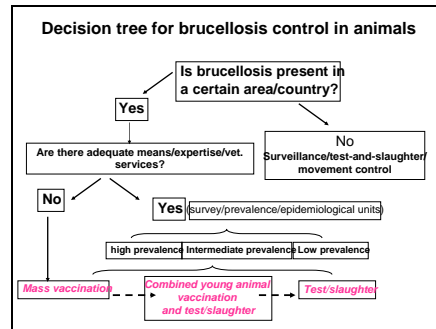
.....But main and most efficient measures for reducing the human cases is...
.....by controlling the infection in animals.

Slide 47

Control/elimination of animal brucellosis: the tools

- test and isolation/slaughter
- hygiene
- control of animal movements
- vaccination

Slide 51



Slide 48

Vaccination (Rev.1 & S19)

- Vaccination increases resistance to infection and decreases the abortion risk
 - Then the spread of infection
 - Then individual and herd/flock prevalence
 - Then incidence in human populations
 - But,
 - > insufficient alone to eradicate
 - > vaccine-induced serological/cell-immune reactions
- Sub-cutaneous or conjunctival route
 - Cattle (females): S19
 - 3-6 months SC 5-10 x 10¹⁰ CFU/dose
 - Adults SC 0.3-3 x 10⁹ CFU/dose (non pregnant, lactating or late pregnancy)
 - Both CR 5-10 x 10⁹ CFU/dose (twice)
 - Sheep & Goats: Rev.1
 - 3-6 months SC 0.5-2 x 10⁹ CFU/dose
 - Both CR 0.5-2 x 10⁹ CFU/dose (non pregnant, lactating or late pregnancy)

Slide 52

The basic control programme : vaccination

- Main objective : → reduction of the prevalence to an acceptable level (ie minimising the disease impact)
 - The highest level of immunity in the highest possible number of animals in the shortest possible time interval
- Tools required :
 - Minimal infrastructure and budget
 - Good vaccines (S19 in cattle- Rev.1 in sheep & goats)
- Possible strategies
 - « Conservatory »: Vaccination of young replacements only
 - « Expeditious »: Vaccination of the whole population

Slide 49

Preliminary considerations

The epidemiological situation is almost never homogeneous in a given country / region

↓

Different epidemiological / livestock contexts within a country/region

↓

Need of implementing different control / eradication strategies

↓

Knowledge of the situation and definition of epidemiological units of intervention

Slide 53

Control of brucellosis through young replacements vaccination (SC or CR)

- ⊗ Theory: 15-20% annual replacement → 5-7 years 100% population coverage
- ⊗ Reality: → failure to control the disease even in ideal conditions
 - Possible causes :
 - Continuous reproduction → replacements kept all over the year → low % of vaccination
 - Vaccines not properly controlled
 - Animal movements
 - Possible decrease of the level of immunity with time (old animals)

> Adult (mass) vaccination to be preferred

Slide 50

Strategy / objectives

- Endemic areas ⇔ Control of the infection
- Final objective ⇔ Eradication
- Mid / short-term objective ⇔ Decrease the prevalence
 - > progressive evolution

Slide 54

Control strategy based on mass vaccination (S19/Rev.1)

- Immunisation of the whole population in only one intervention
- Reinforcement of immunity in previously vaccinated animals
- If repeated at regular intervals ⇔ *the most economic and effective way to control the disease in endemic areas*
- Also applicable to control outbreaks in eradication programmes (emergency vaccination) if depopulation unfeasible

Slide 55

Mass vaccination – conditions of success

- Good quality vaccines (and cold chain)
- S19
 - replacement heifers & non pregnant adults
 - lactating adults 0.1-2% udder infection
 - pregnant 0.1-2% abortions
 - bulls
- Rev.1
 - all animals but pregnant abortions
 - Problems minimised by the use of conjunctival route and seasonal breeding last pregnancy/calving/lambing/lactation/pre-breeding season
- To be applied on the whole population
- To be maintained (10-12 years) and repeated every 2 years (eg., FAO in Tunisia & Morocco – WHO in Mongolia)

Slide 59

Surveillance

- Regular surveillance
 - Of the whole population
 - Of a representative sample
 - To detect new (imported) outbreaks as soon as possible
 - To prevent reintroduction of infection from foreign sources
 - Abortion notification compulsory
 - In case of outbreak
 - Immediate epidemiological investigation (from where, to where)
 - Whole herd/flock depopulation
- Avoid commercial movements from herds re-qualified after partial depopulation
- Animals introduction only from truly free herds of free regions

Slide 56

Eradication Programmes

- Combined strategy (vaccination / T & S)
- Exclusive T & S (vaccine banned)
- "Iceberg" Conditions : *tests and vaccines are the emerged part!!*
 - Adequate design and organisation
 - Available means / expressed needs / Political durable will
 - Effective involvement of professionals (breeders)
 - Controls of animal movements / permanent identification
 - Continuity – Repetition – Long term

More good the results, ...more severe the new measures

Slide 60

In conclusion....

Slide 57

Combined programmes (young replacement vaccination/T&S on adults)

- When
 - Low to moderate herd/flock prevalence < 5-10%
 - Important risk factors (movements, outbreaks)
 - If ICEBERG conditions fulfilled
- Allows eradication & protection of herds/flocks
- Requirements for success
 - Regular (at least annual) serotesting of all adult animals
 - Rapid culling of positive animals
 - Retest positive herds/flocks with enough pressure (every 2 months)
 - Enough means for:
 - the surveillance of the whole population – herds certification
 - adequate rapid culling / slaughter compensation

Slide 61

Steps to achieve the eradication of brucellosis

1st phase: prevention of human infection

- Health education and information (introduction of basic hygienic measures)
- Detection and treatment of human cases
- Data collection on animal prevalence (e.g. survey) and human incidence (e.g. reported cases) to evaluate the need for a control programme
 - if control is deemed necessary, 2nd phase: control programme

Slide 58

Eradication by exclusive Test & Slaughter

- When
 - Very low herd/flock prevalence < 1-5%
 - Very low risk factors (movements, outbreaks)
 - If ICEBERG conditions fulfilled (excellent Veterinary Services Organisation)
- Allows eradication but not protection of herds/flocks
- Requirements for success
 - Vaccines prohibited
 - Regular (at least annual) serotesting of all adult animals in all herds
 - Rapid culling of positive animals
 - Partial depopulation of positive herds/flocks is risky
 - *Depopulation of positive herds/flocks preferred when possible*
 - Enough means for:
 - the surveillance of the whole population – herds certification
 - adequate rapid culling / slaughter compensation

Slide 62

Steps to achieve the eradication of brucellosis

2nd phase: control programme

- All herd/flock vaccination
- *Vaccination of young animals only (Efficiency???)*
- Test and slaughter at *voluntary basis* + vaccination of young animals
 - until the percentage of herds/flocks participating in the programme is higher than a pre-defined threshold
- Test and slaughter *compulsory* + vaccination of young
 - until the prevalence reaches below a pre-determined level
- Test and slaughter and *prohibition of any vaccination*
 - if the prevalence of infection is below a pre-defined level and social and economic conditions allow the 3rd phase elimination can starts

Slide 63

Steps to achieve the eradication of brucellosis

3rd phase: eradication programme

- test and slaughter
- movement control and restriction
- identification of at risk herds
- strict surveillance of problem herds/flocks
- surveillance of the whole system

– the prevention (surveillance) phase will follow once elimination is achieved



Slide 64

Control strategies for brucellosis
advantages/disadvantages *simplified*

Strategy	Advantages	Disadvantages
<i>Elimination of infected animals</i>	Elimination	Higher cost Need for efficient veterinary services (animal identification, laboratory support, movement control)
<i>Vaccination of young animals and elimination of the infected</i>	Minimise abortion Serological test differentiate infected/vaccinated	Herd immunity slowly established
<i>Mass vaccination</i>	Lower cost Easy to manage Herd immunity quickly established	Abortions Serological test not able to differentiate infected/vaccinated (?) Public health (?)

Slide 65

Thanks for your attention...

French Food Safety Agency
World Organisation for Animal Health

List of Participants

AUSTRALIA

Dr Mike Nunn

Principal Scientist (Animal Biosecurity)
Biosecurity Australia
Department of Agriculture, Fisheries and
Forestry
GPO Box 858, Canberra
ACT 2601

Tel: +61 2 6272 4036
+61 409 650 546 (mobile)
Fax +61 2 6272 3399
Email: mike.nunn@daff.gov.au

BANGLADESH

Dr Salehuddin Mahmud

Director-General
Department of Livestock Services
Ministry of Fisheries and Livestock
Krishi Khamar Sarak,
Farmgate, Dhaka 1215

Tel: +880 2 811 5532
Fax: +880 2 911 0326
Email: dgdl@dotbd.com,
salehuddin@gmail.com

BHUTAN

Dr Tenzin Dhendup

Director
Department of Livestock
Ministry of Agriculture
Post Box 113
Thimphu

Tel: +975 2 323 146 / 322 418
Fax: +975 2 322 904
Email: tenzind10@yahoo.com

INDIA

Dr Santanu Kumar Bandyopadhyay

Animal Husbandry Commissioner
Room No. 234
Dept. of Animal Husbandry & Dairying
Government of India
Dr Rajendra Prasad Rd.
Krishi Bhawan
New Delhi 110 001

Tel: +91 11 2338 4146
Fax: +91 11 2338 2192
Email: skbandy@email.com

LAO PDR

Dr Phouangparisak Pravongviengkham

Permanent Secretary
Ministry of Agriculture and Forestry
P.O. Box 811
Vientiane

Tel: +856 21 415 358
Fax: +856 21 412 343

LAO PDR

Dr Bounkhouang Khambounheuang

Director-General
Department of Livestock and Fisheries
Ministry of Agriculture and Forestry
P.O. Box 811
Vientiane

Tel: +856 21 416 932
Email: eulaodlf@laotel.com
B.Khouang@yahoo.com

MALAYSIA

Mr G. Sivasupramaniam

Research Officer
and Head, Investment Unit
Department of Veterinary Services
Ministry of Agriculture and Agro-Based
Industry
Wisma Tani, Block Podium
Lot 4G1, Precinct 4
62630 Putrajaya

Tel: +60 3 8870 2406
Fax: +60 3 8888 8178
Email: siva@jph.gov.my
sivagov@gmail.com

MONGOLIA

Dr Nantsag Batsuuri

State Secretary of the Ministry of Food
and Agriculture (MoFA)
Governmental building #9
Enkhtaivan avenue 16a
Ulaanbaatar-210349

Tel: +976 11 262802
Fax: +976 11 452554
Email: ng_batsuuri@yahoo.com;
oynataa@yahoo.com

MYANMAR

Dr Than Htun

Director (Administration)
Livestock Breeding and Veterinary
Department
Ministry of Livestock and Fisheries
Insein
Yangon

Tel: +95 1 640 921, 642 939 (Res)
Fax: +95 1 642 927
e-mail: lbvd@mptmail.net.mm

NEPAL

Dr Dala Ram Pradhan

Director-General
Department of Livestock Services
G.P.O. Box 8975, EPC 783
Hariharbhawan, Lalitpur
Kathmandu

Tel: +977 1 552 2056, 552 1610
Fax: +977 1-554 2915
e-mail: dgdls@ntc.net.np,
dalaram@wlink.com.np

PAKISTAN

Dr Qurban Ali

Animal Husbandry Commissioner
Livestock Wing
Ministry of Food, Agriculture &
Livestock
38 Khalid Plaza, Blue Area
Islamabad

Tel: +92 51 920 5092
Fax: +92 51 922 1357
Email: drqurban@yahoo.com

PAPUA NEW GUINEA

Dr Nime K. Kapo

Regional Veterinary Officer
Northern National Agriculture
Quarantine and Inspection (NAQIA)
P.O. Box 2878
LAE
Morobe Province

Tel: +675 472 5202
Fax: +675 479 3776
Email: lae.vet@global.net.pg

SRI LANKA

Dr Amarasekera Sri Kamal Ranjith
Director-General
Department of Animal Production and
Health
P.O. Box 13, Gatambe
Peradaniya

Tel: +94 81 238 8195, 238 8462-3
+94 77 736 2007 (mobile)
Fax: +94 81 238 8619, 238 8470
Email: dgaphamara@slt.net.lk

THAILAND

Dr Chaweewan Leowijuk
Deputy Director-General
Department of Livestock Development
Ministry of Agriculture and
Co-operatives
Phya Thai Road
Bangkok 10400

Tel: 66-2-653 4444
Fax: 66-2-653 4900
Email: chaweewl@dld.go.th

Organizations

CIAT

Dr Werner Stur
Forage and Livestock Systems
CIAT
P.O. Box 783
Vientiane, Lao PDR

Tel: +856 21 770 090
+856 20 781 0301 (mobile)
Fax: +856 21 770 091
Email: w.stur@cgiar.org

CIAT

Mr Phonpaseuth Phengsavanh
Regional Research Fellow (CIAT/NAFRI)
P.O. BOX 783
CIAT, Vientiane
Lao PDR

Tel: +856 20 552 7195
Fax: +856 21 770 091
Email: p.phengsavanh@cgiar.org

CIRG

Dr Satendra Kumar Singh
Senior Scientist
Central Institute for Research on Goats
Makhdoom, P.O. Farah-281
122, Mathura (UP) India

Tel: +91 941 282 6680
+91 565 276 3380
Fax: +91 565 276 3241
Email: sks@cirg.res.in,
salendra_kumar@yahoo.com

ILRI

Dr Douglas Gray
Scientist
ILRI
P.O. Box 30709
Nairobi, Kenya

(Home) P.O. Box 290
Kingscote, SA 5223
Australia

Tel: +61 8 8559 7383
Email: dougiegray@bigpond.com

JICA**Dr Masao Sasaki**

Project Manager
JICA Animal Disease Control Project in
Thailand and Neighboring Countries
c/o Department of Livestock
Development
Phaya Thai Road, Bangkok
Thailand

Tel/Fax: +66 2 653 4417
Email: sasaki.masao@jica.go.jp

NARI

Dr Chanda Nimbkar
Animal Husbandry Division
Nimbkar Agriculture Research Institute
(NARI)
P.O. Box 23
Phaltan 415 523
Maharashtra, India

Tel: +91 21 6626 2106
Fax: +91 93 7028 6907
Email: cnimbkar@ricmail.com

OIE**Dr Bruno Garin-Bastuji**

National, European Community &
OIE/FAO Reference Laboratory for
Brucellosis
Bacterial Zoonoses Unit
Animal Pathology & Zoonoses Research
Lab.
French Food Safety Agency
23 Avenue du Général-de-Gaulle
F-94706 Maisons-Alfort Cedex – France

Tel: +33 1 49 77 13 00
Fax: +33 1 49 77 13 44
Email: b.garin-bastuji@afssa.fr

Livestock Farmer Support Project**Dr Lotfi Allal**

Animal Health Service Expert
L.P. Office
P.O. Box 156
Luang Prabang, Lao PDR

Tel: +856 71 252 281
+856 20 532 3787
Email: lotfi_allal@yahoo.fr

OIE**Dr Yoshiyuki Oketani**

Deputy Regional Representative
OIE Regional Representation
for Asia and the Pacific
East 311, Shin Aoyama Building
1-1-1 Minami Aoyama, Minato-ku,
Tokyo 107-0062
Japan

Tel: +81 3 5411 0520
Fax: +81 3 5411 0526
Email: oietokyo@tky.3web.ne.jp

PCARRD**Dr Edwin C. Villar**

Director
Livestock Research Division Director
Philippine Council for Advanced
Science and Technology Research and
Development (PCARRD)
Rm. 100, DOST Bldg, DOST compound
General Santos Ave.
Bicutan, Taguig, MM
Philippines

Tel: +63 49 536 0014 to 20
Fax: +63 49 536 0016
Email: e.villar@pcarrd.dost.gov.ph

Observers

Mr Sahas Boonyaviwat

Assistant Lord Chamberlain
Office of Assistant Lord Chamberlain
Chitralada Palace, Dusit
Bangkok 10303, Thailand

Tel: +66 81 9856 210 (mobile)
Fax: +66 2 283 9201

Mr Charoon Imerbsin

Royal Agriculturist
Royal Grounds Affairs Division
Chitralada Palace, Dusit
Bangkok 10303, Thailand

Tel: +66 2 282 3545
Fax: +66 2 283 9201
Email: charoon_im@yahoo.com

Dr Monaya Ekgatat

Veterinary Officer
National Institute of Animal Health
Department of Livestock Development
Kasetklang-Bangkhen, Jatuchak Bangkok
10900, Thailand

Tel: +66 2 579 8908-14
Fax: +66 2 579 8918-19
Email: monayae@dld.go.th,
monaya@ksc.th.com

Mr Soukanh Keonouchanh

Director of Livestock Research Center
Department of Livestock and Fisheries
P.O. Box 811, Vientiane, Lao PDR

Tel: +856 21 710 012
Email: soukanh.k@nafri.org.la

Dr Chintana Chanthavisouk

Deputy of National Animal Health
Center
Department of Livestock and Fisheries
Vientiane, Lao PDR

Tel: +856 21 262 945
+856 20 246 2382 (mobile)
Fax: +856 21 262 382
Email: soubanh04@yahoo.com

Mr Sengpasith Thongsavath

Head, Livestock & Fisheries Section
of Luangprabang
13 North Rd., Naluang Village
Luangprabang, Lao PDR

Tel/Fax: +856 71 212 018
Email: airlpb@yahoo.com

Mr Suaouvanaphet Luangleeth

Technical Officer
Department of Livestock and Fisheries
Vientiane, Lao PDR

Tel: +856 21 416 932
Fax: +856 21 415 674

Mr Maes Eric

Farmer
Dairy goat farm in Vang Vieng
Vang Vieng
Lao PDR

Email: ericwwmaes@yahoo.com

FAO

Dr Leena Kirjavainen

FAO Representative in Lao PDR
P.O. Box 1640
Vientiane
Lao PDR

Tel: +856 21 413 205, 414 503
Fax: +856 21 414 500
Email: FAO-LA@fao.org
leenakirjavainen@hotmail.com

Dr John Copland

FAO Consultant on Food Safety
57 Golden Groved
Red Hill
Canberra, ACT 2603
Australia

Tel: +61 2 6295 7795
Email: jws@tpg.com.au

Dr Tony Williams

Team Leader / Avian Influenza Program
c/o FAO Office in Lao PDR
Luang Prabang Rd., Sikhottabong Dist.
Vientiane, Lao PDR

Tel: +856 21 2262 945, 413 205
+856 20 245 7204 (mobile)
Fax: +856 21 262 946, 414 500
Email: tony.williams@fao.org

Dr Henning Steinfeld

Chief, LEAD/AGAL
FAO Headquarters
Viale delle Terme di Caracalla
Rome, Italy

Email: henning.steinfeld@fao.org

Dr Hans-Gerhard Wagner

Senior Animal Production and
Health Officer
FAO / RAP
39 Phra Atit Road
Bangkok 10200, Thailand

Tel: +66 2 697 4000
Fax: +66 2 697 4445
Email: hans.wagner@fao.org

Dr Carolyn C. Benigno

Animal Health Officer
FAO / RAP
39 Phra Atit Road
Bangkok 10200, Thailand

Tel: +66 2 697 4000
Fax: +66 2 697 4445
Email: carolyn.benigno@fao.org

Dr Vishnu Songkitti

Liaison Officer for APHCA
FAO / RAP
39 Phra Atit Road
Bangkok 10200, Thailand

Tel: +66 2 697 4000
Fax: +66 2 697 4445
Email: vishnu.songkitti@fao.org

Ms. Nongnuch Tuntawiroon

Operational Clerk - TCP/RAS/3006
c/o: FAO / RAP
Phra Atit Road
Bangkok 10200, Thailand

Tel: +66 2 697 4000
Fax: +66 2 697 4445
Email: nongnuch.tuntawiroon@fao.org

Welcoming Speech

by Dr Chaweewan Leowijuk, Vice-chairperson of APHCA

H.E. Dr N. Batsuuri, State Secretary, People's Republic of Mongolia
Honorable Dr Phouangparisak Pravongviengkham, Permanent Secretary, Ministry of
Agriculture and Forestry
Dr Bounkhouang Khambounheuang, Director-General, Department of Livestock and
Fisheries
Representatives from FAO, ILRI and OIE
Distinguished APHCA delegates and observers
Ladies and gentlemen

It is a great pleasure and honour for me to welcome you all to Luang Prabang, the world heritage city, and to the 30th session of the Animal Production and Health Commission for Asia and the Pacific on behalf of the APHCA chairperson – Mr Mathur Riady.

My pleasure is enhanced by the fact that, this year, we are celebrating the 30th anniversary of our commission after its inception in December in 1975.

We have witnessed the revitalizing of APHCA in recent years after its financial crisis between 1995 and 1997. Thanks to the APHCA secretariat and all the members who, despite their countries' own economic crisis, have contributed to the resuscitation and strengthening of the commission.

During the past decade, there have been several joint activities which APHCA has successfully co-operated with other international agencies and organizations like the OIE, ILRI as well as the Animal Production and Health Division (AGA) at the FAO Headquarters in Rome.

We have to sincerely admire the APHCA secretariat for its keen efforts in mixing the business sessions of the commission with the various technical workshops – to save budget whilst boosting activities. In so doing, opportunities have been created for intense dialogues between the member countries and the international agencies and organizations, enabling collaborations within diverse areas of relevant regional and global activities.

I would like to stress the importance of the commission in livestock development in the region – in assessing needs and finding suitable solutions for its member countries. I hope and trust that the importance of the commission will grow as the scope of changes in the regional and the global livestock farming and industry continue to create new challenges.

I believe that all of us here, through APHCA and the other international agencies and organizations, can play an important role in this effort.

In conclusion, I would like to thank all the collaborators particularly the Government of Lao People's Democratic Republic for hosting; and the APHCA secretariat, ILRI and OIE for co-organizing this session and the workshop.

Ladies and gentlemen, thank you.