



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

25-29 August 2003  
Lahore, Pakistan



## THE FIFTEEN APHCA MEMBER COUNTRIES

Australia

Bangladesh

Bhutan

India

Indonesia

Iran

Lao PDR

Malaysia

Myanmar

Nepal

Pakistan

Papua New Guinea

Philippines

Sri Lanka

Thailand



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**REPORT** OF THE  
**TWENTY-SEVENTH SESSION**  
**OF THE ANIMAL PRODUCTION**  
**AND HEALTH COMMISSION FOR**  
**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, 2004

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**Minutes of the 62<sup>nd</sup> and the 63<sup>rd</sup> Executive Committee Meetings  
and the 27<sup>th</sup> Session of APHCA**  
(Lahore, Pakistan, 25-29 August 2003)

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**25 August 2003**

**Meeting of the 62<sup>nd</sup> Executive Committee:**

The meeting was chaired by J.Q. Molina, the delegate from the Philippines.

The agenda and the statement of account were approved for submission to the APHCA session. It was noted that due to SARS (Severe Acute Respiratory Syndrome) Dr Nordin could not undertake his review mission as scheduled and therefore could not present his findings to an early Executive Committee meeting before submission to the APHCA session as planned. It was agreed that he will present his findings in the business session and the matter will be picked up again on Thursday giving the delegates the opportunity to discuss the issues further.

**Opening ceremony**

The opening session was presided over by the honorable Minister of State for Food, Agriculture and Livestock, Government of Pakistan. The session was attended by representatives from a number of local institutes and government offices, observers from Office International des Epizooties (OIE) and International Atomic Energy Agency (IAEA), and delegates from all the APHCA countries except for Australia and Papua New Guinea. Dr Molina, Chairperson of APHCA, welcomed the participants on behalf of APHCA and R.H. Raja, Animal Husbandry Commissioner, on behalf of the Government of Pakistan. J. Lubroth, Senior Animal Health Officer/EMPRES, transmitted greetings from FAO. The opening address was given by the Minister. The Minister handed a souvenir to the delegates and the participants.

**APHCA business session**

1. Dr Molina again welcomed the delegates and observers (Office International des Epizooties – OIE, the OIE Southeast Asia Foot and Mouth Disease Campaign – OIE-SEAFMD, Division of Nuclear Techniques in Food and Agriculture of the International Atomic Energy Agency – AGE-IAEA and FAO headquarters). Apologies had been received from International Livestock Research Institute (ILRI) and the Australian Center for International Agriculture Research (ACIAR).
2. The Agenda was adopted.

The delegate from India proposed the delegate from Pakistan, Dr Raja, as the new Chairperson. The motion was seconded by the delegates from Bangladesh, Bhutan, Nepal and Sri Lanka. Dr Raja accepted the nomination and thanked the delegates

for the confidence given to him. He also expressed his appreciation to Dr Molina for the work he has done as Chairperson during the last two years. The delegate from Thailand proposed the delegate from Indonesia as Vice-Chairperson. The motion was seconded by Malaysia and Sri Lanka. The delegates from India, Nepal and Thailand were proposed as members of the Executive Committee. The motion was seconded by Bangladesh, Bhutan and Indonesia.

The Executive Committee is now as follows:

<b>Chairperson :</b>	Dr Rafaqat Hussain Raja, Pakistan
<b>Vice-Chairperson :</b>	Delgate from Indonesia
<b>Members :</b>	Delegates from India, Nepal, and Thailand
<b>Ex-officio :</b>	Dr Jose Q. Molina, Philippines

3. The minutes of the 61<sup>st</sup> Executive Committee and 26<sup>th</sup> APHCA Session were reviewed and approved by the delegates.

4. Statement of accounts

H. Wagner presented the status of the APHCA accounts for 2002 and status of expenditures for 2003. The approved budget for 2002 was US\$46 850. The expenditures amount to US\$28 952. During 2001 APHCA signed a Letter of Agreement (LoA) with FAO for over US\$20 000 to support a workshop and training course in 2002. In 2002 FAO settled the LoA with payment into the APHCA Trust Fund Account. In 2003 it was discovered that APHCA is not eligible for LoAs and there was the threat that the funds might have to be returned. (The case is not yet closed and the APHCA Secretariat is working out so that the funds will not have to be returned.) This threat had influenced expenditures in 2003 which as of June 2003 amounted to US\$10 835 only, with an approved budget of US\$100 598. Activities in connection with training in July 2003 and the APHCA Session in August are not yet accounted for. The budget for 2004 has been approved but the Session may propose changes in the light of possible activities and priorities to strengthen APHCA. The financial situation of APHCA has improved as countries pay annual contributions and arrears. At present only two countries have arrears of more than two years contributions. The cash balance without interest as of 01 January 2003 is US\$257 203. The statement of accounts for the year 2002 was approved.

5. Report of activities

H. Wagner presented the activities conducted by APHCA and the Livestock Section of the Regional Office for Asia and the Pacific (RAP) during 2002/3 irrespective of the source of funding.

J. Crowther (IAEA) indicated that a mechanism be established whereby activities of the joint division AGE and IAEA in the livestock sector would be part of the activity report.

Specific issues requiring more feedback by delegates were addressed in more detail as follows:

A. Animal identification and traceability

H. Wagner stated that this activity has been an issue for the past two APHCA meetings. A Technical Cooperation Programme (TCP) proposal has been finalized and countries have been requested to provide letters of support (a requirement by the FAO TCP department). Only five replies out of which three were eligible have been received. The appraisal by FAO of the draft was positive but clarification was requested on two issues. Countries were requested to respond to these queries but so far only a limited response has been received.

After discussion, countries recognized the need to develop standards and guidelines for a harmonized identification, traceability and movement control scheme. The document will be sent again to all countries and delegates agreed to send comments and supporting letters by 30 October 2003.

B. Pro-poor livestock policy facility (PPLPF)

H. Wagner reported on an initiative by FAO headquarters, supported by RAP, to review and improve livestock policy formulation that would impact greatly on poverty reduction. Livestock is considered an important entry point. Formulating effective livestock policies which would benefit the poor is an issue which fits into APHCA's mandate.

The discussion centered on the need to undertake several studies in different areas where the poor have a stake and that lessons from these studies serve as the basis for a policy framework.

C. Livestock waste management

H. Wagner presented the Global Environmental Facility–Project Development Fund B (GEF-PDF-B) project which at present includes China, Thailand and Viet Nam only. However, the issue could be of interest to other countries in the region where the uncontrolled expansion of intensive and industrialized livestock production cause a threat to the environment and threatens the existence of small-scale farmers and their livelihoods.

The delegate from Pakistan indicated that problems are not only in the pig and poultry sector but also in the dairy sector where large units mushroom around big cities. The delegates recommended the Secretariat to contact LEAD (Livestock Environment and Development Group at FAO headquarters) and investigate the possibility of undertaking preliminary studies in the South Asian region.

D. First Report on the State of the World's Animal Genetic Resources

H. Wagner briefed the delegates on the status of country report preparations. Most of the countries have submitted first drafts of the report. An Asia regional workshop will be held later in the year to finalize these reports and to develop priority actions. It was also stressed that the Intergovernmental Working Group on Animal Genetic Resources will meet in Rome in early 2004. The APHCA member countries India and Thailand are members of the Intergovernmental Technical Working Group on Animal Genetic Resources for Food and Agriculture (ITWG-AnGR). They should not miss this opportunity to present and represent Asia's issues and views. The delegate from India requested the Secretariat to be more proactive. It was also proposed that the APHCA Chairperson represent APHCA countries at the ITWG-AnGR in 2004.

E. Regional approaches to livestock disease control in the Greater Mekong Subregion – ADB concept note

S. Morzaria briefed the meeting on the progress of the concept note submitted to Asian Development Bank (ADB). The lead institute for the proposal is the International Livestock Research Institute (ILRI), Nairobi, Kenya. The proposal focuses on targeting poor livestock farmers in the Greater Mekong subregion and aims to alleviate poverty and promote market opportunities. Improvement of animal health has been identified as a means of increasing productivity in livestock, leading to greater income for farmers. The proposal has a budget of US\$5 million to support activities over a period of six years. The proposed project will have several phases; the first phase will aim to examine the zoning approach to the control of foot and mouth diseases. A number of collaborators have been identified that include the GMS countries, EU, IFAD, OIE and FAO.

F. SARS – FAO's involvement

S. Morzaria briefed the participants on FAO's involvement in the efforts to control a newly emerged zoonotic disease referred to as severe acute respiratory syndrome (SARS). He reported that SARS is a classic example of an emerging disease which has caused severe economic losses in many countries. Preliminary estimates show that in Southeast Asia the losses have exceeded US\$30 billion. Collaborative research has helped towards the identification of the SARS virus, which is a new corona virus (SARS CoV). FAO is now collaborating with other international organizations (WHO and OIE) and Chinese authorities from the health and agriculture ministries to investigate the role of wild animals in the origin and transmission of the virus. At the moment, there is limited data regarding the role of wild animals as a source of the infection. Limited experimental studies show that domesticated animals are unlikely to play a role in the transmission of SARS CoV. Without a complete understanding of the natural history of the disease, re-emergence would be likely without continued intervention.

G. WTO's Sanitary Phytosanitary (SPS) Agreement, veterinary public health and food safety

V. Songkitti presented the activities conducted on WTO's SPS agreement, veterinary public health and food safety. The activities were mostly on capacity building focused on risk analysis, BSE diagnosis and surveillance. These activities were jointly undertaken by FAO and OIE with assistance from the Department of Livestock Development (DLD), Thailand, Chiang Mai University and Japan Livestock Technology Association (JLTA). V. Songkitti also announced that the new Regional Veterinary Public Health Center will be established at the Faculty of Veterinary Medicine in Chiang Mai University, Thailand with technical assistance from the Free University of Berlin and the Institute of Meat Hygiene, Meat Technology and Food Hygiene, University for Veterinary Medicine, Vienna, Austria. A Master of Science Degree Programme in Veterinary Public Health for countries in Southeast Asia will be implemented as a joint degree programme between the Faculty of Veterinary Medicine, Chiang Mai University (FVM-CMU) and the Free University of Berlin (FUB). The delegates requested the Secretariat to explore expansion of the activity to South Asia.

H. Food and feed safety note

C. Benigno presented a note on food and feed safety as an offshoot of the workshop held during the 26<sup>th</sup> APHCA Session in Malaysia in 2002. The workshop, chaired by Andrew Speedy of FAO headquarters, came up with a list of recommendations. Based on these recommendations, a roadmap of activities was proposed for the member countries and the Commission to come up with a clear food and feed safety program for the regions, which would be at par with current international practices. Countries were requested to answer the questionnaire and to submit it on or before 15 October 2003. The data gathered therein would be analyzed and possible areas of regional cooperation would then be explored. The recommendations and questionnaire appear as Annex 2003/06 (page 63-65). The delegates requested the Secretariat to undertake appropriate action on the issue.

6. APHCA review and future work plan

Dr Nordin presented the study conducted on the review of APHCA activities. The results of the review focused on

1. the organizational and administrative structure
2. strengthening the planning process
3. identification of major technical programmes for which APHCA has a comparative advantage and ensuring relevant activities
4. dissemination of information to member countries
5. re-activation of the National Currency Fund

Member countries stressed the important role which APHCA has played in the past and the role it could play in the future.

Member countries recognized the need to review and strengthen the organizational structure and procedures. The advantage of secretarial activities being supported by FAO is recognized. The total annual contribution from member countries amounting to US\$ 84 000 is too small to run a bigger Secretariat or to support a major programme. Therefore donor support needs to be sought.

The Chairperson has to be given more prominence and involvement, i.e. in representing APHCA to the outside, in meetings and with donors.

The need for a strategic long-term technical programme was recognized. The ways and means for the identification of priority activities was discussed but not concluded. Delegates agreed to resume discussion on the topic when the Business Session resumed on Thursday, 28 August 2003.

The Chairperson thanked the delegates for their active participation and adjourned the Business Session to Thursday, 28 August 2003 at 14.00 hours.

## **28 August 2003**

The Chairperson reconvened the session with the review of APHCA on Thursday 29 August 2003 at 14.30 hours and requested H. Wagner to present the findings of the Excom meeting which took place on Wednesday, 28 August 2003. With regard to organizational issues the following was recommended by the Excom and approved by the delegates:

- Strengthening of the role of the ChairPerson (CP)
  - Increased consultation between CP and Secretariat
  - CP represents APHCA at donor meetings
  - Invitations are signed by the CP
  - The required budget changes have been agreed on and are presented below (an allocation of US\$5 000 for CP's duty travel)
- Countries will nominate a National Focal Point by 15 October 2003 as direct liaison officer between the country and the APHCA Secretariat
- If necessary technical working groups will be established for specific programmes
- A quarterly four pages newsletter will be sent to the National Focal Points for distribution within the country
- Without making it a rule it was suggested to the delegates that
  - CP and Excom members serve for two years (with annual re-election or confirmation)
  - that the annual Session alternate between RAP-Bangkok and upon invitation by country
- To strengthen the TCDC amongst countries in the region
  - The Secretariat will
    - identify training needs and opportunities in the region by end 2003
    - develop modalities for the exchange of experts and scientists (interim approved by the Excom)
  - Request for support will be reviewed and endorsed by the Excom members

- APHCA will make available return air tickets only
- For 2004 an allocation of US \$ 10 000 was approved. The required budget changes have been agreed on and are presented below.

During the discussion on training issues J. Lubroth informed the session about the FAO visiting scientist programme and J. Crowther about training opportunities in IAEA. It was recommended that the Secretariat:

- Request donors and institutions to provide a brief overview of training support mechanisms
- Request donors, institutions and national coordinators to provide details (on a routine basis) of planned and future funded training activities
- Correlate and provide the information on training gathered on an appropriate web based platform
- Request fellowship training for one year from TC IAEA to “train” a scientist in scientific administration to aid the web based ICT for animal diseases

### **Priorities for future action**

The delegates were presented with a list of activities of FAO headquarters and the RAP Livestock Section which are addressing important issues in the region and which are already ongoing or are in an advanced stage of planning. Delegates were requested to identify possible priority activities or areas.

- GF-TADs with two sub-regional projects
  - Identification and traceability
  - Standardization and training in disease recording
  - Training
- Brucellosis
- Small scale dairy/meat production and processing (possible theme for next APHCA technical session) Regional Training Center planned in Chiang Mai, Thailand
- Breeding and AI (TCDC)
- Hope A-NDV
- Food and feed safety
- Buffalo development (Southeast Asia)
- Animal welfare
- Pro-poor livestock policy facility (PPLPF)
- AWI-LEAD intensification and industrialization of livestock
- WTO-SPS training and follow-up
- Harmonization and standardization of legislation for food and feed safety

The delegates discussed the issue and concluded that further discussion is required and that they will respond in the closing session.

The delegates concluded that all proposed projects are of great relevance and merit attention particularly if external support can be obtained. The following areas should receive immediate attention and priority:

- GF-TAD
- Small-scale dairy/meat production processing
- Food and feed safety
- AWI-LEAD intensification and industrialization
- WTO-SPS as a training activity

South Asian countries will be invited to nominate an expert for a South Asia Working Group of FMD. Pakistan will take the lead in convening the first meetings.

It was agreed that a provisional agenda for the 64<sup>th</sup> Executive Committee Meeting and the 28<sup>th</sup> Session of APHCA will be proposed by the Secretariat to the delegates who have been invited to the forthcoming BSE Workshop in Chiang Mai.

The 64<sup>th</sup> Executive Committee Meeting and the 28<sup>th</sup> Session of APHCA will be held in Bangkok. Delegates indicated preferred timing as end of August or beginning September 2004.

The meeting was adjourned for adoption of the minutes to Friday, 29 August 2003.

## **29 August 2003**

The meeting resumed on Friday 09.00 hours.

The minutes were approved with amendments.

### **Other business:**

- Dr Fujita presented the activities of OIE-Tokyo Office in the region
- Dr John Edwards briefed the session on the progress and the activities of SEAFMD (Southeast Asia foot-and-mouth disease)

India considered the meeting - APHCA Session plus technical workshop - too long. There is a need to streamline activities and to reduce the time of the meeting. The Secretariat was requested to limit the Session and technical workshop to four days.

Delegates were requested to look into the issue of country reports. Countries were requested to brief annual sessions on important changes/issues in the livestock industry.

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**Timetable and agenda**  
**27<sup>th</sup> APHCA Session / Regional consultation on GF-TADs**

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**Sunday, 24 August 2003**      Arrival of overseas guests

**Monday, 25 August 2003**

**Morning**

0930 - 1000	Registration / 62 <sup>nd</sup> Executive Committee Meeting
1000 - 1100	Opening ceremony (with religious prayer)
1100 - 1130	Tea/coffee break
1130 - 1245	27 <sup>th</sup> APHCA business Session
1245 - 1400	Lunch

**Afternoon**

1400 - 1600	27 <sup>th</sup> APHCA business Session - continued
1600 - 1630	Tea/coffee break
1630 - 1730	27 <sup>th</sup> APHCA business Session - continued
2000 - 2200	Welcoming dinner (hosted by Ministry of Food, Agriculture and Livestock, Government of Pakistan)

**Tuesday, 26 August 2003**

**Morning**

0830 - 1000	GF-TADs (Global Framework for the Progressive Control of Foot-and-Mouth Disease and Other Transboundary Diseases)
1000 - 1030	Tea/coffee break
1030 - 1245	GF-TADs (concurrent Sessions for South Asia)
1245 - 1400	Lunch

**Afternoon**

1400 - 1600	GF-TADs, foot-and-mouth disease (FMD) by OIE
1600 - 1630	Tea/coffee break
1630 - 17.30	GF-TADs (concurrent sessions for Southeast Asia)
2000 - 2200	Dinner (hosted by Livestock & Dairy Development Department Punjab, Pakistan)

**Wednesday, 27 August 2003**

**Morning**

0830 - 1245	GF-TADs (concurrent sessions for SA and SEA - continued)
1245 - 1400	Lunch

**Afternoon**

1400 - 1600	GF-TADs (whole group – joint session for major conclusion and recommendations)
1600 - 1630	Tea/coffee break
1630 - 1730	GF-TADs (whole group – joint session for major conclusion and recommendations - continued)
2000 - 2200	Dinner (hosted by Animal Health Division, ICI Pakistan Limited)

**Thursday, 28 August 2003**

**Morning**

0830 - 1245	Field trip for participants/observers
1245 - 1400	Lunch
1400 - 1600	APHCA Session (meeting to finalize recommendations)
1600 - 1630	Tea/coffee break
2000 - 2200	Farewell dinner (hosted by APHCA)

**Friday, 29 August 2003****Morning**

0900 - 1100 Adoption of Session report/closing of APHCA Session

1200 - 1300 Lunch

**Afternoon**

Late evening Departure of overseas guests

**Agenda**

*(\*The Executive Committee Meeting to be organized prior to the opening of the Session)*

1. Opening of the session
2. Adoption of the agenda, induction of chairperson and election of executive committee members
3. Minutes of the 61<sup>st</sup> Executive Committee Meeting and the 26<sup>th</sup> Session of APHCA
4. Statement of accounts of APHCA trust fund for 2002 and other financial matters
5. Report on APHCA activities during 2002-2003
6. Future workplan/activities: - HOPE-A, GEF-AWI, state of the world on AnGR, etc.
7. APHCA programme of work and budget for 2004 and 2005
8. Regional Workshop on Global Framework for the Progressive Control of Foot-and-Mouth Disease and Other Transboundary Diseases (GF-TADs)
9. Provisional agenda for the 64<sup>th</sup> Executive Committee Meeting and the 28<sup>th</sup> Session of APHCA
10. Venue and dates for the 64<sup>th</sup> Executive Committee Meeting and the 28<sup>th</sup> Session of APHCA
11. Other business
12. Adoption of the minutes/report of the session

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## Dates and venues (Host Countries) of APHCA Sessions

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**First**

Bangkok, Thailand, 7-11 June 1976  
 Chairperson : Dr J.C. Madamba (Philippines)  
 Vice-Chairperson : Dr M.N. Menon (India)  
 Members of the Executive Committee:  
 Delegates from Malaysia, Sri Lanka  
 and Thailand

**Second**

Kuala Lumpur, Malaysia, 22-26 August 1977  
 Chairperson : Dr S. Thuraisingham (Malaysia)  
 Vice-Chairperson : Dr A. Bandaranayake (Sri  
 Lanka)  
 Members of the Executive Committee:  
 Delegates from Australia, Nepal  
 and Thailand

**Third**

Bangkok, Thailand, 16-21 July 1978  
 Chairperson : Dr S. Thuraisingham (Malaysia)  
 Vice-Chairperson : Dr A. Bandaranayake (Sri  
 Lanka)  
 Members of the Executive Committee:  
 Delegates from Australia, Philippines  
 and Thailand

**Fourth**

Manila, Philippines, 3-7 September 1979  
 Chairperson : Dr S.H. Escudero III (Philippines)  
 Vice-Chairperson : Dr Y. Prased (India)  
 Members of the Executive Committee:  
 Delegates from Bangladesh, Malaysia  
 and Singapore

**Fifth**

Bangkok, Thailand, 6-11 October 1980  
 Chairperson : Dr Tim Bhannasiri (Thailand)  
 Vice-Chairperson : Dato' Dr Osman bin Din  
 (Malaysia)  
 Members of the Executive Committee:  
 Delegates from India, Indonesia  
 and Sri Lanka

**Sixth**

Colombo, Sri Lanka, 10-15 August 1981  
 Chairperson : Dr S.B. Dhanapala (Sri Lanka)  
 Vice-Chairperson : Dr J.H. Hutasoit  
 (Indonesia)  
 Members of the Executive Committee:  
 Delegates from Australia, India  
 and Malaysia

**Seventh**

Surabaya, Indonesia, 13-18 December 1982  
 Chairperson : Prof. Dr J.H. Hutasoit  
 (Indonesia)  
 Vice-Chairperson : Dato' Dr Osman bin Din  
 (Malaysia)  
 Members of the Executive Committee:  
 Delegates from India, Philippines  
 and Thailand

**Eighth**

Bangkok, Thailand, 3-8 October 1983  
 Chairperson : Dato' Dr Osman bin Din  
 (Malaysia)  
 Vice-Chairperson : Dr O.N. Singh (India)  
 Members of the Executive Committee:  
 Delegates from Australia, Bangladesh  
 and Papua New Guinea

**Ninth**

New Delhi, In, 8-13 October 1984  
Chairperson : Dr O.N. Singh (India)  
Vice-Chairperson : Dr I.G.R. Davis (Australia)  
Members of the Executive Committee:  
Delegates from Nepal, Singapore  
and Sri Lanka

**Tenth**

Melbourne, Australia, 7-13 October 1985  
Chairperson : Dr R.W. Gee (Australia)  
Vice-Chairperson : Dr Giam Choo Hoo  
(Singapore)  
Members of the Executive Committee:  
Delegates from Pakistan, Sri Lanka  
and Thailand

**Eleventh**

Bangkok, Thailand, 7-13 October 1986  
Chairperson : Dr Giam Choo Hoo (Singapore)  
Vice-Chairperson : Dr J.A. deS. Siriwardene  
(Sri Lanka)  
Members of the Executive Committee:  
Delegates from Iran, Malaysia  
and Philippines

**Twelfth**

Islamabad, Pakistan, 5-10 October 1987  
Chairperson : Dr M. Anwar Khan (Pakistan)  
Vice-Chairperson : Dr A. Mustaffa Babjee  
(Malaysia)  
Members of the Executive Committee:  
Delegates from India, Philippines  
and Thailand

**Thirteenth**

Bangkok, Thailand, 25-31 October 1988  
Chairperson : Dr Vitoon Khumnirdetch  
(Thailand)  
Vice-Chairperson : Dr Soehadji (Indonesia)  
Members of the Executive Committee:  
Delegates from India, Malaysia  
and Sri Lanka

**Fourteenth**

Jakarta, Indonesia, 30 Oct. - November 1989  
Chairperson : Dr Soehadji (Indonesia)  
Vice-Chairperson : Dr A.K. Chatterjee (India)  
Members of the Executive Committee:  
Delegates from Australia, Philippines  
and Sri Lanka

**Fifteenth**

Bangkok, Thailand 17-22 October 1990  
Chairperson : Dr A M B H Babje (Malaysia)  
Vice-Chairperson : Dr R N Alcasid  
(Philippines)  
Members of the Executive Committee:  
Delegates from Australia, Iran  
and Pakistan

**Sixteenth**

Kuala Lumpur, Malaysia, 7-12 October 1991  
Chairperson : Dr R. N. Alcasid (Philippines)  
Vice-Chairperson : Dr W. A. Geering  
(Australia)  
Members of the Executive Committee:  
Delegates from Iran, Myanmar  
and Thailand

**Seventeenth**

Manila, Philippines, 17-21 November 1992  
Chairperson : Dr W. A. Geering (Australia)  
Vice-Chairperson : Dr A.A. Motallebi (Iran)  
Members of the Executive Committee:  
Delegates from Indonesia, Malaysia  
and Thailand

**Eighteenth**

Darwin, Australia, 17-20 August 1993  
Chairperson : Dr A.A. Motallebi (Iran)  
Vice-Chairperson : Dr Wipit  
Chaisrisongkram (Thailand)  
Members of the Executive Committee:  
Delegates from Nepal, Philippines  
and Singapore

**Nineteenth**

Tehran, Iran, 20-24 November 1994  
 Chairperson : Dr Wipit Chairisongkram  
 (Thailand)  
 Vice-Chairperson : Dr S K Shrestha (Nepal)  
 Members of the Executive Committee:  
 Delegates from Australia, India  
 and Indonesia

**Twentieth**

Bangkok, Thailand, 30 Aug.-2 September 1995  
 Chairperson : Dr S. K. Shrestha (Nepal)  
 Vice-Chairperson : Mr K. Rajan (India)  
 Members of the Executive Committee:  
 Delegates from Australia, Malaysia  
 and Sri Lanka

**Twenty-first**

Kathmandu, Nepal, 3-6 March 1997  
 Chairperson : Mr G. R. Patwardhan (India)  
 Vice-Chairperson : Dr A. S. Abeyratne  
 (Sri Lanka)  
 Members of the Executive Committee:  
 Delegates from Australia, Indonesia  
 and the Philippines

**Twenty-second**

Bangkok, Thailand, 22-24 June 1998  
 Chairperson : Dr S. S. E. Ranawans (Sri Lanka)  
 Vice-Chairperson : Mr G. R. Patwardham (India)  
 Members of the Executive Committee:  
 Delegates from Laos, Myanmar  
 and Thailand

**Twenty-third**

Kochi, India, 4-6 September 1999  
 Chairperson : Dr V. K. Taneja (India)  
 Vice-Chairperson : Dr T. A. Abilay (Philippines)  
 Members of the Executive Committee:  
 Delegates from Nepal, Papua New Guinea  
 and Thailand

**Twenty-fourth**

Dhaka, Bangladesh, 6-9 November 2000  
 Chairperson : Dr V. K. Taneja (India)  
 Vice-Chairperson : Dr T. A. Abilay  
 (Philippines)  
 Member of the Executive Committee:  
 Delegates from Bangladesh, Papua New  
 Guinea and Nepal

**Twenty-fifth**

Manila, Philippines, 24-26 September 2001  
 Chairperson : Dr Jose Q. Molina  
 (Philippines)  
 Vice-Chairperson : Dr Mohd Nordin Mohd  
 Nor (Malaysia)  
 Member of the Executive Committee:  
 Delegates from Australia, Bhutan, and  
 Thailand

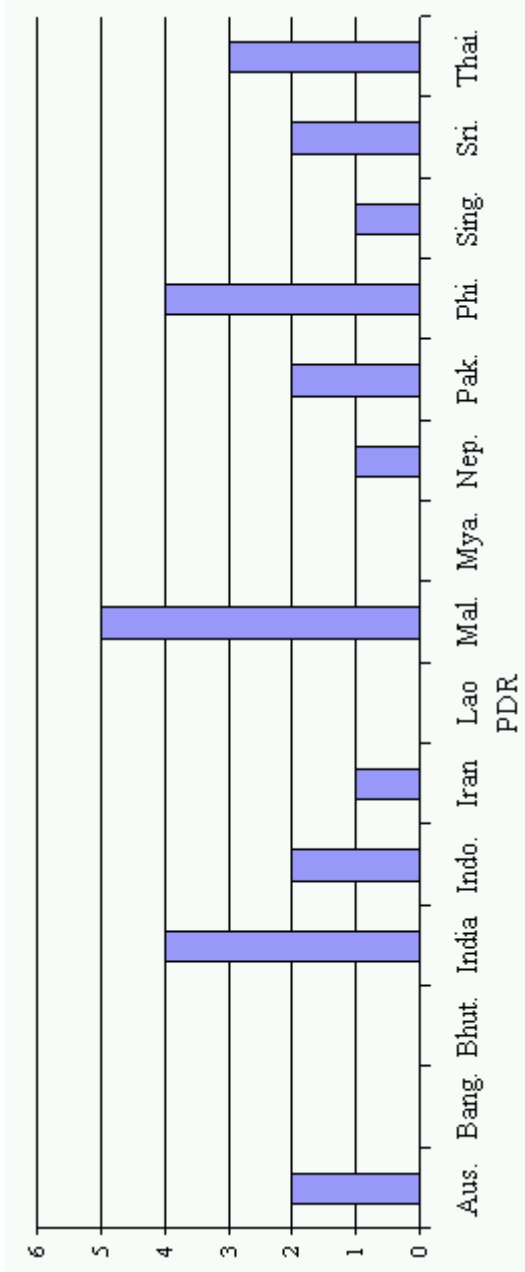
**Twenty-sixth**

Subang Jaya, Malaysia,  
 24-26 August 2002  
 Chairperson: Dr Jose Q. Molina (Philippines)  
 Vice-Chairperson: Dato' Dr Mohd. Nordin  
 Haji Mohd. Nor, (Malaysia)  
 Members of the Executive Committee:  
 Delegates from Bhutan, Pakistan and  
 Thailand  
 Ex-Officio Member: Delegate from India

**Twenty-seventh**

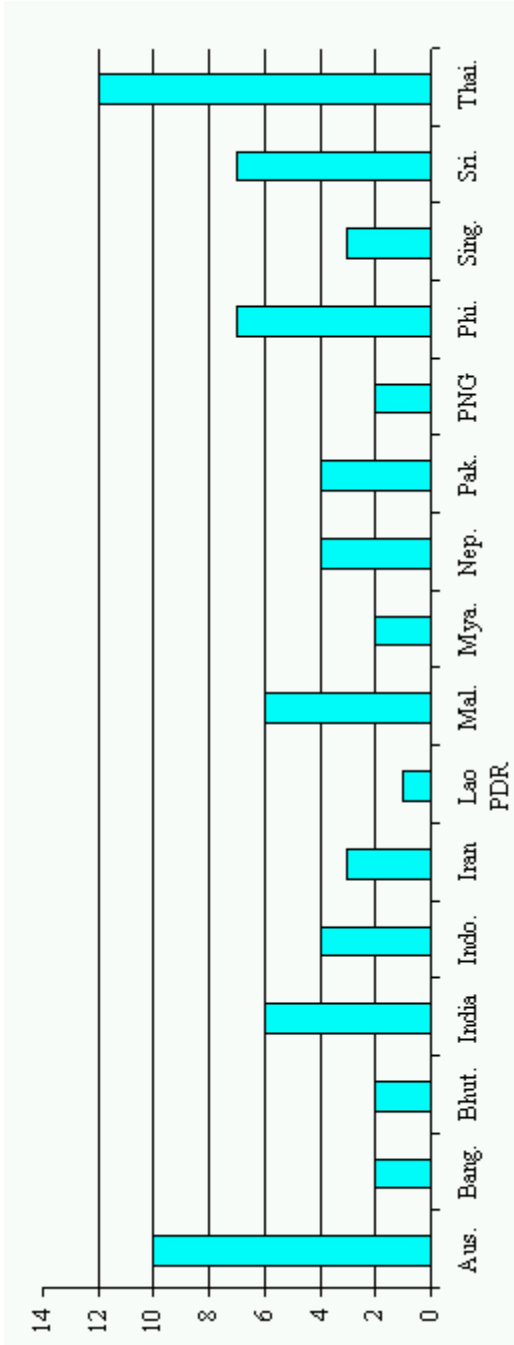
Lahore, Pakistan, 25-29 August 2003  
 Chairperson: Dr Rafaqat Hussain Raja,  
 (Pakistan)  
 Vice-Chairperson: delegate from Indonesia  
 Members of the Executive Committee:  
 Delegates from India, Nepal and Thailand  
 Ex-Officio Member: Delegate from  
 Philippines

**List of APHCA chairpersons by country  
(as of year 2002)**



Australia	2	Myanmar	0
Bangladesh	0	Nepal	1
Bhutan	0	Pakistan	2
India	4	Philippines	4
Indonesia	2	Singapore	1
Iran	1	Sri Lanka	2
Lao PDR	0	Thailand	3
Malaysia	5		

**List of APHCA executive committee members by country  
(as of year 2002)**



Australia	10	Myanmar	2
Bangladesh	2	Nepal	4
Bhutan	2	Pakistan	4
India	6	Papua New Guinea	2
Indonesia	4	Philippines	7
Iran	3	Singapore	3
Lao PDR	1	Sri Lanka	7
Malaysia	6	Thailand	12

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**Minutes of the 61<sup>st</sup> Executive Committee Meeting and  
the 26<sup>th</sup> Session of APHCA**  
(*Subang Jaya, Malaysia, 24-26 August 2002*)

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## **Introduction**

The APHCA executive committee met informally in early morning on 24 August 2002, while the 26<sup>th</sup> APHCA session was organized from 24 to 26 August 2002 in Subang Jaya, Malaysia. (the detailed timetable appears in the working paper – APHCA 02/1).

Representatives from fourteen APHCA member countries (Bangladesh, Bhutan, India, Indonesia, Iran, Laos, Malaysia, Myanmar, Nepal, Pakistan, Papua New Guinea, Philippines, Sri Lanka and Thailand) attended the session. There were observers from Viet Nam, International Livestock Research Institute (ILRI), Japan International Cooperation Agency (JICA) and Office International des Epizooties (OIE). Apologies were received from the delegate from Australia and Australian Center for International Agricultural Research (ACIAR).

## **Saturday, 24 August 2002** - Morning programme

### **Organizational and procedural matters**

The opening of the session was presided over by the honourable deputy secretary-general of the ministry of agriculture, Malaysia, Mohd. Zulkifli Rauf. The honourable Dato' Mohd Nordin Haji Mohd Nor, (director-general, department of veterinary services, Malaysia) delivered his speech along with Andrew Speedy, (FAO animal production and health division) and Jose Q. Molina, (chairperson of APHCA). The programme was completed by a welcoming/opening address given by the honorable Mohd. Zulkifli Rauf (all speeches appear as APHCA 02/11).

### **Adoption of the agenda**

The agenda for the 26<sup>th</sup> session of APHCA was adopted. The delegate from India proposed the motion and the delegate from Pakistan seconded it (working paper - APHCA 02/1).

### **Election of chairperson, vice chairperson and members of the executive committee**

The delegate from Sri Lanka proposed that the current chairperson from the Philippines for the year 2001/02 be re-elected\* in the interest of continuity so as to be able to contribute to the commission for the second term. The delegate from India seconded this proposal.

(\* The secretary stated that under the APHCA constitution an election must be carried out to elect a chairperson, a vice chairperson and three members of the executive committee but there is nothing against the re-election of the existing executive members. In view of the fact that a 2-year term of the chairperson and the executive committee members will provide a continuous and efficient contribution towards the commission, he suggested all members to consider this matter favorably.)

The chairperson gracefully accepted the nomination.

The chairperson requested India to continue as ex-officer executive committee member, and this proposal was accepted.

The chairperson proposed Dato' Mohd. Nordin Haji Mohd. Nor, delegate from Malaysia, be re-elected for a second term as vice chairperson. The delegate from Pakistan seconded this proposal.

The chairperson proposed that delegates from Australia, Thailand and Bhutan be considered for a second term as members of the executive committee. However, in view that the Australian delegate was absent from this session, it was suggested that another country be nominated and elected. The delegate from India nominated Pakistan and this was seconded by the delegate from Bhutan.

The delegate from Papua New Guinea suggested that the Australian delegate be contacted after the session regarding the nomination as member of the executive committee for the year 2002/03. The meeting objected to this proposal as a new member (Pakistan) had already been accepted.

The following APHCA executive committee members (for the year 2002/03) were elected:

**Chairperson:** Jose Q. Molina, delegate from Philippines  
**Vice chairperson:** Dato' Mohd. Nordin Haji Mohd. Nor, delegate from Malaysia  
**Members of the executive committee:** Delegates from Bhutan, Pakistan and Thailand  
**Ex-officio member:** Delegate from India

### **Minutes of the 60<sup>th</sup> executive committee meeting and the 25<sup>th</sup> session and minutes of the interim executive committee meeting (APHCA 02/3)**

Minutes of the 60<sup>th</sup> executive committee meeting and the 25<sup>th</sup> session of APHCA (organized in Manila, Philippines, in September 2001) were accepted with some comments from members. The delegate from India then proposed that the minutes be adopted and the delegates from Papua New Guinea and Pakistan seconded this.

The delegate from India commented on the minutes of the interim executive committee meeting of APHCA (organized in Bangkok, Thailand, in April 2002) that a clarification

needs to be given on the type/breed of buffalo in the “TCP proposal on buffalo development”.

H. Wagner clarified that this TCP proposal is specifically for “swamp” (water) buffaloes. The delegate from India then proposed that the statement regarding the type of buffalo be clearly stated in the proposal. The secretary accepted to correct this and to alter the proposal to read “swamp” buffaloes.

## **Financial statements**

### ***Report on APHCA financial status***

The secretary stated that account statements were prepared using the FAO’s oracle account system which was advantageous as it projected the updated actual cash balance as of 14 August 2002 and works on an accumulation system, so that total contribution since the inception of APHCA are presented.

The summary financial statements have shown that the commission has a healthy account and this will provide flexibility to the commission to undertake more activities.

The summary statement of APHCA account shows an effective cash balance of US\$164 567 (without interests), as of 1 January 2002. The financial records on expenditures and balances as of 21 August 2002 were presented. The proposed APHCA trust fund budget for 2003 and 2004 were tabled and the members were requested to examine and approve these proposed budget proposals on the last day of the Session (26 August 2002). (The full statements can be found in the working paper – APHCA 02/4).

The secretary informed participants that, in view of the fact that many APHCA programmes reflected the FAO’s objectives and regular programme of work, FAO has continuously contributed to implementation of the APHCA programmes financially. This was reflected in a column of the budget tables.

The secretary emphasized that collaboration from other international organizations is necessary and is needed in conducting jointly organized workshops and training programmes, because of the limited resources available to any single organization.

### ***Scale of contributions***

The status of contributions as at 21 August 2002 was presented. The secretary mentioned that since the 1997 Asian economic slow down, the contribution rates have been static. These static rates will be maintained for the year 2001 and the members voted at the 25<sup>th</sup> APHCA session to reintroduce the yearly increase of 8 percent in 2002.

Since the letters calling for contribution in 2002 did not reflect this approved increase, the members would not be asked to increase their contribution rate until 2003. The secretary extended his thanks to member countries for their contributions.

The delegate from India suggested that the available APHCA trust fund be used on the previously proposed/pending programmes from the 24<sup>th</sup> APHCA session in Dhaka in which a South Asian (SA) FMD concept paper was presented. The Secretary agreed and urged that the members also raise more concrete proposals/revisions on what to do with the APHCA funds and activities.

The delegate from India, supported by Pakistan, proposed that an allotment be made available for a FMD control programme in South Asia (similarly to the Southeast Asian (SEA) FMD programme in the Association of the Southeast Asian Nations (ASEAN) countries). The observer from OIE SEA-FMD Regional Coordination Unit (RCU) briefly provided some details on the SEA-FMD programme in the ASEAN region, while the vice chairperson/delegate from Malaysia informed that the SEA-FMD programme is run by OIE and cautioned that third party funding as given by OIE to ASEAN for FMD control is only temporary. The Indian delegate made the point that the concept paper for FMD control in South Asia had been proposed two years ago at the November 2000 APHCA Session in Dhaka and yet the Commission has made no further development. She suggested that APHCA should examine the minutes of the meeting held last year at FAO Headquarters in November 2001 where a special session was convened on FMD and which examined this issue. Now APHCA needs to devise a work plan to develop the future action. The chairperson agreed and urged the secretariat of APHCA to include this issue on the work-plan for 2003/04. Maybe the first step should be the development of TCP for funding by FAO.

### ***National currency fund (NCF)***

The vice chairperson/delegate from Malaysia raised the use of APHCA NCF. He pinpointed that APHCA was very active in organizing training and technical staff exchange programmes, thus promoting “human resource development” under the TCDC concept. The use of NCF would facilitate the programmes as such. The chairperson and the secretary requested all member countries, which have their NCF, to consider use of this fund for future APHCA activities. The delegate from Pakistan suggested NCF be used for training purposes (technical capacity building).

The chairperson proposed and encouraged all APHCA member countries to provide a list of technical experts (as well as their fields of expertise) and the training modules which could be offered to other member countries under TCDC criteria, as and when required.

### **Yearly work (work achieved/performed during 2001/02)**

APHCA, together with various co-sponsors, have organized several workshops and training courses. Details of the courses/training programmes can be found in the section - works performed/achieved during October 2001 – August 2002 (working papers of the 60<sup>th</sup> executive committee meeting and 26<sup>th</sup> session of APHCA – APHCA 02/5).

The secretary acknowledged the contributions from FAO Headquarters' feed resources group for sponsoring the interim APHCA executive committee meeting (in Bangkok) as well as this 26<sup>th</sup> APHCA session.

The secretary emphasized again the importance of collaboration with other international organizations and institutions (especially those who have jointly worked with APHCA, i.e. OIE, the Japan Livestock Technology Association (JLTA), the Japan International Cooperation Agency (JICA), Chiang Mai University of Thailand, Free University of Berlin, the Thai Department of Livestock Development, etc.)

### **APHCA information unit**

The secretary informed that the commission has maintained a website for APHCA's information. He proposed and volunteered to send out information on CD-ROM to the delegates and requested the delegates to further distribute the information using floppy diskettes. The homepage of APHCA will be frequently updated and an information officer from AGA, FAO Headquarters will help to maintain and make this website more interactive. Feedback on the website was requested by the Secretary.

### **Promoting membership**

Recently, China has officially requested to join APHCA (copies of the letter forwarded to all participants). The chairperson thanked Viet Nam for attending this meeting as an observer and urged this observer to persuade his country to eventually join APHCA. Two other countries, Afghanistan and East Timor, recently made general inquiries about joining FAO and APHCA. The secretary clarified that if non-FAO countries have an interest in joining APHCA, the current APHCA members need to approve their applications. This process would not be needed for China who is a current FAO member. However, the chairperson requested all members to read through this letter from China and voice their welcome. Members indicated that they have no objection to China, Afghanistan and East Timor joining APHCA.

### **Cooperative activities with international organizations and donor agencies (APHCA 02/5).**

The secretary briefed the members on cooperation and activities with international organizations and donor agencies.

Other works to be continued and planned for September 2002/03 are presented in the working papers and were explained by the secretary.

The secretary addressed the importance of animal identification and traceability. He explained the problems that arise in Europe from not having a standard identification and traceability system and that APHCA member countries could benefit from this European experience and try to agree at an early stage on a standardized system for this region.

H. Wagner briefed the meeting on the TCP proposal on "animal identification and traceability". This proposal would involve all the 15 APHCA countries and its objective is to develop standards and guidelines of animal identification and traceability system. This proposed system is aimed to be tested in three to four states or sub-regions of APHCA. Generally, there is sufficient expertise in this region, but assistance from outside countries would have to be sourced. Especially by those countries which have faced problems in the past. It is desired to focus on retired expertise from the region because full experts are very costly. The services are needed for about three to four months. The International Committee for Animal Recording (ICAR) and OIE have been approached, but they have only given moral support and no financial contribution. Government employees who are experts in this field are not available. The EU has some funding in these fields, but cannot confirm financial support for this programme. If no financial resources are obtained, these programmes will still be run with the limited funds available.

The delegate from India mentioned that APHCA should be concerned and involved regarding this matter. APHCA should consider using regional expertise in developing new strategies and standards before approaching experts from elsewhere. She stressed that APHCA should address this issue as soon as possible, but in the context of the requirements of small animal husbandry stakeholders as against requirements of commercial producers. This issue can only be up to the requirements of health and trade and should not introduce a costly and unnecessary surveillance system.

The meeting adjourned for lunch at 1240 hrs and resumed at 1400 hrs.

### Saturday, 24 August 2002 - Afternoon programme

#### **Special presentations on the on-going and future APHCA activities (APHCA 02/6)**

##### ***Protecting the environment from the impact of the growing industrialization of livestock production in East Asia (by H. Wagner)***

This programme was initiated by the "FAO Livestock Environment and Development (LEAD) Initiative" and supported by RAP. The dramatic increase in demand and output of livestock products mainly from pigs and poultry in the Asian region was highlighted. It is observed that under market pressure and in a framework of weak regulations, traditional mix-farming systems have progressively split into specialized crop and livestock activities that operate in different geographical areas and under different management rules. This has given rise to concentration of livestock populations (urbanization) and de-connection between livestock and land resources resulting in environmental (surface and ground water pollution, odor), public health/animal health and poverty alleviation issues that finally have an impact on the global environment. To address the issue and in follow-up, a workshop in Bangkok on Global Environmental Facility (GEF) Project Development Framework (PDF)-B Project has been prepared to address the issues. PDF-B Project funding is up to US\$ 390 000 allowing the preparation of a full GEF project which is approximately estimated at US\$ 10 million. The project has been submitted to GEF - World Bank for

consideration. Some delay occurred due to problems in the replenishment of the GEF fund. The proposal should now be considered at its session in November 2002. Participating countries are Cambodia, China, Laos, Philippines, Thailand and Viet Nam,.

### ***State of the World's Animal Genetic Resources (AnGR) (by H. Wagner)***

H. Wagner briefed all members on the progress in the preparation for the first report on the state of the worlds' animal genetic resources. Representatives from 22 countries in Asia have been trained in a workshop in November/December 2001 in Bangladesh. Trained experts were expected to serve as trainers and resource persons for the report preparation in their home countries. Some financial assistance to complement countries efforts could be secured and so far 10 countries have taken advantage of the possibility. Some countries still have not tapped the funds which have been offered. It was stressed that if necessary expert assistance can be provided. He stressed that the country report is not an inventory of AnGR, nor an update of WWL-DAD and also is not a report to satisfy international reporting commitments. The country report actually provides an opportunity to create vision and strategic directions for the better management of AnGR and to clearly establish priorities for further action and needs. Member countries are at different stages of report preparation in writing the country report. Sri Lanka has already submitted its country report. Malaysia, Viet Nam and a few other APHCA member countries are progressing well. The deadline for submission of the draft report has been extended to end of 2002.

### ***Village poultry development – HOPE-A (by D. Hoffmann)***

D. Hoffmann presented a paper entitled “village poultry development: getting it right for the benefit of the poor (A component of HOPE-A). All the background material can be found in the APHCA 02/6 working papers. The business session was adjourned on the afternoon of the 24 August 2002.

### **Sunday, 25 August 2002 - Morning programme**

#### **Regional workshop on feed and food safety**

In the morning of 25 August 2002, the FAO-APHCA regional workshop on feed and food safety was conducted for the interest of APHCA members. (A write up on the workshop and full papers of the other presentations can be found in APHCA 02/7).

#### ***Summary notes from the workshop are as the follows:***

The FAO/APHCA regional workshop on feed and food safety was held on 25 August 2002. The participants included APHCA delegates, observers attending the APHCA session and representatives from the private sector in Malaysia. The secretary for APHCA gave his opening remarks. He also chaired the first session of the workshop. A. Speedy (FAO Headquarters) chaired the second session of the workshop and supervised the final discussion.

The first paper entitled “*Animal feed safety*” was presented by A. Speedy (FAO Headquarters, Rome). He introduced the topic by highlighting the livestock revolution and the drastic increased production in poultry (meat and eggs) and pigs and the associated increase in the demand for animal feed in Asia. Safety in the feed industry involves several processes such as in sourcing of raw materials, feed mills, transportation, etc. An overview was given on the various draft codes of standards under the codex alimentarius related to feed safety issues.

Using BSE as an example, the emphasis on feed safety issues was highlighted. FAO believes all countries should do surveillance on BSE. FAO can provide assistance for capacity building. There is a need for establishing a data information system. To a question on Genetically Modified Organisms (GMOs), it was stated that a committee has been set up to draw up standards for compliance. India requested FAO and APHCA to take up the petition of India with regard to BSE as no cow-slaughter is legally allowed nor is cow beef exported from this country. Hence, the regular BSE surveillance projects need to be modified on these counts for India.

The second paper entitled “*FAO information resources – feed and food safety*” was presented by R. Rajah (FAO Headquarters, Rome). She highlighted the problems faced by delegates in retrieving data from the FAO website and provided a step-by-step guide for easy access to information from the website.

The third paper entitled “*BSE surveillance programme*” was presented by S.S. Hassan (Veterinary Research Institute, DVS, Malaysia). A successful BSE surveillance programme has been implemented in Malaysia and no cases of BSE have been detected.

The fourth paper entitled “*The veterinary health mark scheme under the veterinary inspection and accreditation programme*” by M.K.M. Sharif (DVS, Malaysia). The veterinary health mark logo is a mark of quality given to plants processing livestock products, awarded under the veterinary inspection and accreditation programme of the DVS, Ministry of Agriculture, Malaysia. It also signifies the complete compliance by the plants to the minimal standards of hygiene and sanitation, quality assurance and food safety set by the DVS.

The fifth paper entitled “*MS ISO 9000 on livestock farms*” was presented by V. Ng I. Hooi (DVS, Malaysia). He highlighted the objectives of implementing the MS ISO 9000 system on several government livestock breeding farms in Malaysia. The implementation of this system has effected an improvement in efficiency and productivity; better management; greater awareness, commitment and increased competency of staff; greater teamwork and decreased wastage.

A general discussion followed and was chaired by A. Speedy. The first topic discussed was on BSE surveillance. Several countries outlined their activities and views on BSE surveillance. Most of these countries are aware of BSE issues and are on alert. Thailand has an ongoing surveillance programme, but such a programme is costly. Bangladesh and Indonesia stated that they have stopped importation of meat and bone meal. India and Nepal stated that their cattle are not for human consumption and under

no perceived risk. Hence, the FAO requirements for BSE free status should not be applied equally to all countries. Iran's surveillance programme did not detect any BSE cases. Pakistan has a surveillance system to satisfy trading partners. H. Wagner commented that as funds are rigid and BSE is mainly spread through meat and bone meal and animal imports (particularly dairy cattle), it would be better if screening for BSE is targeted at high risk areas. APHCA was requested to formalize and harmonize a system of BSE surveillance within the Region.

The workshop chairperson invited comments from various countries with regards to similar schemes on feed safety assurance as being implemented by Malaysia. Thailand reported a similar accreditation system was applied to Thai farms, and this was regulated by government agencies. India stated that quality assurance is being practiced for poultry feed. It was also mentioned that there is great emphasis on animal welfare in relation to feed safety. Quality assurance is not new in Pakistan as the country has been very much concerned with feed safety. Now the question arises as to how this quality assurance programme can be practiced at the smallholder's level. The present quality assurance programme needs to be fine-tuned before it is applied to the region.

The chairperson questioned the appropriateness of ISO as the right approach to quality assurance on farm. Malaysia clarified its stand on this in the Malaysian context. In Malaysia, each government department is required to have at least one of its activities accredited with MS ISO 9000. The DVS had chosen to implement this standard for some of its breeding farms. However, this standard will not be imposed on private or smallholders' farms. Emphasis for livestock farms involved in commercial food production will be the adoption of standards in Good Animal Husbandry Practices (GAHP). As the agenda of the world is food quality and safety, the veterinary health mark has been formulated to realize this objective. The chairperson invited members to propose to FAO-APHCA on how quality assurance programmes such as GAHP can be effectively implemented within the region.

FAO solicited feedback on the usefulness of e-forums to address the above issues. A. Speedy then thanked all speakers for their interesting presentations and adjourned the workshop.

### **Sunday, 25 August 2002** - Afternoon programme

The APHCA business session continued with presentations by international organizations. Four brief presentations were made as the follows:

#### ***1. OIE Southeast Asia foot and mouth disease campaign (by J. Edwards, OIE regional coordination unit, Bangkok)***

The Southeast Asia foot and mouth disease campaign involves the coordination of foot and mouth disease authorities in eight of the ASEAN (Association of Southeast Asian Nations) countries. These are Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Thailand and Viet Nam. The campaign is overseen by the OIE sub-commission for FMD in Southeast Asia. The OIE Regional Coordination Unit (RCU)

in Bangkok carries out the coordination function. The major sponsor for Phase II of the campaign is AusAID.

### **Progress and situation update**

There are free zones for FMD in Indonesia and two thirds of the Philippines. The OIE-approved free zone in the Philippines was recently expanded to include the Visaya Island group, and East Malaysia is preparing a submission to OIE. FMD is present in other parts of the region and the level of control varies according to capacity.

A major initiative is the Malaysia–Thailand-Myanmar (MTM) campaign for FMD freedom and this involves cooperation between these countries and integrated donor support. It is likely to be a good model for use elsewhere in the region.

Communication is a high priority for the programme and participants were invited to join the mailing list for the OIE RCU quarterly newsletter and other publications.

The OIE RCU conducts meetings, workshops and consultancies to help progress its annual work plan. Meetings held this year include the 8<sup>th</sup> meeting of the OIE sub-commission, the 1<sup>st</sup> meeting of national FMD coordinators and a workshop on the MTM campaign. Planned for later this year are workshops on animal movement management (Hanoi, 9-13 September), the MTM Tri-State commission, Geographical Information System (GIS) and disease reporting (Bangkok) and project management (Philippines).

A session on FMD has been arranged for the Federation of Asian Veterinary Associations (FAVA) congress to be held in Malaysia from 27-28 August 2002. The chairperson asked members for any questions or any issues to be discussed. The vice chairperson/the delegate from Malaysia added that in the process of obtaining disease-free status for the region, there would be problems, as different countries would have different experiences and capacities. Thus, the approach of each country will have to be area-based. Malaysia is committed to ensuring continuity using three elements as a basis to create trade. Malaysia hopes to work with other member countries to look at the issue from similar angles and create incentives/approaches towards disease free status.

### **2. *The role of ILRI in Southeast Asia (by D. Gray, ILRI, Philippines)***

ILRI was formed in 1993 (Africa). The ILRI programme is active and will be strengthened in coming years in Asia. A nutritionist has been appointed in India, a new liaison scientist was appointed in Beijing, China, and a multi-disciplinary team was developed in the Philippines. Under ILRI regional system projects, smallholder dairy programmes and parasite control are some of the projects undertaken. The most significant is the collaboration of the small dairy workshop (South-South workshop) in Gujarat, India, 2001.

A website [www.ssdairy.org](http://www.ssdairy.org) is also available and readily accessible.

For the Southeast Asia (SEA) system programmes, there are consultation programmes, and other projects (1998-2001) which include crop animal system research network, sustainable parasitic control, FMD epidemiology, animal genetics resources, smallholder scale projects and food-feed systems. The existing projects are demand-driven and market orientated. ILRI get things done with funds available and bringing the right people together through FAO. These programmes need to be reviewed and reassessed so as to have a better planning for the future programmes. The publications of ILRI would be advertised by FAO (network of community-based projects in China and Indonesia are examples parasitic control programme). In 2001 and 2002, mapping of livestock holdings of the poverty groups in the world was undertaken. The speaker stressed that animal diseases have a great impact on poverty. In the years 2001/02, ILRI's highlights include livestock poverty mapping, the Bangkok workshop with FAO, the expansion of the SEA team to five scientists, the identification of South Asia as the next priority area and researches organized around five problem research themes.

The five research themes include determining the livestock contribution to pathways out of poverty, accelerating the adoption of livestock innovations of smallholder towards benefit of emerging livestock markets, usage of livestock biotechnology for development and positive contribution of livestock industry to human and environment health.

### ***3. OIE activities in Asia and the Pacific (by T. Fujita, OIE-Tokyo office, Japan)***

T. Fujita summarized OIE mandates to collect and disseminate information on animal diseases (including zoonotic), to coordinate research on animal disease surveillance & control and to develop animal health standards.

OIE activities are considered most important for international trade of animals and animal products, in particular after recognition by the World Trade Organization (WTO) as an animal health standards setting organization, furthermore Sanitary, Phytosanitary Standards (SPS) advocates the use of standards developed under the auspices of OIE. T. Fujita listed the challenges faced by OIE. One is in the field of zoonosis and diseases transmissible to humans through food. The intervention should be carried out in consultation with the World Health Organization (WHO) and Codex Alimentarius.

Other issues mentioned in his presentation are the OIE regional representation's activities which include various meetings and workshops on animal health including aquatic animal diseases for the region, collaboration with FAO-APHCA. He stressed possible future cooperation with FAO-APHCA and collaboration with Japan Livestock Technology Association (JLTA).

### ***4. JICA project on animal disease control in Thailand and neighboring countries (by M. Sasaki, JICA project, Thailand)***

The Japan International Cooperation Agency (JICA)'s project was launched in December 2001 for five year including six countries in Indo-China, excluding the

Philippines and Indonesia. The overall goal is to improve animal health status in Thailand and neighboring countries. The participating six countries are Cambodia, Lao PDR, Myanmar, Viet Nam, Malaysia (collaborating country) and Thailand (core or host country).

In Cambodia, the activities in this and next fiscal years are FMD surveillance and diagnosis, diagnosis on Hog Cholera (HC), Haemorrhagic Septicaemia (HS) and Newcastle disease, animal quarantine and movement control, general aspects on laboratory management.

In Lao PDR, the activities are general diagnosis including FMD and HS, vaccine production, epidemiology and surveillance, animal movement control.

In Myanmar, the activities are FMD vaccine production, surveillance and diagnosis, vaccine production and quality control (HS, Newcastle, Rabies; Brucellosis, etc.), disease surveillance and diagnosis (HC, Newcastle and Rabies), animal movement control.

In Viet Nam, the activities are FMD control, surveillance and diagnosis, epidemiology and diagnosis (PRRS, Rabies, poultry diseases); animal quarantine and movement control.

Malaysia, as the collaborating country is offering training on poultry disease diagnosis at the Veterinary Research Institute (VRI), Ipoh. The country is also offering expert visits in the fields of poultry diseases and related fields, as well as training in FMD and some zoonotic diseases.

Thailand is also offering training and technical services (from its National Institute of Animal Health (NIAH) in Bangkok, veterinary biologic division in pakchong and disease control/epidemiology divisions in Bangkok), which include FMD and other vaccines production, disease diagnostic, etc.

This JICA project sincerely wishes to maintain close collaboration with international and other bilateral donors to fulfill its long-term objectives; that is, improvement of animal health status in the Indo-China region.

### **Venue and dates of the 62<sup>nd</sup> executive committee meeting and the next (27<sup>th</sup>) session**

The delegate from Pakistan generously offered to host the next (27<sup>th</sup>) APHCA session. The chairperson decided to provisionally accept the offer. However, he advised the delegate from Pakistan and the APHCA secretariat to consider the costs involved and the city in Pakistan which is most preferred as the venue. The tentative dates of the next session will be provided later, but the preferred month would be October 2003.

The secretary stated that the theme of the next session would be decided during the next interim executive committee meeting of APHCA to be organized sometime between

September 2002 and October 2003. The secretary invited the members to provide suggested themes and agenda items to the APHCA secretariat.

The delegate from India suggested that the agenda for electing the chairperson, the vice chairperson and the other executive committee members should be held on the last day of the session. The reason for this suggestion was to allow members of the commission to discuss and decide on the nominations for the positions. The secretary thanked the delegate from India and will alter the proposed provisional agenda of the next session (i.e., to move item 2 – “induction of new chairperson and executive committee members” to item 8).

The chairperson reminded the members that their approval on the 2003 budget and the adoption of the minutes of this 26<sup>th</sup> session would be needed on the last day of the session (26 August 2002) and they should peruse and consider these overnight.

### **Monday, 26 August 2002** - Morning programme

A field trip was organized in the morning to a farm - the sheeptrade enterprise (M) Sdn. Bhd. This farm is producing goat's milk, land raising goats, deer and cattle.

### **Monday, 26 August 2002** - Afternoon programme

The final business session commenced at 1400 hours.

Members approved the budget with the following changes:

The delegate from India raised the issue of the significant increase in item 5021 (travel), item 5024 (expendable procurement) of the 2003 budget. After intense deliberations, it was concluded that the Item 5024 shall be decreased by US\$ 9 000 and the saving of US\$ 9 000 from this shall be transferred to item 5013 (consultants). Also, any increase in budget figures so substantial as the present should be justified.

The delegate from India proposed to adopt the budget with these amendments. The delegate from Bangladesh seconded the motion.

### **Other business**

The delegate from Iran proposed that APHCA should carry out a Crimean-Congo Hemorrhagic Fever (CCA) study as it is an upcoming issue in the Middle East. The secretary agreed with the issue and added that Rift Valley Fever has caused a lot of death in Yemen and Oman. Thus, it is good that APHCA consider this matter. The secretary volunteered to assist in uniting concerned organizations for further actions.

Serious discussion on the issue of animal traceability ensued after the delegate from India brought up this issue. It was concluded that traceability does not limit itself to the issue of food safety only but goes beyond into other areas like animal breeding.

Therefore, there is a need for member countries to seriously think about this and come out with standard guidelines to be agreed on by all members.

It has been a practice that after a workshop on a particular topic, projects related to it will be identified. On this (after the FAO-APHCA regional workshop on feed and food safety organized on the previous day), the delegate from India requested that a copy of the feed act from Malaysia be used as reference material for other APHCA countries. The secretary will take further actions on this and also advised member countries not to duplicate en bloc, but to discuss with their relevant industries to formulate a practical legislation for their own use. The secretary also encouraged member countries to obtain information on these regulations from the FAO and the APHCA websites.

To increase APHCA membership, the chairperson asked about on the status of the invitation to the South Pacific countries. The secretary informed the meeting that an invitation was sent to Fiji, but had as of yet received no response. The delegate from Papua New Guinea clarified that most of the countries in the South Pacific are small and they worked together as a “South Pacific community”. A conclusion was made to invite representative(s) from the community to the next APHCA session as observer(s), after which they can decide to be a new member of APHCA.

The vice chairperson/the delegate from Malaysia raised the issue of how to proceed on human resource development under the APHCA TCDC programme and requested the APHCA secretariat in Bangkok to provide guidelines on this matter. He also encouraged member countries to use their national currency fund on relevant matters of their interest.

The chairperson requested the motion for the theme for the next APHCA session in Pakistan. The secretary suggested that member countries could propose suitable themes to be deliberated in the next interim executive committee meeting. He further suggested a theme related to emerging animal diseases for the benefit of the delegate from Iran.

The members again recommended that APHCA should focus on the three main issues which were already identified in the past, i.e., HOPE-A, South Asian FMD and animal genetic resources.

The secretary agreed and suggested that the members should also examine other issues recently raised such as animal traceability, swamp buffalo development, and human resource development within APHCA region.

### **Proposed provisional agenda for the 27<sup>th</sup> APHCA session**

The provisional agenda for the 27<sup>th</sup> session of APHCA was circulated to all delegates. The chairperson requested that all amendments to the proposed agenda be forwarded to the secretary of APHCA.

### **Adoption of the minutes of the 26<sup>th</sup> APHCA session**

The commission provisionally adopted the minutes of the 26<sup>th</sup> APHCA session and approved the budget revision for year 2003.

### **Closing of the session**

The APHCA chairperson expressed his gratitude to all delegates and observers for their full cooperation as well as contribution to the 61<sup>st</sup> executive committee meeting and the 26<sup>th</sup> session of APHCA. He thanked the feed resource group, AGAP, FAO Rome for the interesting workshop on feed and food safety and for their financial support.

He sincerely thanked Dato' Mohd. Nordin Haji Mohd. Nor, director-general, department of veterinary services, Malaysia and all his colleagues in the organizing committee for the excellent arrangements, hospitality and hard work that contributed to the success of all the APHCA functions. He also thanked the local secretariat and the APHCA secretariat for their hard work before and during the session.

The secretary expressed his gratitude to all APHCA delegates, observers, his FAO colleagues, and especially the organizing committee and the government of Malaysia for the full support and assistance towards the successful session. The various sponsors for the lunches and dinners were also thanked for their kind hospitality. A full list of participants, observers and the organizing committee can be found in the full report (APHCA 02/10 of the 26<sup>th</sup> session report). He wished everyone a safe trip home.

**Summary statement of APHCA account**  
(TF AA 97 AA 89142 – 916700 - MTF/INT/005/MUL)

Funds received	Amount in \$US
3051 Prior years contributions received (up to 31/12/01)	1 506 901
3052 Prior years interest earned ***	31 406
<b>Total</b>	<b>1 538 307</b>

**Sums received from member countries during January 2002 - December 2002**

3051 Contributions received in 2002 (incl. US\$20 000 for LoA) ****	121 588
3052 Interests earned in 2002***	3 127
<b>Total</b>	<b>124 715</b>

**Accumulated interest received since APHCA started:**

( 31 406 + 3 127)  
**Total** 34 533

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

\*\*\*\*During 2001 APHCA signed a LOA with FAO to hold a workshop and training course in Thailand during 2002. In 2002 FAO settled the above LOA with payment into the APHCA Trust Fund account.

**Cash balance as of 1 January 2002**

Prior years contributions up to end 2001 of (without interest)	1 506 901
Year 2002 contributions (without interest)	121 588
<b>Sub-Total</b>	<b>1 628 489</b>
Prior years expenditures up to end 2002:	1 628 489(minus)
<b>Cash balance : 1 January 2002</b>	<b>Total</b> <span style="border: 1px solid black; padding: 2px;">286 155</span>

Expenditures (Jan 2002 – Dec 2002)	0
5011 - Salaries professionals	0
5012 - Salaries G-S	3 744
5013 – Consultants	0
5014 – Contracts	277
5020 – Overtime (computer/scanning work by casual workers)	13 547
5021 – Travel	3 329
5023 – Training	2 619
5024 - Expendable procurement	3 147
5025 - Non-expendable procurement	0
5026 – Hospitality (at the workshop/training)	2 289
5025 - General operating expenses	<b>28 952(minus)</b>
<b>Cash balance : 1 January 2003</b>	<b>Total</b> <span style="border: 1px solid black; padding: 2px;">257 203</span>

**Approved APHCA Trust Fund budget for 2003,  
Expenditures and balances up until 30 June 2003**  
(in oracle)

(Expressed in US\$)

Type	Account	Budget	Expenses <sup>4/</sup>	Balance
<b>TF AA 97 AA89142 916700 MTF/INT/005/MUL</b>		<b>APHCA TF9167 approved budget</b>	<b>Up until 30 June 2003</b>	<b>As of 30 June 2003</b>
<b>Funds received</b>	3051 TF contributions received	N/A	15 981	0
	3052 TF interests earned <sup>1/</sup>	N/A	0	0
<b>Expenditure</b>	5011 Salaries professional <sup>2/</sup>	0	0	0
	5012 Salaries GS	9 531	0	9 531
	5013 Consultants	38 709	7 707	31 002
	5014 Contracts	5 292	0	5 292
	5020 Overtime	1 080	(-184)	1 264
	5021 Travel <sup>3/</sup>	13 960	1 550	12 410
	5023 Training	13 926	0	13 926
	5024 Expendable procurement	11 080	(-742)	11 822
	5025 Non-expendable procurement	4 320	1855	2 465
	5026 Hospitality	540	0	540
	5028 GOE	2 160	1 584	576
<b>Total</b>		<b>100 598</b>	<b>11 770</b>	<b>88 828</b>

**Note:**

- <sup>1/</sup> Interest will not be credited until the end of the year.
- <sup>2/</sup> No professional post for APHCA is filled using APHCA funds.
- <sup>3/</sup> Travel under the oracle system includes all travel and not just travel by officials. This means that travel which was included under training/attendance at workshops, etc., in the old finsys system has now been removed and placed under 5021 travel.
- <sup>4/</sup> The figures reported in this column also include project commitments.

**Approved APHCA Trust Fund Budget for 2003<sup>1/</sup>**  
(at 26th session in oracle format)

Includes estimated contributions to APHCA by FAO

(Expressed in US\$)

Type	Account	APHCA TF 9167	FAO's estimated contributions	Total
<b>TF AA 97 AA89142 916700 MTF/INT/005/MUL</b>				
<b>Funds received</b>	3051 TF contributions received	N/A	N/A	N/A
	3052 TF interest earned <sup>2/</sup>	N/A	N/A	N/A
<b>Expenditure</b>	5011 Salaries professional <sup>3/</sup>	0	82 000 <sup>4/</sup>	82 000
	5012 Salaries GS	9 531	7 000 <sup>4/</sup>	16 531
	5013 Consultants	38 709	10 000	39 709
	5014 Contracts	5 292	14 000	19 292
	5020 Overtime	1 080	0	1 080
	5021 Travel	13 960	10 000	32 960
	5023 Training	13 926	2 000	15 926
	5024 Expendable procurement	11 080	1 000	12 080
	5025 Non-expendable procurement	4 320	5 000	9 320
	5026 Hospitality	540	1 000	1 540
	5028 GOE	2 160	5 000	7 160
<b>Total</b>		<b>100 598</b>	<b>137 000</b>	<b>237 598</b>

**Note:**

- 1/ Revised from the "proposed budget for 2003" and approved at the 26<sup>th</sup> APHCA Session (details of this budget revision and approval appear in the minutes of the 26<sup>th</sup> APHCA session.)
- 2/ Interest is not credited until the end of the year. Interest accumulates and cannot be spent unless members approve it.
- 3/ No professional post for APHCA is filled using APHCA funds.
- 4/ Includes 3-man months: APHCA secretary (P5), 3-man months animal production officer (P4), technical assistant (G7) and secretary (G4).

**Approved APHCA Trust Fund budget for 2004<sup>1/</sup>**  
*(includes estimated contributions to APHCA by FAO)*

(Expressed in US\$)

Type	Account	APHCA TF 9167	FAO's estimated contributions	Total
<b>TF AA 97 AA89142 916700 MTF/INT/005/MUL</b>				
<b>Funds received</b>	3051 TF contributions received	N/A	N/A	N/A
	3052 TF interest earned <sup>2/</sup>	N/A	N/A	N/A
<b>Expenditure</b>	5011 Salaries professional <sup>3/</sup>	0	82 000 <sup>4/</sup>	82 000
	5012 Salaries GS	9 531	7 000 <sup>4/</sup>	16 531
	5013 Consultants (corresponds to 2.5 Months)	29 709 20 709	10 000	39 709
	5014 Contracts	5 292	14 000	19 292
	5020 Overtime	1 080	0	1 080
	5021 Travel Travel CP (5 000) Fellowship (10 000)	22 960 36 960	10 000	32 960
	5023 Training	13 926	2 000	15 926
	5024 Expendable procurement	11 080 6 080	1 000	12 080
	5025 Non-expendable procurement	4 320	5 000	9 320
	5026 Hospitality	540	1 000	1 540
	5028 GOE	2 160	5 000	7 160
<b>Total</b>		<b>100 598</b>	<b>137 000</b>	<b>237 598</b>

**Note:**

- 1/ APHCA annual membership fee has been increased.
- 2/ Interest is not credited until the end of the year. Interest accumulates and cannot be spent unless members approve it.
- 3/ No professional post for APHCA is filled using APHCA funds.
- 4/ Includes 3-man months: APHCA secretary (P5), 3-man months animal production officer (P4), technical assistant (G7) and secretary (G4).

**Status of contributions**  
(as of 30 June 2003)

Member governments	(Expressed in US\$)			
	Outstanding as of 31/12/2002	Contribution due for 2003	Received up to 30/06/2003	Outstanding as of 30/06/2003
<b>Australia</b>	8.19	10 724.00	5.19	10 727.00
<b>Bangladesh</b>	26 841.00	6 502.00	0.00	33 343.00
<b>Bhutan</b>	(1 891.89)	2 128.00	5.11	231.00
<b>India</b>	0.00	10 724.00	0.00	10 724.00
<b>Indonesia</b>	0.00	6 502.00	0.00	6 502.00
<b>Iran</b>	17 564.94	6 502.00	6 020.00	18 046.94
<b>Lao PDR</b>	36.35	2 128.00	8.35	2 156.00
<b>Malaysia</b>	0.00	6 502.00	0.00	6 502.00
<b>Myanmar</b>	1 970.00	2 128.00	1 952.69	2 145.31
<b>Nepal</b>	(1 970.00)	2 128.00	1 970.00	(1 812.00)
<b>Pakistan</b>	10.00	6 502.00	0.00	6 512.00
<b>Papua New Guinea</b>	1 970.00	2 128.00	0.00	4 098.00
<b>Philippines</b>	6 020.00	6 502.00	6 020.00	6 502.00
<b>Sri Lanka</b>	10.00	6 502.00	0.00	6 512.00
<b>Thailand</b>	0.00	6 502.00	0.00	6 502.00
<b>Total</b>	<b>50 568.59</b>	<b>84 104.00</b>	<b>15 981.34</b>	<b>118 691.25</b>

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## Activities performed between September 2002 and July 2003

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### Introduction

This is a general overview of the activities jointly achieved by APHCA and the Livestock Section of RAP during 2002-03 irrespective of the source of funding. Some activities in the first half of the year had to be delayed, postponed or cancelled because of the war in Iraq and the SARS crisis which imposed severe restrictions on travel.

### 1. Personal

- 1.1 Mr Denis Hoffmann resigned from the Organization in November 2002. In the interim period up to the appointment of the new Senior Officer and Secretary of APHCA, Mr Hans-Gerhard Wagner has been designated to take care of the Livestock Section and APHCA matters.
- 1.2 Mr Subhash Morzaria joined in February 2003 for a period of eight months as Senior Officer for Animal Production and Health whose main duty was to develop the Asian component of GF-TADs.
- 1.3 Ms Carolyn Benigno joined as Animal Health Officer (P4) in June 2003.

### 2 Organized meetings, training courses and workshops:

- 2.1 Pro-poor Livestock Policy Facility (PPLPF) workshop in Bangkok (November 2002) - Public policy challenges in the Asian livestock sector: Looking to 2030
- 2.2 ILR/SIDA/SLU workshop - Capacity building for the sustainable use of animal genetic resources in developing countries, Bangkok, Thailand (January 2003)
- 2.3 Pro-poor Livestock Policy Facility (PPLPF) workshop in Cambodia (June 2003) - Poverty alleviation, environment and public health: developing enabling policy environments for the livestock sector
- 2.4 South Asia Consultation under Global Framework for the Progressive Control of FMD and Other Transboundary Diseases (GF-TADs) (2-5 June 2003)
- 2.5 3rd OIE/FAO-APHCA Workshop on WTO's SPS Agreement (8-11 July 2003)
- 2.6 Southeast Asia Consultation for GF-TADs (28-30 July 2003)
- 2.7 Organized the 62nd executive committee meeting and the 27th session of APHCA together with the Regional Consultation on progressive control of FMD and other TADs, Lahore, Pakistan, August 2003

## 2.8 Other relevant meetings/congresses attended:

- 2nd OIE-EU Workshop on animal movement management, Hanoi, Viet Nam, September 2002 (Wagner)
- International Workshop on Animal Genetic Resources, Japan, December 2002 (Wagner)
- Malaysia-Myanmar-Thailand Tri-state Commission Meeting, Thailand, January 2003 (Wagner)
- 4th Asian Buffalo Congress, Buffalo for food security and rural development, Delhi, India, February 2003 (Wagner)
- WHO International Conference on Severe Acute Respiratory Syndromes (SARS), Kuala Lumpur, Malaysia, 17-18 June 2003 (Morzaria)
- 9<sup>th</sup> meeting of the OIE Sub-Commission for FMD in Southeast Asia, Yogyakarta, Indonesia, 1-8 March 2003 (Morzaria)
- FAO Expert Livestock Consultation on Livestock Statistics, Bangkok, 8-11 July 2003 (Benigno)
- JICA Project, Regional Meeting on Animal Quarantine and Animal Movement Management, Bangkok, 21-25 July 2003 (Morzaria, Benigno)
- SEAFMD National Coordinators Meeting, Thailand, 30 July-1 August 2003 (Morzaria, Benigno)
- SPS AusAID Design Mission Workshop for SEA, 4-5 August 2003 (Morzaria, Benigno)

## 3. Initiated / assisted in and follow up on projects

### Newly approved projects

- 3.1 Bangladesh - TCP/BGD/2903 Training programme for the small-scale dairy sector (US\$364 000)
- 3.2 DPR Korea (not APHCA member) - TCP/DRK/2905 Dairy goat improvement (US\$350 000)
- 3.3 Nepal - TCP/NEP/2902 Protection against Rinderpest and other major diseases of farm livestock through emergency preparedness planning and new vaccine technology (US\$361 000)
- 3.4 Pakistan - TCP/PAK/2903 Emergency assistance to areas affected by drought and refugee influx in Balochistan (US\$363 000)
- 3.5 Thailand - TCP/THA/2805 Emergency supply of agricultural, livestock and fishery inputs to flood-affected farmers in northern provinces of Thailand (US\$261 00)
- 3.6 Thailand - TCP/THA2802 Training programme for the small-scale dairy sector (US\$359 000)
- 3.7 Add-on to UNDP/BGD/ 98 to develop livestock policy and strategy (US\$200 000)
- 3.8 Regional - CFC Meat commodity diversification and upgrading of meat processing technologies in Asia-Pacific (US\$831 095 as grant and

US\$100 000 as a loan). Beneficiary countries Philippines, Bangladesh, Myanmar, Samoa

- 3.9 Regional GEF-PDF-B Livestock waste management. (US\$700 000)  
Participating countries Thailand, Viet Nam and China

Total newly approved projects with a value of US\$2 559 095 without DPR Korea GEF-PDF-B and loan component in CFC (total US\$3 709 095).

### **Ongoing projects**

- 3.10 Bangladesh – TCP/168 Emergency control of PPR endemic  
3.11 Bhutan – TCP/0166 Assistance in improving food security and rural income through improved pig production  
3.12 India – UTF/IND/161 Follow-up Operation Flood  
3.13 Regional – TCP/RAS/169 – Completed - Regional training on meat inspection  
3.14 Regional – TCP/RAS/170 Strengthening cross-border animal disease surveillance and coordination between China, Lao PDR, Thailand and Viet Nam (Myanmar associated through APHCA funds)  
3.15 Regional – TCP/RAS/171 National demonstrations on the lactoperoxidase system of milk preservation in selected Southeast Asian countries  
3.16 Regional – TCP/RAS/172 Regional training in meat processing technology (Linked to the CFC project)

### **Pipeline or under preparation**

- 3.17 Bangladesh – Dairy cattle breeding and artificial insemination  
3.18 Philippines – Installing milk payment system  
3.19 Philippines - FMD control  
3.20 Myanmar – Dairy cattle breeding and artificial insemination  
3.21 Myanmar – Small-scale dairy training  
3.22 Regional – Swamp buffalo development  
3.23 Regional – Animal identification and traceability

## **4. APHCA information unit**

Posted draft proceedings and recommendations of the SA and SEA Asia Consultations on priorities for GF-TADs on the APHCA website.

Information is continuously posted on the web. Hard copies are distributed upon request.

Several publications have been brought out during 2002/3 as follows:

### **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 26<sup>th</sup> Session of the Animal Production and Health Commission for Asia and the Pacific (RAP 2002/24)
- Report of the Second OIE/FAO-APHCA Workshop on WTO's Sanitary and Phyto-Sanitary (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 ( RAP 2003/06)

### 5. Promoting membership of APHCA

China voiced interest in joining APHCA. The Secretariat provided the sample “Instrument of Acceptance” as well as guidelines for China to join as a new member of APHCA and invited China to attend the 27th APHCA Session. Follow up on China joining APHCA has been made.

The delegate from PNG agreed at the 26th Session in Malaysia to explore the possibility of Pacific Island countries becoming APHCA members. Follow up with the PNG delegate has been made by the Secretariat.

### 6. Collaborative activities with international organizations and donor agencies

Several collaborative activities are in progress or planned for the future:

- The GF-TADs priority setting for the Asian region is partially funded by the International Livestock Research Institute based in Kenya. It is expected that some of the research issues identified through the Regional Consultations will require ILRI's input.
- ILRI and FAO have also worked closely in developing a proposal for funding by ADB on strengthening animal health delivery systems in Southeast Asian countries.
- Collaboration continues with the Office International des Epizooties SEAFMD Campaign to harmonize plans for the control of FMD and other transboundary diseases in the region.
- Significant inputs in the FAO planned activities related to training and building capacity in epidemiology and diagnostics are being made by CSIRO, Australia, VLA, UK, IAEA and JICA offices based in Bangkok, Thailand.
- Contacts are being developed with EU, ADB and AusAID to seek funding support for a number of activities related to the control of transboundary animal diseases in the region.

## **7. Other work to be continued and planned up to end 2003**

- Training course in Epidemiology and Diagnostic Techniques for Rinderpest, Pests des Petits Ruminants (PPR), FMD and Classical Swine Fever will be organized in October and November 2003, respectively (China, Viet Nam).
- Draft country reports as the basis of the First Report on the State of the World's Animal Genetic Resources have been received. Regional synthesis workshops are planned for later in 2003.
- Participation in the consultation meeting will be done for the Upper Mekong Area as part of the SEAFMD activity on zoning.
- Participation in the launching of the MTM agreement will be attended to and inputs to the planned meeting on its programme of activities will be provided.
- A proposal on an economic impact assessment on FMD in the MTM, Upper and Lower Mekong areas will be developed.
- The status of Classical Swine Fever (CSF) in Southeast Asia needs to be established before a regional activity can be planned.

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## Development of an animal identification and movement control (traceability) system for the APHA countries

*(Presented by Hans Wagner, Senior Animal Production and Health Officer, FAO/RAP)*

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Slide 1

**Development of an Animal Identification and Movement Control (traceability) systems for the APHA countries**

27th session of APHA  
Hans-Gerhard Wagner  
Reg. Animal Production Officer

Slide 4

Identification and traceability

- ....but also:
  - basis for animal performance recording
  - breeding and genetics
  - farm management decisions
  - livestock statistics
  - policy decisions
  - payment of subsidies

Calls for integrated approach

Slide 2

Identification and traceability

- Globalization of trade and industrialization of food processing
  - increased movement of animals
  - increased movement of products
- have resulted in
  - in an increased risk of spread of diseases
  - the loss of consumer confidence result of increased number of outbreaks and perceived insufficient controls

Slide 5

Identification and traceability summary for Asia

- Present situation:
  - most of the countries none:
    - non systematic;
      - campaign based temporary ID;
      - different methods (AI, breeding, vet. Services);
      - on paper, or client based;
    - information limited/no records about events (births, deaths, slaughter, movements);
    - limited/no veterinary records;

Slide 3

Identification and traceability

- Control and transparency in the production chain **from the stable to the table**
- Traceability is therefore considered the basis of any modern food safety system and of HACCP
- Identification, traceability including movement controls are the basis of any epidemiological surveillance

Slide 6

Identification and traceability

Lesson learned

- Harmonization of standards and procedures is imperative - ideally global standards
- Integrated approach necessary combining production, veterinary health, processing
- Asian countries at the beginning of the process
- Considered and appropriate time to start

Slide 7

**Identification and traceability**

- APHA countries, recognizing the need for a harmonized system of animal identification and traceability for the Asian countries requested FAO to develop in a country driven process standards and guidelines for an identification and traceability system.

Slide 10

**Further action**

- Appraisal comments sent to member nations on 18. March 2003 requesting for specific comments to the issues raised
- No reply except support reiterated by same countries

Slide 8

**Identification and traceability - developed**

- TCP project prepared
- Discussed with ASEAN WG
- Support by ICAR ensured through Us \$ 20 000 LoA
- Document submitted to FAO - HQ Dec 2002
- Requested countries for letter of support Dec. 2002
- Reminder sent January 2003

Replies received Nepal, (Myanmar), (Philippines), Bhutan, Thailand.

Slide 11

**Traceability**

- Traceability will be a non negotiable part of food safety and in trade of livestock and their products in the future.
- Control of epizootic and enzootic diseases requires traceability.
- Livestock improvement programmes need sound animal identification systems.

Slide 9

**Appraisal against TCP Criteria**

- While the importance of traceability of livestock movement and its contribution to national economies and to food security in the region are well documented, it is not clear from the proposal, if developed standards and guidelines could easily be absorbed and adopted by the respective Government. In this context it is noted from the PRS that the implementation of developed standards and guidelines will be costly. Could this influence practical impact and follow-up at national level, at least for some countries?
- Along these lines, it would be useful to describe ongoing initiatives at least in some countries that would complement FAO assistance at national level and underline the Government's commitment that the newly developed guidelines will come into force. Are there any concrete pressures that countries are facing from ASEAN and WTO to actually implement traceability mechanisms? Is the introduction of such a system inevitable? Otherwise, discussion and development of standards would rather seem to be normative regular programme activities

Slide 12

**Identification and Traceability**

- What action is desired by member countries

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## **Pro-poor livestock policy facility (PPLPF)**

*(Presented by Hans Wagner, Senior Animal Production and Health Officer, FAO/RAP)*

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### **1. Proposed project title**

Southeast Asia Pro-Poor Livestock Policy Hub (Phase I, Cambodia, Lao PDR, Thailand, and Viet Nam)

### **2. Project rationale and purpose**

The overall aim of the proposed project is to contribute to poverty alleviation in Cambodia, Lao PDR, Thailand and Viet Nam through equitable, safe and clean livestock farming, the focus being on facilitation of policy formulation rather than technical intervention. The project will create awareness among policy makers and development agencies of the potential of livestock as a means for poverty reduction and national economic development and help to identify specific policies that contribute to the achievement of the above aim while considering issues associated with the predicted growth in livestock numbers and increasing consumer concerns with food quality. The project will emphasize the design and implementation of policies that allow poor livestock keepers to access the expanding markets for livestock products and facilitate the development of strategies that reduce poor livestock keepers' vulnerability.

### **3. Project context**

The project will complement on-going FAO projects on livestock production in the region as it focuses on policy formulation with the objective to improve market access for poor livestock keepers and to reduce their vulnerability. Furthermore it will be relevant for the FAO's Special Programmes for Food Security in the four countries included in the project as it will contribute to the sustainable increase in agricultural production and the diversification of farm income through livestock.

Cambodia, Lao PDR and Vietnam have identified the livestock sector as a potential entry point to rural poverty reduction in their PRSPs but are so far lacking concrete strategies for improvement. The project therefore has a strong potential to help the governments of these countries to identify strategies that capture the potentials of their livestock sectors as regards poverty reduction to its greatest possible extent.

### **4. Project objectives**

The objective of this project is the formulation, adoption and implementation of policies at local, national and regional level that promote equitable (distributionally fair), safe (public health risks managed) and clean (environmentally sound and sustainable) livestock farming.

## 5. Expected outputs

In year one the project will carry out situation assessments and analyses and the following outputs will be achieved:

- Poor livestock keepers' livelihoods strategies understood
- Policies, institutions and norms affecting poor livestock keepers' livelihoods identified
- Policy-making processes, actors, interest groups and major sector trends analyzed
- Partners for a pro-poor policy alliance identified

Years 2 and 3 will concentrate on capacity building and awareness raising and achieve the following outputs:

- Active, pro-poor livestock policy alliances and Southeast Asia Pro-Poor Livestock Policy Network formed
- Institutional capacity for (livestock) policy analysis and formulation of key stakeholders enhanced through provision of a comprehensive information system, decision support tools and training
- Key policy-makers aware of the poverty reduction potential of livestock and of the differential impacts of policies, norms and standards on various strata of livestock keepers and pursuing more inclusive decision making processes

## 6. Project activities

To achieve its objective, the project will pursue a set of activities that will encourage and facilitate conceptual shifts in policy objectives that (i) create and strengthen the capacity of the poor to act for themselves, (ii) engage the poor as partners sharing rights and responsibilities, (iii) create incentives for the poor to mobilize resources, (iv) help catalyze the formation of people's organization, and (v) protect the assets of the poor to reduce their vulnerability. The focus will be on the formulation and promotion of policy and institutional reforms that reduce existing financial, technical, and social and cultural barriers, that increase competitiveness, and that reduce risks and vulnerability. Specifically, the project will encourage activities that bring together the stakeholders across the region to discuss and resolve issues that impede cooperation and pro-poor policy making. This will facilitate creation of appropriate policy environments to foster a long-term process of informed policy making including the development of market mechanisms in the sector.

## 7. Reason for implementation by FAO

FAO, being an intergovernmental organization providing for international debate and having a normative mandate is the suggested executing agency for the project. Physically the project will be located in and managed from the FAO Regional Office for Asia and the Pacific in Bangkok, whilst its administration will fall under the responsibilities of the Livestock Information and Policy Branch of the Animal Production and Health Division (AGAL) at FAO headquarters in Rome.

While the project will benefit from the backstopping and guidance provided by the FAO HQ, the FAO will benefit from a reality check of its normative values and an improvement in data quality, resolution and relevance.

The project has strong linkages with FAO's Strategic Framework as it is aimed at reducing food insecurity and rural poverty - with a focus on poor livestock farmers - and at improving their livelihoods and access to resources (A, A1), furthermore it will promote enabling policies through international instruments and national policies that respond to domestic requirements of poor livestock farmers (B, B1, B2) and finally aims at a sustainable increase in the supply of livestock products through policy options and institutional measures that improve efficiency and adaptability in livestock production, processing and marketing systems (C, C1).

## 8. Inputs through FAO

The planned overall project duration is 3 years. The proposed project will be closely linked to the recently established Pro-poor livestock policy facility at FAO headquarters (<http://www.fao.org/ag/againfo/projects/en/pplpi/home.html>). The latter will provide technical support (backup of policy analysis capacity, development of decision support tools, support of information exchange) and link regional policy concerns to global when required. Furthermore, the headquarters facility is prepared to contribute funds towards covering the personnel costs incurred by the regional project.

## 9. Budget estimate

Total inputs and budget are itemized in the table below.

Item	Total budget (USD)
Contracts (data collection, analysis, information dissemination, etc.)	750 000
Training / Capacity building, Meetings, Workshop, Travel	690 000
Staff (1 International Professional, 2 National Professional Support Staff, 1 Office Support Staff)	660 000
General Operating Expenses	150 000
Miscellaneous	150 000
Overheads (12%)	288 000
<b>Total</b>	<b>2 688 000</b>

## 10. Status/origin of the project proposal in beneficiary country

The project proposal has been developed on the basis of stakeholder consultations which have taken place during workshops organized in Southeast Asia in February 2001 and November 2002.

## 11. Technical units/officers involved

- (i) the proposal is being submitted by Joachim Otte, Coordinator PPLPF, AGAL
- (ii) other Technical Units involved will be AGAP, AGAH, ESC, ESA and RAP

# Livestock waste management in East Asia GEF-PDF-B Concept for pipeline entry (China – Thailand – Viet Nam)

(Presented by Hans Wagner, Senior Animal Production and Health Officer, FAO/RAP)

Slide 1

**Livestock Waste Management  
in East Asia**  
GEF – PDF – B  
Concept for pipeline entry

China - Thailand - Vietnam

Slide 4

- 80% of the total production increase in livestock products derive from the industrial sector
- China industrialized 5% in 1980 – 20% in 1996
- Thailand 80% industrialized
- Vietnam 20% industrialized

➢ Location around major urban centres, coastal region, close to consumer and feed input markets

Slide 2

- Result of LEAD pilot activities in China, Thailand, Vietnam
- Consultation in various workshops - final one in 2002

Approved for pipeline entry June 2003  
GEF – Funds requested US\$ 700 000

Slide 5

- Insufficient agriculture land

➢ Feed is imported  
➢ Nutrients are partly retained rest excreted  
➢ Limited manure treatment  
➢ Insufficient land to dispose of excretions  
➢ Significant nutrient surpluses

➢ Increasing COD demand from piggery waste  
➢ Methane emission

**Causing significant local, regional and global environmental damage**

Slide 3

- Growing population, rising income, urbanization

➢ Increased demand for livestock products

- Livestock industry is moving from traditional to

➢ Large scale industrial production

Slide 6

Ecological zone : Tropical Humid

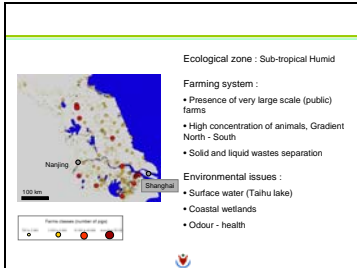
Farming system :

- Important peri-urban distribution
- Region designated for exportation
- Importance of livestock contract farming
- Solid and liquid waste separation

Environmental issues :

- Surface and ground water pollution,
- Wetlands and gulf of Thailand
- Odour - health

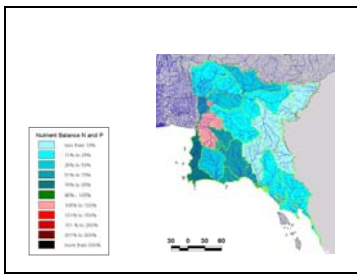
Slide 7



Slide 10

- Reduce the negative local and global environmental impact of increasing livestock production in selected watersheds and coastal areas of China, Thailand and Vietnam

Slide 8



Slide 11

- Implementation of cost effective livestock waste management
  - Policies and technologies for better nutrient management
  - Demonstration investments
  - Technical assistance
  - Private sector involvements


Slide 9

- Institutional
  - Weak land use planning
  - Environmental regulations not enforced
- Producer
  - Lack of awareness of extent of environmental problems
  - Not aware of mitigation options
  - Not held responsible and pay for damage caused
  - No incentive to improve the situation

Slide 12

- Capacity building
  - Workshops seminars, case studies
  - GIS planning, analysis, monitoring
  - Farm level on-farm manure management

Slide 13

- Monitoring of policies and environmental and human impact
    - Institution building for monitoring agencies
    - Environmental policies
    - Livestock sector impact
    - Indicators to evaluate changes
    - Social impact
    - Public health – pathogen transmission
- 

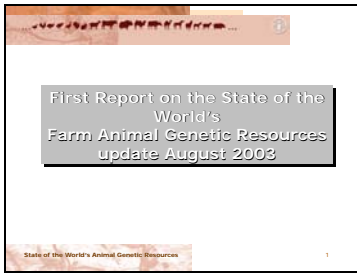
Slide 14

1. Comprehensive baseline analysis
  2. Stakeholder analysis
  3. Spatial analysis
  4. Ex-ante economic/financial analysis and incremental cost analysis
  5. Institutional analysis and development policy options
  6. Analysis and identification of technological/manure management options
  7. Design of monitoring and evaluation plan
- 

# First Report on the State of the World's Farm Animal Genetic Resources update August 2003

(Presented by Hans Wagner, Senior Animal Production and Health Officer, FAO/RAP)

Slide 1



Slide 4



Slide 2



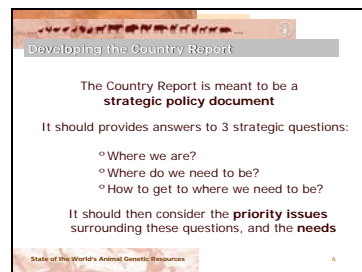
Slide 5



Slide 3



Slide 6



Slide 7

What is a COUNTRY REPORT?

It is an **OPPORTUNITY**  
to create  
a **VISION** and **STRATEGIC DIRECTIONS**  
for the better management of AnGR  
and to  
clearly establish priorities for action and needs

State of the World's Animal Genetic Resources 7

Slide 8

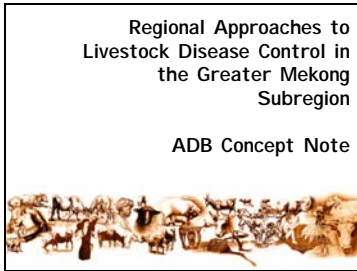
SoW - AnGR

- Please give the SoW AnGR your attention

State of the World's Animal Genetic Resources 8

**Regional approaches to livestock disease control in the  
Greater Mekong Subregion  
ADB concept note**  
*(Presented by Subhash Morzaria, FAO/RAP)*

Slide 1



Slide 4

**Major Aims....**

- Identify and facilitate the implementation of pilot activities
- Identify and establish a Foot-and-Mouth Disease Free Zone (FMDfZ) or zones in the GMS as the source of animals for regional trade in livestock products
- Develop strategies to maintain the identified FMDfZ free of FMD
- Develop strategic plans for building capacity to control FMD in selected GMS countries

Slide 2

**Goal and Purpose**

- **Improve disease control**
- **Increased productivity**
- **Accelerate poverty reduction**
- **Increase trade in livestock and livestock products**

Slide 5

**Proposed executing/implementing agencies**

- International Livestock Research Institute (ILRI)
- MKRD/ADB
- Livestock/Animal Health departments in GMS countries.
- The Food and Agriculture Organization of the United Nations.
- EU Strengthening of Livestock Services program in the GMS
- Vétérinaires Sans Frontières and other NGOs working in the GMS.
- The study team will need to work closely with the livestock sub-committee of the ASEAN secretariat and with the OIE office in Bangkok

Slide 3

**Major Aims**

- Understand links between livestock development and poverty reduction
- Identify and quantify the potential economic and poverty reduction benefits from increased GMS cooperation in improving livestock health and livestock product food safety
- Develop action plans for the control of transboundary livestock disease with estimated resource requirements and funding options for implementing preferred options
- Identify and facilitate the implementation of pilot activities
- Identify and establish a Foot-and-Mouth Disease Free Zone (FMDfZ) or zones in the GMS as the source of animals for regional trade in livestock products;
- develop strategies to maintain the identified FMDfZ free of FMD;

Slide 6

**Timing and Budget**

- **Period**
  - Late 2003 to mid-2007
- **Total cost: \$5,000,000**
  - External financing \$4,000,000
  - Local currency costs \$1,000,000
  - Data and information required for this study will be provided by the concerned governments.

Slide 7

- Partners and investors**
- **PARTNERS**
    - ASEAN
    - OIE, FAO, ILRI
    - Ongoing projects (SLS/EU, IFAD, IMC)
    - VSF
    - Livestock producers/exporters associations, meat producers associations, private industry
  - **DONORS**
    - ADB, AusAID, JICA
    - IFAD, World Bank
    - DFID
    - USAID

# Severe Acute Respiratory Syndrome (SARS) and FAO's involvement

(Presented by Subhash Morzaria, FAO/RAP)

Slide 1



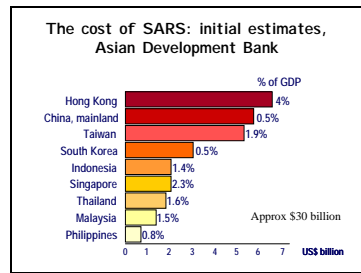
Slide 4



Slide 2

- A classical example of an emerging disease
- Spread rapidly
- Unprecedented media attention
- Panic and rumours
- Major economic impact globally
- Heralded a new era in international collaboration
- Use of global network and information
- Rapid response
- Need for transparency
- A success story (2003):
  - 27 Nov: Guangdong Province: Non-official report
  - 11 Feb: Guangdong Province: report to WHO
  - 14 Feb: Official Confirmation
  - 12 March: First Global Alert
  - 21 June: SARS – free status

Slide 5



Slide 3



Slide 6

### SARS-FAO's involvement

The spread of SARS virus a major concern around the world. There has been media speculation that intensive livestock production might be a breeding ground for the virus

**FAO Official position (Roeder Interview)**

- No evidence of its origin from domestic animals
- Different from any other coronaviruses
- Intensive farming systems not implicated
- The vulnerability to epidemic diseases of intensive, industrialised livestock farming systems is increasingly being demonstrated. This brings into doubt the viability of these systems
- A high human population density in close contact with several species of intensively farmed livestock potentially provides a substrate for cross-species transmission, evolution and amplification of many pathogenic agents

Slide 7

**Global Conference on SARS**  
(June 2003)

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- High level delegates (global research community, IAs and donors)
- DG of WHO present in the meeting
- 400 invited, 500 independent and 300 media people present
- Recounted the devastating economic impact of the disease
- Highlighted the need for transparency in reporting the disease at the source
- Emphasized the need to be alert to prevent the resurgence of the disease
- Many unanswered questions about the origin of the virus, and little was known about the transmission dynamics of SARS
- The disease outbreak clearly demonstrated weaknesses in the health services of many countries.
- Thus investment in appropriate public health care systems, surveillance, emergency response and preparedness and developing capacity in epidemiology were recommended.
- The need for vaccines and improved diagnostics were also recognized
- **ROLE OF ANIMALS DISCUSSED**

Slide 10

**Priority areas for action**  
(recommendations from SARS conference)

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- **Establish origin of SARS CoV**
  - Develop valid and reliable diagnostic tests
  - Conduct epidemiological studies of animal and human populations (at the national and regional levels)
  - Establish models for dynamics of infection
- **Establish host range (domestic and wild) and virus ecology**
  - Field surveys
  - Laboratory studies
- **Determine factors leading to emergence**
  - Agent
  - Host including carrier state
  - Environment including evolving farming practices, wildlife utilization...etc

Slide 8

**Summary statement: Role of Animals**

There is limited data regarding the role of animals in the origin, transmission and reservoir of SARS CoV. However available data suggest:

- Early SARS cases were associated with animal markets
- SARS like viruses were detected in apparently healthy animals in at least 2 wild animal species in one market place
- Preliminary experimental studies in pigs and poultry suggest these species are not likely to play a role in spread of SARS CoV
- SARS CoV is genetically distinct from known coronaviruses
- Several CoVs infect multiple host species
- Antibody studies in people working in markets show higher Ab prevalence among market workers vs general population

Slide 11

**FAO mission to PR-China**  
**Role of Animals**

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Consultant: Laurie Gleeson (AAHL)

- At least two new viruses identified since SARS
  - the SARS coronavirus (SARS CoV), causing SARS in man and the SARS-like CoV (SARS-CoV) isolated from man and wild animals.
- Experimental studies in Canada and the United States:
  - SARS CoV can cause only a transient infection in pigs and domestic poultry
- No clear evidence if SARS CoV can or cannot establish infections in livestock species
- Source(s) of the SARS and SARS CoVs has not been identified
- Potential for the SARS and SARS CoVs to re-emerge in the future
- The MoA and the Provincial Government of Guangdong have undertaken very extensive investigations searching for the origin of the SARS CoV to no avail

Slide 9

**Summary Statement: Role of animals**

There is limited data regarding the role of animals in the origin, transmission and reservoir of SARS CoV. However available data suggest:

- In the likely event the zoonotic origin of SARS virus is confirmed, eradication would then be highly improbable
- Without a complete understanding of the natural history of the disease re-emergence would be likely without continued intervention

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**APHCA activities in areas of WTO's Sanitary Phyto-Sanitary (SPS) Agreement, Veterinary Public Health and Food Safety\***  
(Presented by Vishnu Songkitti, Technical Assistant, FAO/RAP)

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### **WTO's SPS agreement**

The first APHCA activity on WTO's SPS Agreement started in November 2000. The Joint FAO-APHCA/OIE Workshop on WTO's SPS Agreement was organized in Dhaka, Bangladesh along with the 24<sup>th</sup> APHCA Session. This workshop was attended by APHCA delegates (administrative level).

During 2001 – 2003, APHCA jointly organized three regional workshops on WTO's SPS agreement in Chiang Mai, Thailand and 73 government officials (technical level) from APHCA member countries participated.

### **Veterinary public health and food safety**

In 2001, the first FAO-APHCA/OIE hands-on workshop on BSE diagnosis and surveillance was organized in Bangkok, Thailand. Ten government officials (technical staff) from pre-selected APHCA countries were trained (+ ten local observers).

APHCA-AGA Regional workshop on feed and food safety was organized along with the 26<sup>th</sup> APHCA Session in Subang Jaya, Malaysia, in August 2002.

The second hands-on workshop on BSE diagnosis and surveillance will be organized jointly by FAO-APHCA, OIE and Department of Livestock Development (DLD) of Thailand in Bangkok, between 6 and 8 October 2003. Ten participants from five pre-selected APHCA member countries will be invited. (The other APHCA countries may be invited to the next workshop in 2004/5 if the similar workshop is required/proposal made at the 27<sup>th</sup> APHCA Session.)

The joint OIE/FAO-APHCA workshop on BSE risk analysis will be organized in Chiang Mai, Thailand, between 9 and 11 October 2003. CVOs from 20 Asia-Pacific countries (all APHCA countries will be invited).

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\* In line with the FAO RAP activities 213A6 004 – National, regional and global prevention and control of Zoonoses and food-borne diseases. (FAO assistance on Food Safety issues has been increasingly requested by Asia-Pacific countries/governments, in particular in the context of WTO's SPS Agreement).

The OIE/FAO-APHCA/DLD consultation meeting on BSE public awareness will be organized back-to-back with the BSE risk analysis workshop in Chiang Mai, Thailand between 13-14 October 2003. Selected CVOs will be invited to stay on for the meeting.

FAO-APHCA has collaborated (since 1997) with the Faculty of Veterinary Medicine, Chiang Mai University (FVM-CMU) and the Free University of Berlin (FUB), Germany in the context of training on veterinary public health and food safety. Technical officials from selected APHCA countries in the Southeast Asian subregion have been invited and participated in four training courses (on Serological diagnosis of important Zoonoses: March 1997, January - February 1999, October - November 1999; and food microbiology & hygiene : November - December 1999).

A new regional Veterinary Public Health (VPH) center will be established at the Faculty of Veterinary Medicine, Chiang Mai University, Thailand with full technical assistance from the FUB and the Institute of Meat Hygiene, Meat Technology and Food Hygiene, University for Veterinary Medicine, Vienna, Austria (UVMV). The center will serve APHCA member countries starting from those in Southeast Asian subregion and will further cover the whole APHCA region. The center's joint activities with APHCA will be as the follows:

- **Master of Science Degree Programme in Veterinary Public Health (MSc-VPH)** for countries in the Southeast Asian (SEA) subregion. This course will be implemented as a joint degree (“Dual Award”) programme between the FVM-CMU and FUB. For the first batch, twelve scholarships are made available by the German Academic Exchange Service (DAAD) and Chiang Mai University, Ministry of University Affairs, Thailand. APHCA members in Southeast Asia are given high priority for the scholarships. Two more batches of students will be received in academic years 2004 and 2005 with possible scholarships for candidates from other countries in the APHCA region.
- FAO-APHCA will collaborate with OIE-Tokyo office and the VPH center in organizing training courses and workshops on subjects related to veterinary public health and food safety.

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## **Food and Feed Safety Note**

*(Presented by Carolyn C. Benigno, Animal Health Officer, FAO/RAP)*

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The food and feed safety issue was extensively discussed in a workshop conducted during the 26<sup>th</sup> APHCA Session. The workshop acknowledged the intensification of livestock production and the increasing demand for raw materials needed by the feed industry. Countries in the region see an influx of feed ingredients from sources where quality is guaranteed often only on paper. The lack of expertise on risk management, knowledge of international standards and the lack of capacity to meet such standards have placed the region at a disadvantage in terms of exporting its products. There is, for instance, a lack of capacity in the testing against contaminants in food and feed. Facilities and capacity to detect dioxin, beta agonists, drug residues, mycotoxins and other bacterial, viral and chemical contaminants in feeds are present in only a few countries in the region.

Thus, following the workshop and given the recommendations (Annex 1) passed therein, the following roadmap of activities is suggested to be conducted by member countries for the Commission to come up with a clear food and feed safety program for the region that is at par with current practices.

As a start the attached questionnaire (Annex 2) will determine the status of the food and feed safety programs in the respective countries. Common problems and issues would be lumped together for possible discussion of solutions. Then possible areas of regional cooperation would be looked into.

**Annex 1** Recommendations on the workshop on food and feed safety

1. Countries to review existing food safety and quality legislation so as to ensure that it provides an adequate basis for the control of feed related hazards with the potential to cause public health risks.
2. Countries to participate to the fullest extent possible in the work being undertaken by international organizations involved in developing standards, guidelines and recommendations relating to feed borne hazards.
3. Continued research is needed into the public health implications of animal feeds to support risk analysis of feed borne hazards.
4. Suitable analytical and diagnostic methods should be developed for rapid screening and confirmation of feed borne hazards in national surveillance and monitoring programmes as well as in routine regulatory testing.
5. Mechanisms to be established to ensure multi-disciplinary scientific input.
6. Dialogue among producers of feed or feed ingredients, livestock and aquaculture industries and government should be encouraged as an essential part of the process of elaborating codes of practice for the feed industry.
7. Coordination and cooperation among several government agencies and departments may be necessary to ensure successful and efficient implementation of feed control programmes
8. International organizations should continue to develop and make available information related to animal feed safety to their member countries thus supporting national feed control programmes.
9. National/regional projects should be undertaken on capacity building for surveillance and prevention of BSE and other Zoonoses.

## Annex 2 Questionnaires on food and feed safety:

**Country:**

**Name:**

**Position:**

**Office:**

**E-mail address:**

1. Do you have a food safety legislation? What is it about?
2. Do you have a feed safety legislation? What is it about?
3. Do you take a periodic review of your food/feed legislation to ensure that both legislations are coherent and complementary?
4. What agency handles feed regulation? Food regulation? If two separate agencies handle each, how is coordination achieved?
5. Do you have a significant feed industry (to include antibiotic, mineral and vitamin premixes and other injectables)? Describe the industry (number of establishments, players involved , etc.)
6. Do you participate in works undertaken by international organizations? Do you send representatives? If not, why?
7. Do you have access to research on public health implications of animal feeds?
8. Do you do research on public health implications of animal feeds to support risk analysis? Are you into risk analysis?
9. Do you have the capacity to rapidly screen and confirm feedborne hazards?
10. Is there an organized private sector engaged in the feed industry? How is coordination with them achieved?
11. If there is no organized feed sector, do you have plans to organize them? How will you go about it?
12. Do you have a surveillance and prevention system for BSE and other zoonoses? If yes, what other areas of assistance are needed to improve on it?
13. What are the constraints you encounter in achieving an effective food and feed safety programme?

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## **APHCA Review Report / Executive Summary**

*(Presented and prepared by Mohd Nordin,  
former Director-General of Department of Veterinary Service, Malaysia)*

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The objective of the review is to assess current weaknesses of APHCA and to make suggestions to strengthen the organization so that it would become more effective and relevant to future development of the animal production and health of member countries in the region.

The review was based on responses to a questionnaire which was distributed to all delegates of APHCA. Interviews were conducted with selected delegates. Reference was also made to the responses to the questionnaire conducted in 1998.

It should be noted that all members were positive about the benefits derived from membership of APHCA over the years, cooperation among member countries and the activities sponsored by APHCA.

Some weaknesses were identified, including the lack of funds and funding sources to undertake many activities. The most significant opinion to the weakness identified was the impression that APHCA does not appear to have a strong basis for maintaining continuity of purpose. There seem to be weaknesses in the planning process and a more focused approach is required for the implementation of APHCA activities using its limited resources. Therefore, a mechanism needs to be established to maintain continuity of purpose beyond the tenure of individual delegates.

The text of agreement and the rules of procedure which form the basis of APHCA's establishment provide sufficient flexibility for some structural changes. The proposals for change include:

- i. A Technical Advisory Committee (TAC) should be established to review, programs, projects and activities proposed and prioritize them for consideration by the Executive Committee. The TAC also considers policy changes and long-term planning proposals and advises the Executive Committee on their adoption.
- ii. A clear procedure should be established to capture proposals for programmes, projects and activities from member countries, based on their needs. These proposals should be discussed and considered by the TAC and they will be prioritized on the basis of relevance, urgency and resources.
- iii. The planning process needs to be strengthened with longer term strategic plans (five year periods) and shorter term implementation plans (two year periods). The strategic plans would reflect policy adoptions and would provide longer term guidance to the Executive Council and maintain the continuity of the organization. Most programs and projects should be for periods exceeding one year

- iv. National focal points must be established in all member countries and the officer or officers should be identified as contact points for APHCA matters. National focal points are responsible for the implementation of APHCA's programmes and activities in the country and to ensure dissemination of information derived from APHCA to other officers within the organization and within the respective member countries.
- v. The Chairperson and members of the Executive Committee should hold office for a specific tenure of at least two years, on a rotating basis. This suggestion will require amendment to the rules of procedure. The members of the Executive Committee must represent the interest of different groups of member countries. The Executive Committee is responsible for policy directions and final selection of programs and projects as well as for APHCA's financial matters. The Executive Committee submits these proposals for endorsements and approval to the APHCA Session for implementation for the next period.
- vi. The Chairperson should be given responsibilities to promote APHCA and communicate with potential member countries and funding agencies, and to support APHCA programs in relevant member countries.
- vii. APHCA must be given the flexibility to actively seek financial support from other donor agencies and create collaborative activities. APHCA should also venture into activities which may generate funds to strengthen the APHCA Trust Fund.
- viii. The efforts in strengthening the electronic system of dissemination of APHCA are recognized. A number of member states are not in a position to effectively utilize the system. It is proposed that the APHCA secretariat produce a simple newsletter that contains abstracts of the articles in Asian-Livestock and other technical information. The newsletter should be widely distributed to technical and field officers, and provide a guide on their needs to access the electronic system.

Veterinary Association Malaysia  
Kuala Lumpur  
July, 2003

## APHCA Review Report

### Introduction

1. The objective of the review is to identify specific weaknesses in the current status of APHCA and to propose changes that would make APHCA a more effective organization relevant to the needs of member countries in the region, in the development of animal production and animal health.
2. The review was conducted because many member delegates expressed the need for changes to create a new impetus for APHCA so that it becomes more effective. Since the inception of APHCA in 1975, many other organizations have also been established in the region. These organizations include: WTO Groups, Asian Codex Committee, ASEAN, OIE Regional Commission, APEC, OIE FMD Sub-Commission, with elements of animal production and health. The perception is that some duplications and overlaps in roles and functions may exist. Certainly, all these organizations demand attention, time and resources.
3. The review is based on responses from a comprehensive APHCA review questionnaire. All delegates were given the questionnaire and responded them to respond directly to the APHCA secretariat. Some interviews were also conducted with selected delegates, namely Lao PDR, Thailand, Philippines and Malaysia. These responses were collated together with responses of the questionnaire conducted in 1998.

### The organization

4. APHCA – Animal Production and Health Commission for Asia and the Pacific was established under FAO in December 1975. The Commission was proposed by the Fifth FAO regional conference on animal production and approved by FAO at the 60<sup>th</sup> Session of FAO council under article XIV of the FAO constitution. APHCA is opened to country members of FAO and the UN, within the region defined by latitudes 50 degree north and 50 degree south and longitudes 60 degree east and 130 degree west.
6. The foundation members who signed the FAO Instrument of Acceptance of the Text of Agreement for the establishment of APHCA are: Australia, Bangladesh, India, Indonesia, Iran, Malaysia, Mauritius, Nepal, Pakistan, Philippines, Singapore, Sri Lanka and Thailand. Since then, Singapore and Mauritius have withdrawn their memberships but Papua New Guinea, Lao PDR, Myanmar and Bhutan have become members. The operation and administration of APHCA is subject to the provisions in the rules of procedure.
7. The formation of APHCA has been based on the need to create collective self help and mutual assistance among member countries through Technical Cooperation among Developing Countries (TCDC). Through TCDC, mutual

exchange of experiences and expertise between farmers with common problems can help identify development approaches most appropriate for the region.

## **Objectives**

8. The purposes of APHCA as stated in article II of the agreement are:
- To promote livestock development in general and national and international research and action with respect to animal health and husbandry problems in the region
  - 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 on the basis of self-reliance at the farm level
  - To raise the level of nutrition and standard of living of small farmers and rural communities through the optimal exploitation of potential resources for livestock development

## **Organizational structure**

9. The APHCA Session meets every year and forms the major forum of discussions for delegate members. All member countries are represented in the APHCA Session where the Executive Committee and the Secretary of APHCA report on the progress of implementation of programmes and activities of APHCA.
10. The Executive Committee is made up of elected member delegates, comprising the Chairperson, Vice Chairperson and four Committee members. The Executive Committee is responsible for policy and the selection of programs and activities of APHCA. The Chairperson is responsible for conducting the Executive Committee meetings as well as the APHCA Sessions.
11. APHCA has a permanent Secretary who is also the FAO Animal Husbandry Officer of the FAO Regional Office in Bangkok, supported by a small complement of staff.

## **APHCA funds**

12. The activities of APHCA are funded by two major sources

## **Membership fees**

The members of APHCA are divided into three groups with different rates of fees paid into the FAO Trust Fund. The initial rates were US\$1 250, US\$3 750 and US\$6 250. The Secretary and part of the APHCA staff are provided for by FAO.

## National Currency Fund (NCF)

The NCF is an extra-budgetary allocation specifically intended for APHCA activities which are hosted by a member country. Member countries hosts activities for participants from other countries using the NCF to cover all local costs, including board, lodging and possibly a small living allowance. Participating countries are responsible for the international travel costs of their participants. The NCF forms a major component of the TCDC programmes.

## Donor agencies

Initial core funding of 175 000 Australian dollars was provided by the Australian Aid Agency in 1982 to initiate some of the APHCA activities.

## APHCA achievements in the last five years

13. In *APHCA what it is, what it does, how it works* Dr Pryor reported on the first 20 years of APHCA. It gives a comprehensive description of APHCA as development organization and the achievements for the period.
14. The field of activities of APHCA as declared in the 1997/1998 period projected the extensive coverage of all facets of animal production and animal health relevant to member countries and the region. This list is still not exhaustive and members may incorporate other areas.
15. Details on some projects and programmes undertaken in the last five years are listed below and include:
  - Poultry diseases and other problems of small poultry farmers, to improve their socio-economic situation based on experience from Indonesia for chicken and Thailand for ducks. This project has developed into the Hope-A
  - Control of haemorrhagic septicaemia in the region through improved surveillance and vaccination and strengthened research. A regional training programme was conducted in Sri Lanka in August 1998.
  - Control and eradication of foot-and-mouth disease, with the intention of creating a disease free zone, in collaboration with the OIE FMD Sub-commission and jointly coordinated with OIE FMD Regional Coordinating Unit Bangkok.
  - Coordination of Rinderpest eradication in South Asia under which a workshop on emerging diseases was held in Hanoi on 31 July – 2 August 1997, a workshop on Global Rinderpest Eradication Programme (GREP) in 1998, and an expert consultation was held in Sri Lanka in February 1999.
  - Privatization of the veterinary services, jointly with GTZ Germany
  - Buffalo development: The Asian Buffalo Network, jointly with IBIC and ABA, DLD Thailand and the Ministry of Agriculture India.

- Conservation of Animal Genetic Resources, through cooperation with the Regional Project GCP/RAS/144-JPN and coordinated with the respective national coordinators.
- Animal Disease Contingency Planning workshop in September 1999, and Animal Disease Risk Analysis, organized jointly with FAO/EMPRES/ OIE in Kochi, India.
- Transborder animal disease surveillance, supported jointly with FAO.
- Workshop on water buffalo development jointly with JLTA/DLD in Surin Thailand in February 2001
- Workshop on Equitable, safe and Clean Livestock Farming in February 2001 in Bangkok, Thailand.
- Regional Workshop on WTO SPS Agreement in Chiangmai, Thailand in July 2001 organized jointly with FAO/OIE /DLD/JLTA/FU-Berlin.
- Workshop on Wide Area Integration of Specialized Crops and Livestock in September 2001 in Bangkok, Thailand.
- Workshop in Identifying Priority Areas for International Action for Development Technologies in April/May 2001 in Bangkok, Thailand and Hyderabad, India in May 2001.
- BSE Diagnosis Workshop in November 2001 in Bangkok, Thailand jointly organized with FAO/ OIE/DLD.
- East Asia Livestock Waste Management Workshop in March 2002 in Bangkok, Thailand.
- Expert Consultation of Protein Sources for Animal Feed Industries in April/May 2002 in Bangkok, Thailand.
- Numerous training programmes and courses have been conducted by APHCA jointly with FAO and other agencies.

### **APHCA publications – last five years**

16. The development of electronic dissemination of information provides new options on the format of publications. The APHCA Secretariat continues to strengthen its capability to gather, collate and disseminate information using the electronic system for members who have such capabilities. Naturally some of the publications only appear in electronic version and can be accessed through the APHCA website.
17. APHCA activities provide opportunities to capture technical information into publications for wider distribution. The publications reflect the range of activities which APHCA has been involved in and in which it has participated in response to the needs and demands of the members of the Commission and the region.

### **APHCA review**

18. The review of APHCA shows that perhaps some changes are in order to make APHCA more effective. A questionnaire taken in 1998 gave some indication of the expectation of the delegates and members of the Commission. The APHCA

Review Questionnaire was circulated to all delegates. Selected delegates were also interviewed by the consultant, so that some detailed discussions could be conducted relating to items on the Questionnaire. The responses from the two questionnaires were taken together in this review.

### **Areas under review:**

#### **(i) Functions:**

Most delegates consider the roles and functions of APHCA to be still relevant. However, some delegates expect that APHCA should respond to current issues and the emphasis should be given to areas related to SPS and trade related requirements. APHCA, therefore, must be sensitive to the international and global scenario, and provide platform to respond to the needs of the region as well as members. Certain member countries may require some support and assistance to meet these demands.

#### **(ii) Strengths of APHCA**

The Permanent Secretariat with the support of FAO is considered a strong point of APHCA. There is, however, a need to strengthen the Secretariat to improve services to members. The TCDC programme is regarded as a special strength of APHCA with unique NCF of members, with the support of APHCA Trust Fund. Members have declared that they have benefited from APHCA activities, the cooperation and information exchange.

#### **(iii) Weaknesses of APHCA**

Limited funding was seen as APHCA's weakness. The main source of funds has been the annual contributions of members, which limits APHCA's capacity to support many activities. The current organizational structure and planning process bear major weaknesses which do not reflect a continuity in the organization. These include:

- (a) Under Rule VI.1 of the Rule of Procedure, the election of the Chairperson and Vice-Chairperson and the Executive Committee Members is at every APHCA Session.
- (b) The Executive Committee is expected to consider projects, programmes and activities as well as provide policy considerations and submit them to the APHCA Session on a year-to-year basis. Delegates cannot be expected to study the technical details of all project proposals, thus they become dependent on the Secretariat.
- (c) The planning process is carried out on a year-to-year basis. Changes in the delegates and thus the members of the Executive Committee do not reflect continuity of purpose of APHCA.
- (d) The National Focal Points appear to be the same as the Permanent Delegates, who are mostly the heads of the National Authorities. Naturally, they are not able to provide special emphasis to APHCA activities, and need to further delegate to other officers.

**(iv) Strengthening of APHCA:**

The structure of the APHCA organization requires strengthening in the following manner:

- (a) The Permanent Delegates should not act as National Focal Points. Specific officers should be appointed as National Focal Points to coordinate activities within the organization and serve to disseminate APHCA based information to other officers and staff. Where relevant, more than one officer may be appointed for a specific area of responsibility.
- (b) The election of Chairperson, Vice Chairperson and the Executive Committee should be for at least two years. This requires an amendment in Rule VI.1 of the Rules of Procedure. This would provide some element of continuity in the administrative system of APHCA. The representation within the Executive Committee should reflect the interest of the various of country members .
- (c) APHCA should develop long term strategies (five years is suggested), to maintain continuity of purpose and policy direction, and priority areas. The strategies may be established workshop, and inputs from experts, advisers as well as the Executive Committee.
- (d) Based on the long term strategies, shorter term implementation plan should be established, with medium term periods since most activities may extend beyond one or two years. Shorter term activities can be incorporated based on annual plans. The plans and strategies will be the base of APHCA activities, providing continuity of purpose despite changes in permanent delegates.
- (e) The establishment of a Technical Committee has been proposed to critically study, scrutinize and prioritize proposals of programmes and activities within the long term strategies and medium term plans, neither the permanent delegates in the Executive Committee nor the APHCA Session is able to devote sufficient time for this purpose.
- (f) A proper procedure of project, programme or activity proposal submission from Member countries should be established for technical evaluation and assessment of its relevance, consideration based on capacity of implementation. The Technical Committee would be responsible for submission to the Executive Committee for approval.

**(v) Future roles of APHCA**

The role of APHCA must be sensitive to the needs of members based on changing priorities. Some delegates have demanded emphasis be placed on issues of trade, public health, zoonoses and food safety as new emerging areas of interest. APHCA needs to establish elements of flexibility to accommodate possible new fields of interest in the future within its mechanism and its long term strategies.

**(vi) The post of Chairperson and the Executive Committee**

The post of Chairperson should be rotated among the member states for a tenure of at least two years. Similarly, the Vice Chairperson and the Executive Committee should be elected for the same period. this should provide some element of continuity to the

Administrative system. While the name of Permanent Delegates has been reserved for the heads of National Authorities, attendance in APHCA Sessions and Executive Committee meetings has been exclusively by alternates. While it would demonstrate higher commitment if heads of National Authorities attended the Executive Committee and APHCA Sessions, for the purpose of continuity, National Authorities should name a senior officer as permanent delegate. The Chairperson is expected to support members in undertaking APHCA activities and be given the responsibilities to promote APHCA to member and prospective member governments.

**(vii) Member contributions to APHCA funds**

Responses regarding this matter indicated that the current contributions rates are adequate. However, member contributions, being the major source of APHCA funds, may not be sufficient to create the activities expected by members.

**(viii) APHCA to coordinate national policy development in animal industry**

Most delegates agreed with APHCA's role in coordinating development of policies of the animal industry in member states to ensure that development is in line with international and regional directions. Streamlining the policies would help to maintain relative growth and improvements in the livelihoods of the farmers in the region.

**(ix) Dissemination of information**

While most delegates consider the role of APHCA in dissemination of information as adequate, not all member states have equally efficient access to the electronic system at the delegates level. This applies even more so at the level of field officers where information may be most relevant. It has been proposed that APHCA produce a simple newsletter periodically with abstracts of the Asian Livestock publications and other concise news worthy information for extensive distribution at the level of field officers. This would provide a guide to highlight items of interest. The National Focal Points should also play a role in disseminating APHCA information.

**(x) Benefit of TCDC programmes**

All members agree that benefic were gained from the TCDC programmes, including cooperation between members and the sharing of information and experience. Only some Members have hosted TCDC since not all members have the capacity to provide TCDC based activities.

**(xi) Establishment of NCF**

While a number of members may be able to establish an NCF to support their APHCA related activities including hosting officers from member countries, there are members who do not have access to such funds. Some Member countries are fortunate enough to have projects supported by donor countries or international agencies which provide opportunities to host regional based activities.

**(xii) Assistance in national development planning**

Responses indicated support to APHCA's role in the determination of priority areas, identification of possible donor agencies for specific programmes as well as selection of experts for relevant activity support. APHCA is expected to assist member states in procuring TCP programmes and similar projects to be funded by FAO and other international agencies.

**(xiii) New members**

Members are in agreement with strengthening APHCA by inviting other eligible countries in the region to join the Commission. The suggestions include Viet Nam, South Korea, Japan, China, East Timor and the Former States of Russia. It should be demonstrated to new members that APHCA is an active organization in which much can be gained through mutual cooperation.

**Major issues and recommendation**

19. The issues raised by members relate:

- to strengthening the organizational and administrative structure of the Commission
- the planning process to maintain continuity of purpose
- creation of more relevant activities, and
- improving the dissemination of information

The proposals to address the above issues include:

**(i) Organizational and administrative structure**

- (a) Increase the tenure of Chairperson, Vice Chairperson and Executive Committee Members for a period not less than two years. This decision would require amendment of Rule VI.1 in the Rules of Procedure.
- (b) Appointment of National Focal Points from officers of the National Authorities different from the Permanent Delegate to ensure actions are taken appropriately and in a timely fashion.
- (c) Establishment of a Technical Committee comprised of officers with relevant expertise to study, analyze and select appropriate programmes, projects and activities, based on the current needs of members and the capacity to implement them. The establishment of the Technical Committee is provided for under article XIII.1 of the agreement.
- (d) The Chairperson and the Executive Committee are given the authority to seek financial support from donor and international agencies for specific priority programmes, projects and activities on behalf of members, or for the region. This is provided for under article of the Agreement.

**(ii) Strengthening the planning process**

- (a) Establishment of long term strategies (five years) to maintain continuity, priority and direction for development of the animal industry in the region. Based on these strategies, the implementation plans are drawn up for the medium term (two years).
- (b) Establishment of a mechanism for members to submit proposals for programmes, projects and activities based on their own needs. These proposals are to be studied, analyzed and selected, on the basis of priorities within the long term strategies, by the Technical Committee for consideration of the Executive Committee and the APHCA Session.

**(iii) Ensuring relevant activities**

- (a) The establishment of a mechanism for members to submit proposals would allow members to identify relevant areas of interest most appropriate to their needs, within the terms of current strategies.
- (b) Support needs to be provided to member countries for funding of projects by international agencies.
- (c) APHCA is expected to assist member states in developing suitable development policies for the growth of the animal industry in line with regional and global situations.

**(iv) The dissemination of information**

- (a) The efforts by APHCA to strengthen the electronic system of information distribution are recognized and many members have managed to utilize the system effectively. Some members, however, do not have an adequate infrastructure. A newsletter has been proposed to create a simple hardcopy information sheet with relevant news and abstracts of technical information for wide distribution and act as a guide for selective accessing of the electronic system.
- (b) The National Focal Points must carry the responsibility of disseminating information within their own organizations. In the National Authorities, the National Focal Points must be given access to the electronic system so that relevant APHCA information can be obtained in a timely fashion.

**Comparison of APHCA with similar organization**

- 20. The opportunity was taken to look at the experiences of similar regional organizations, their structures, functions and funding resources. The network of Aquaculture Centres in Asia-Pacific (NACA) appears to hold some similarities to APHCA. NACA was established upon recommendation of the regional

workshop on aquaculture planning in Asia in 1975, and endorsed by the FAO technical conference on aquaculture in 1976. NACA was operational in 1980 within the framework of TCDC with 11 participating countries. Under the Agreement adopted by the conference of plenipotentiaries convened by FAO in 1988, NACA became an intergovernmental organization in 1990, with autonomy with FAO as a member of the Governing Council.

21. The role of NACA is essentially to coordinate and interlink aquaculture and related institutions, working in close cooperation on development technology, manpower and information required to increase the contribution of aquaculture to national development goals and expand sustainable aquaculture development in the region.

The organizational structure of NACA, consists of :

**The NACA structure**

Technical Advisory Committee	Governing council	Member Governments FAO International Organizations Donor Agencies
Panel of Expert Advisers	Coordinating unit (Secretariat)	Core Professionals Non-core Experts Seconded Staff Associated Professionals Administrative Staff Reserve Staff
National Coordination	Governments	Regional Lead Centre National Aquatic Centre Sea farming Centre Associated National Institutions (Universities, Research, etc) Collaborating Centre

The list of agencies and organizations that NACA has collaborative activities with are:

- Office Internationale des Epizooties (OIE)
- Australian Centre for International Agriculture Research (ACIAR)
- Aquatic Animal Health Research Institute (AAHRI)
- Asian Development Bank (ADB)
- Asian Institute of Technology (AIT)
- Coastal Resources Institute (CORIN)
- Danish Cooperation for Environment and Development (DANCED)
- European Unión (EU)

- FAO
- International Centre for Living Aquatic Resources Management (ICLARM)
- IFREMER
- Mekong River Commission
- Overseas Development Administration (ODA)
- South East Asia Fisheries Development Council (SEAFDEC)
- Thailand Development Research Institute (TDRI)
- United Nations Development Programme (UNDP)
- World Health Organization (WHO)
- World Aquaculture Society

- (i) The governing council is the supreme policy making body composed of the representatives of member governments. FAO is represented in the Council.
- (ii) The Technical Advisory Committee advises the Council on technical aspects, with the responsibility to assess priority needs of aquaculture development in the region, identify areas of Technical Cooperation among the countries and specialized institutions, formulate technical programmes of work and recommend strategies for their implementation.

A panel of experts was proposed to function as a think tank, to provide new ideas and directions in advisory capacity. This panel has not been established.

- (iv) The Secretariat is headed by a Director General. The coordinating body of NACA consists of a core of professional staff from the region in appropriate fields, associate professionals assigned by collaborating agencies, seconded staff from governments and administrative support staff provided by the host government. Non-core staffs in specialized fields are hired on full time assignments. Reserve staff are experts who provide technical specialist assistance for projects on short notice. NACA publishes a technical magazine "Aquaculture" and a Newsletter on a quarterly basis.

22. The Scale of Annual Contributions of Member Nations to NACA is as follows:

Group A (GDP > US\$100 000 million)

China	US\$80 000
India	US\$80 000

Group B (GDP from US\$50 000 – US\$100 000 million)

Indonesia	US\$60 000
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Group C (GDP from US\$15000 – US\$50 000 million)

Philippines	US\$40 000
Thailand	US\$40 000

## Group D (GDP from US\$5 000 – US\$15 000 million)

Malaysia	US\$30 000
Sri Lanka	US\$30 000

## Group E (GDP &lt; US\$5 000 million)

Bangladesh	US\$20 000
Nepal	US\$20 000

23. It is obvious that the contributions of member governments to NACA are higher. This scale of contributions has been fixed and has never been revised. As an autonomous body, they are at liberty to collaborate with any organization subject to the approval of the governing council. The approach taken by NACA is more towards industry development and broader issues being faced by member countries such as water pollution. They undertake training activities with industry, which may generate additional revenue for the organization.

### Conclusions

There appear to be grounds for some changes in APHCA to improve its effectiveness for member states. Based on the responses and comments from various parties, some suggestions are provided in this study. Some delegates may have other ideas and proposals that could be brought to the attention of the Executive Committee and the APHCA council. The text of agreement and the rules of procedure provide the suggestion for some structural changes in APHCA. The scale of contributions from APHCA members appears to be smaller than that of other similar agencies. The need to collaborate with FAO and other international agencies is more critical for APHCA. The TCDC programmes must be enhanced to expand the cooperation, collective self-help and mutual assistance principles which form the primary basis of APHCA. The field of responsibilities already established under the scope of APHCA is sufficiently large to cover any specific activity related to animal production and animal health to meet the needs and interests of all member states.

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**Minutes of GF-TADs**  
**Summary of the presentations, recommendations and group discussions**  
*(Lahore, Pakistan, 25-29 August 2003)*

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**26 August 2003**

The delegate from Malaysia chaired the morning's session on rinderpest.

1. S. Morzaria presented an overview of the GF-TADs (Global Framework for the Progressive Control of foot-and-mouth disease and Other Transboundary Diseases), which is an FAO/OIE initiative to progressively control epidemic diseases globally, with multiple objectives that include poverty alleviation, increase regional and international trade in livestock, and food security. FAO and OIE have prepared a draft proposal and are currently organizing a series of regional consultations to identify priorities for inclusion in the proposal. For Asia, currently two consultations have been held, one for South Asia and the other for Southeast Asia. The APHCA session was utilized to address the recommendations emerging from the two consultations and to develop future plans for proposal development and resource mobilization. The presentation appears on page 89-92 (APHCA2004/08).
2. P. Roeder presented the Global Rinderpest Eradication program, citing the epidemiological work that has been conducted on rinderpest. He then proceeded to describe the excellent and successful project on eradication of rinderpest in Pakistan. Pakistan has successfully eradicated the disease through strategic use of good quality vaccine and diagnostic tests and deploying the participatory epidemiological approach. He acknowledged the vision, and perseverance of Dr Raja and his team involved in the programme.

A plaque was presented to Dr Raja by FAO-APHCA in recognition of Pakistan's contribution to rinderpest eradication. Dr Raja thanked FAO, IAEA, OIE and EU and his colleagues for the support accorded to Pakistan.

The second session was chaired by the delegate from Sri Lanka.

3. J. Lubroth presented the EMPRES programme and also described the global vision for GF-TADs and highlighted key components, particularly related to those with an international orientation. He emphasized that the GF-TADs was demand driven and promoted by FAO, EU and OIE. He also reported how the various international organizations were working together to address livestock sector development. He then proceeded to discuss the principles of EMPRES, namely: early warning, early reaction, enabling research and coordination. He then briefed the session on how EMPRES has operated throughout the globe. He emphasized the need to use epidemiological methodologies to identify the

source as a means of developing rational disease control strategies. The report appears on page 97-102 (APHCA2004/08).

4. P. Roeder then presented the status of rinderpest in various countries in Asia. Myanmar, Lao PDR and Thailand have been free from the disease; he will work to complete sero-surveillance and apply for freedom from infection in 2004. Cambodia's status has yet to be verified. China's status is not known because it is not an active OIE member.

In South Asia, Nepal is free from infection, and India is free from the disease. India will apply for freedom from infection in 2004/2005, Bhutan is provisionally free from infection and applied for freedom in 2002 but needs to settle some OIE issues in order to reapply in 2004. Sri Lanka is provisionally free and will apply for freedom from the disease in 2003 and freedom from infection in 2004. Pakistan will apply for freedom from disease in 2006 and freedom from infection in 2007, and Bangladesh will apply for freedom from disease in 2003 and freedom from infection in 2005.

The status of various countries appears on page 103-106 (APHCA2004/08).

5. T. Fujita presented the activities of the OIE regional representation based in Tokyo, Japan. The activities of the regional representation focused on disease information system, FMD control, control and prevention of emerging diseases, standardization of veterinary medicinal products in harmonization of control methods and techniques and control of aquatic animal diseases. He then gave some inputs for consideration in the implementation of activities related to GF-TAD in terms of coordination and management of its operations. The presentation appears on page 107-110 (APHCA2004/08).
6. J. Edwards presented the activities and progress of the OIE SEAFMD Campaign. He focused on the need for regional coordination in the sub region. While there is a regional coordination in SEA, it needs strengthening. He proposed that a similar coordination model could be done in South Asia. However, regional coordination requires significant investment in terms of manpower and material resources. He then discussed the MTM campaign, an example of zoning for disease control. From there he proceeded to list the requirements to achieve an effective zoning for disease control. The presentation appears on page 111-120 (APHCA2004/08)
7. J. Crowther gave a presentation on the activities and diagnostic support that the Joint FAO/IAEA Division could give to control TADs. He listed the diseases, the kits that they are involved in promoting, validating and producing and explained the more general activities that IAEA is conducting. He then went into more detail concerning the work by IAEA on FMD. The presentation appears on page 121-146 (APHCA2004/08).
8. V. K. Taneja presented the recommendations of the South Asia (SA) consultations held at Ludhiana, India between 2 and 5 June 2003. The SA

priority diseases are rinderpest, FMD, PPR and HS. The sub region recognized the need for a progressive FMD control programme with a defined timeframe. Due to the large area of the region, a zonal approach will have to be explored. Studies on the epidemiology of the disease in each country would have to be conducted as well as an economic impact analysis of the disease within the country and the region.

Other recommendations included the need for animal movement management, animal identification, relevant legislation, effective vaccination strategies, an FMD vaccine quality assurance agency, a regional FMD reference lab, creation of national commission on FMD in each country and SA Regional commission for control of FMD under APHCA. The need to involve stakeholders in all stages of planning and implementation was urged by the SA group.

Rinderpest was extensively discussed previously and all countries were committed to maintaining the free status on rinderpest. The report on recommendations appears on page 147-149 (APHCA2004/08).

9. C. Leowijuk presented the recommendations of the Southeast Asia (SEA) consultations held in Bangkok, Thailand last August 2003. The SEA priority disease list includes FMD, rinderpest, PPR, CSF and HS. The group agreed that countries should maintain the status of freedom on rinderpest and PPR and should explore assistance for Myanmar and Cambodia on this matter. More epidemiological studies as well as economic impact studies should be conducted on FMD, CSF and HS. In general, the group agreed to tap existing networks established in FMD control and other diseases. The report on recommendations appears on page 150-153 (APHCA2004/08).

## **27 August 2003**

A. Delegates were requested to review the recommendations originating from the two separate consultations held in SA and SEA. The delegates from SA and SEA worked as two separate groups and came back with a modified set of recommendations. These are presented as separate handouts. Summary of discussions and key modifications are presented below:

1. The SA group listed FMD, rinderpest, PPR and HS as the priority diseases in the region. For FMD and other TADs it was recommended that a regional coordination unit under APCHA was needed for smooth running of the sub regional programme.

The SEA group listed FMD, rinderpest, PPR, CSF and HS as the priority diseases in the region. However, it also listed Newcastle disease (ND), Brucellosis and Rabies as problems in the region. The countries volunteered to draft the concept paper for Brucellosis and ND. Philippines and Malaysia will take the lead for ND and Brucellosis, respectively and will generate drafts within the next two weeks. Rabies will be referred to the WHO Steering Committee on rabies. A consideration for the future would be the inclusion of aquatic animal diseases.

A. Number of issues were discussed, the important ones among these are highlighted below:

- It was accepted that a modified live vaccine against FMD would not be used.
- Evaluation of FMD vaccine quality for use in the regional programs must be carried out independently.
- Coordination of the GF-TAD activities should be done through a formal regional coordinating mechanism.

B. For the next group session the following questions were posed:

- What were the common issues among the recommendations that have emerged from SA and SEA?
- What other issues must be included in the recommendations?
- How would you engage other countries not included in your region in the implementation of the GF-TAD?

The participants were divided into four groups, with each group comprising a mixture of participants from both sub regions.

The outputs of the four groups are summarized and will be presented separately. The following main issues were discussed:

- Need for good vaccines and diagnostics.
- Researchable issues related to epidemiology.
- Need to put the GF-TADs in the broader context of rapidly evolving livestock production systems and issues related to environmental impacts brought about by shifts in the production system. However, it was also highlighted that the focus of the GF-TADs was disease control for alleviating poverty and increasing trade and the proposal and recommendations should not be 'watered down' with other issues.

The need for economic studies to consider the cost-benefit analysis related to TADs control in the context of poverty alleviation and trade opportunities was also discussed.

The research issues focused on the need for investment on an FMD vaccine. There should be training of people with research orientation specifically for FMD. Countries should try to cultivate and sustain research scientists in the region. Research should be done in this region since this is where the disease problems are.

The next session was facilitated by J. Edwards and the participants were asked to review the recommendations and use these as an exercise to identify potential large projects for each of the sub regions and develop key components for each of the identified projects. This exercise was designed to obtain greater clarity of the key issues in addressing TADs in the region. The participants were again divided into four sub regional groups to address these issues.

The following projects were proposed from the four groups:

**South Asia:** Regional project on the control of FMD and PPR

**Southeast Asia:** Regional project to accelerate the progressive zoning to control and eradicate FMD by 2008

**Pakistan, Iran, Afghanistan and Central Asia**

Establishment of a regional coordination mechanism for the progressive control of transboundary animal diseases in Central Asia – Afghanistan, Iran with involvement of Pakistan and China

The common components among the three proposed projects were:

- Epidemiology of the TADs
- Availability of good quality vaccines and diagnostics
- Need for regional diagnostic facilities
- Strengthening national capacity in epidemiology and diagnostics

Following discussions in a plenary session it was concluded that these were broad recommendations on the projects and more details need to be included and then a concept note needs to be developed for each project along the standard formats generally requested by donors.

GF-TADs need to be built on existing national programs. There is strong support for FMD and the other priority diseases listed.

## **28 August 2003**

The final session on GF-TADs was a round table discussion, which was preceded by a presentation by J. Lubroth and S. C. Suneja.

J. Lubroth described ongoing activities related to GF-TADs, particularly emphasizing the existing regional networks and their role in the development of regional priorities. He also described a consultation held among representatives from USA, Canada, UK and Australia to discuss research issues related to TADs. He highlighted the research needs identified related to vaccines, diagnostics and epidemiology. The carrier state was one component that was considered important as part of epidemiological research.

S. C. Suneja briefly described a newly developed computer based Animal Disease Information System (ADIS) supported by structured sero-surveillance sampling frames for rinderpest in the first phase. In the second phase other livestock diseases will be included in ADIS.

S. Morzaria thanked the participants for their inputs in the consultation process. He outlined the next steps in the development of the regional component for GF-TADs. This would involve development of a concept note (CN) for the region. It was suggested that a CN would be developed by a small team of staff from FAO, OIE and two representatives from APHCA. This was accepted and a CN formulation team

comprising India and Malaysia (Drs Taneja and Aziz) and FAO and OIE (Drs Morzaria and Edwards) will be involved in finalizing the CN.

The EU representative, Dr Dale informed the group that the EU funded project on TADs in Pakistan is viewed as a regional project and suggested that Pakistan take a lead to formulate plans for a regional coordination unit involving Pakistan's trading partners Afghanistan, Iran and Central Asian countries.

The time frame for presenting a 'business plan' of GF-TADs to the donors was also discussed. J. Lubroth indicated that this was likely to take place sometime in December 2003. The meeting agreed that the CN for GF-TADs Asia would be prepared by end of November 2003. It was also agreed that there was a need to sensitize donors in the Asian region on current developments in GF-TADs. It was acknowledged that for GF-TADs to be successful APHCA needs to give it priority and actively promote it. In all donor consultations it was agreed that APHCA representative(s) should be invited to be part of a team that will also include representatives from FAO and OIE.

# Global framework for the progressive control of FMD and other TADs

(Presented by Subhash Morzaria, FAO/RAP)

Slide 1



Slide 4

**DEVELOPMENT AGENDA & Transboundary Animal Diseases**

- Poverty Reduction (FAO/OIE)
- Food Security and Food Safety (FAO/OIE)
- Access to Markets (poor and rich)
- Regional/International Trade (poor and rich)

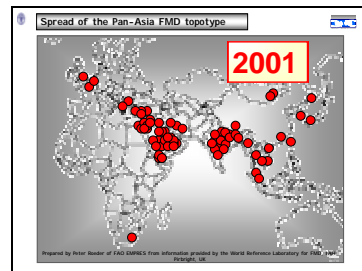
**(win-win situation)**

Slide 2

**GF-TADs**  
**FAO/OIE Initiative**

- Control FMD and other TADs
  - Initially Rinderpest
  - Other TADs depending on regions and sub-regions
- Driven by huge economic losses
  - FMD (1997-2001)
  - Classical swine fever in the Caribbean and Europe (1996 - 2002)
  - Rinderpest in the Somali ecosystem (2001)
  - Rift Valley fever into the Arabian Peninsula (2000)

Slide 5



Slide 3

**GF-TADs - GOAL**

- Safeguard the world livestock industry from repeated shocks of infectious disease epidemics
  - Improve food security and incomes of developing countries
  - Promote safe trade (regional and international) in livestock and animal products

Slide 6

**DEVELOPED COUNTRIES & Transboundary Animal Diseases**

- Safeguard stock against huge morbidity and mortality
- Regional/International Trade
- Food safety
- Major economic impact on trade
- Source of infection from endemic area
- Mutual interest to control TADs
- Aim to forge international partnership among international institutes, developed and developing countries
- A win-win situation

Slide 7

**The Strategy, Concept and Objectives**

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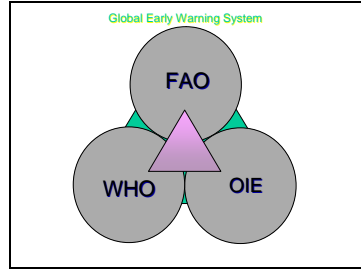
**Progressive Control at the SOURCE**

- Paradigm shift in disease control
- Globalisation
- Source in poor areas (e.g. rinderpest, CBPP)

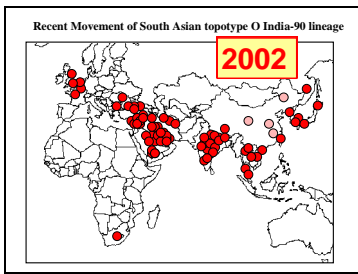
**Development and Strengthening of Veterinary Services (national and regional levels)**

- Guidelines and Standards
- Emergency Preparedness
- Information Systems
- Laboratory Capability
- Effective Response
- Prompt Recovery

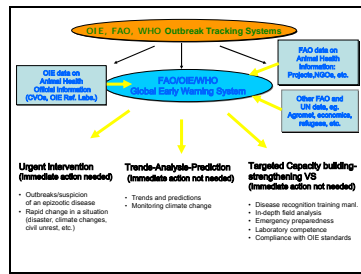
Slide 10



Slide 8



Slide 11



Slide 9

**Components of GF-TADs**

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- **Rinderpest**
  - Global verification of freedom, ongoing exercise
- **Global Early Warning System (GEWS)**
  - FAO-OIE-WHO for Major Animal Diseases
- **Better epidemiology of TADs**
  - In-depth knowledge of distribution of diseases (source)
- **Early Response capacity (International)**
  - Development of control strategies
  - Experience from Rinderpest and FMD important
- **Research and Development**
  - NARs, IAEA, CGIAR, RIs (AAHL, WRL, CIRAD/EMVT etc)
- **Technology transfer**

Slide 12

**Regional-components**

- **Regional nodes for Early Warning**
- **Veterinary service rationalisation**
- **Surveillance for primary endemic areas**
- **Pro-poor animal health delivery schemes**
- **Pilot disease control programmes**
- **National and Regional capacity building for diagnosis and surveillance**

Slide 13

### Transboundary Animal Diseases

- **Global Priorities**
  - Foot and Mouth Disease
- **Regional**
  - Rinderpest
  - Peste des Petits Ruminants
  - Haemorrhagic Septicaemia
  - Newcastle Disease
  - Classical Swine fever
  - African Swine fever
  - CBPP
- **Specific Needs**
  - BSE

Slide 16

### Tools Available

- **Effective Vaccine**
- **Diagnostic Tests at Laboratories**
- **Epidemiological methodologies**
- **Information Systems**
- **Animal Control**
  - Transport
  - Identification
  - Demographics and Production Systems

Slide 14

### Veterinary Services 1990-2002

- **Decentralisation**
- **Poor re-investment**
- **Salary depreciation**
- **Infrastructure collapse**
  - Central, Regional and Local
- **Privatizations of Services**
  - Opportunity ?

Slide 17

### Elements of GF-TADs

- **Global Perspective (Regional approach)**
- **Sustainable Programme**
- **Support from Countries at Risk**
- **Participation and leadership from endemic countries**
- **Long term commitment**
- **Multidisciplinary**

Slide 15

### GF-TADs

- **Strengthen Veterinary Services**
- **Promote country specific effective prevention and contingency plans**
- **Provide epidemiological/economics tools for intelligent and rational control measures**

(GF driven by regional needs supported by OIE and FAO)

Slide 18

### GF-TADs

#### Current status and future plans

- **GF-TADs proposal advanced draft ready**
  - Donors being sounded out
- **Regional components need to be defined**
- **Plans for Asia and the Pacific Region**
  - Two sub-regional consultations
    - South Asia (Ludhiana 2-5 June 2003)
    - South East Asia (Bangkok 28-30 July 2003)
  - Draft recommendations prepared
  - Identify priorities and future plans
  - Integrate and harmonise sub-regional activities
  - Regional plan finalization (APHCA end of August 2003)
  - Resource mobilisation strategy
  - Donor meeting (MUST BE SUPPORTED BY THE REGIONS)

Slide 19

**GF-TADs**  
**Support is crucial**

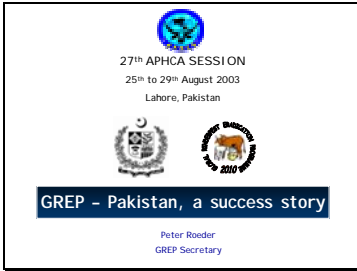
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- **FAO priorities influenced by the Ministers and Heads of State**
- **Committee on Agriculture (COAG)**
- **For GF-TADs the voice of the Ministers must be heard so that a long term commitment to this Public Good is achieved**
- **FAO assistance possible if GF-TADs initiative is promoted by Ministers**

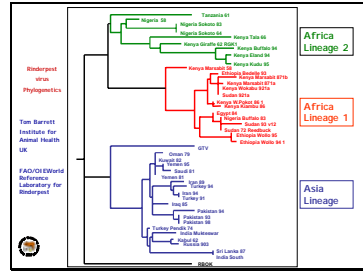
# GREP – Pakistan, a success story

(Presented by Peter Roeder, GREP Secretary)

Slide 1



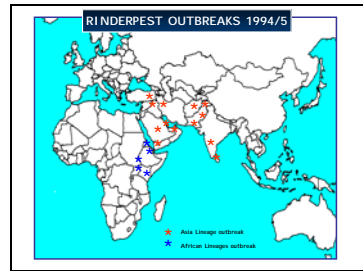
Slide 4



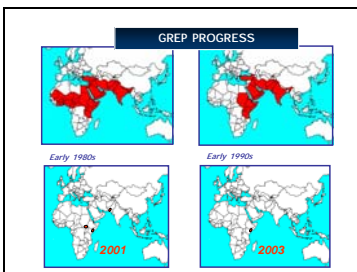
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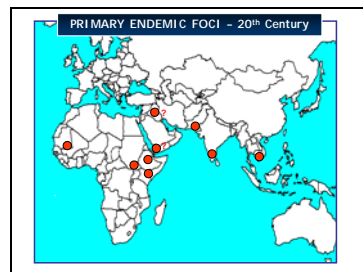
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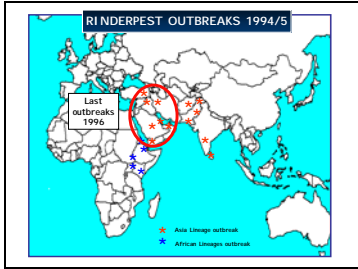
Slide 3



Slide 6



Slide 7



Slide 10

**MILESTONES OF PROGRESS IN PAKISTAN**

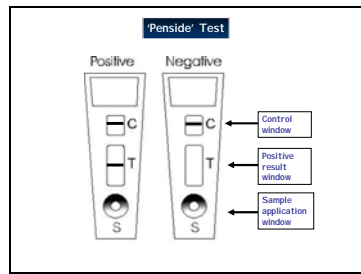
- 1993 Recognition of rinderpest problem
- 1994-96 FAO and EU assistance for rinderpest emergency  
Supply of good quality vaccine  
Production of QA vaccine in Lahore
- 1996-99 Progressively reducing disease incidence by tactical use of good quality vaccine  
Joint FAO/IAEA Division assistance for diagnostics and regional coordination
- 1999-2001 FAO assistance: TCP/PAK/8923 Emergency Epidemiological analysis of rinderpest for development of an eradication strategy  
Epidemiological definition and awareness building  
Joint FAO/IAEA Division assistance for diagnostics and regional coordination
- 2000 **CESSATION OF RINDERPEST VACCINATION**  
**LAST CASES OF RINDERPEST DETECTED**

Slide 8

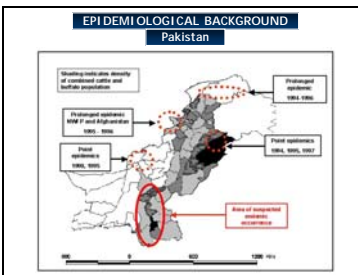
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Slide 11



Slide 9



Slide 12

**MILESTONES OF PROGRESS IN PAKISTAN**

- 2001-2003 FAO and EU assistance: GCP/PAK/08/EC Support for Emergency Prevention and Control of Main Transboundary Diseases (Rinderpest, FMD, PPR)  
Joint FAO/IAEA Division assistance for diagnostics  
Emergency preparedness  
Strengthening surveillance, disease investigation and laboratory diagnostics - **PARTICIPATORY DISEASE SEARCHING AND SEROSURVEILLANCE**  
Verification of Rinderpest Freedom  
Entry onto OIE Pathway - declaration of provisional freedom (2003)

Slide 13

**Participatory disease searching**

**2002-3: Rinderpest Officers and Teams at work**

- Disease investigation team
- Disease search team

Slide 16

**Pakistan serosurveillance in 2002**  
A randomised purposive survey

Province	Sera Tested	Positive
Punjab	9,164	53 <sup>1</sup>
Sindh	3,014	21

<sup>1</sup> 51 of 53 positive animals were definitely confirmed to have been vaccinated 2 to 3 years ago.  
44 came from Okara and all had been vaccinated.

Slide 14

**Surveillance Standards - case definition**

**Ocular and nasal discharge**

**"Stomatitis - Enteritis" + Any 2 of**

Performance Indicators for Surveillance Systems

Slide 17

**Afghanistan surveillance in 2001**  
A randomised purposive survey

Region	Tested	Positive
North	7,212	12
Southwest	6,194	1
Southeast	5,963	35
<b>Total</b>	<b>19,369</b>	<b>48</b>

Data supplied by courtesy of Dr Daad Mohammed FAO TCP/AFG/0065(T)

Slide 15

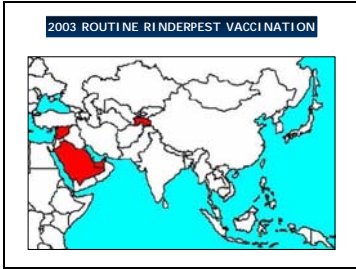
**Farmers last report seeing rinderpest in southern Sindh**

City where colony sited	Name of colony	Cattle & buffalo Population	Year of last reported case of rinderpest
Karachi	Landhi	190,000	1997
	Bilal	12,000	1995
	Sarjani	85,000	1996
	Al-Momin	10,000	1994
	Nagari	12,500	1994
	Baldia including Lyari	300,000	2000
Karachi scattered farms	Koyamari, Marnajpur, Baba Bhit, Melir, Korangi, Memon Ghat*	25,000	* Last outbreaks in 2000 confirmed
Hyderabad	New Cattle Colony	10,000	2000

Slide 18

**OIE PATHWAY STATUS OF APHCA REGION**

Slide 19



Slide 21

**Relative importance of diseases to Punjabi farmers in 2002**

**PRIORITY SETTING**

Farmers relative IMPORTANCE RATING of diseases in Districts visited

Disease	District	2	3	4	5	6	7	8	9	10	11
Haemorrhagic Septicaemia	2	2	1	1	1	1	1	2	4	8	4
	3	3	3	3	3	3	1	6	5	5	7
Foot-and-mouth disease	3	3	3	4	9	6	3	7	2	1	10
	1	1	1	1	1	1	1	1	1	1	1
Foot-and-Mouth Disease	1	1	2	2	2	2	4	1	3	6	
	7	8	5	2	4	6	4				
Black quarter				2							
Entericostosis									5	3	5
PPR									3	1	2
Enterotoxaemia									6	8	2
<b>Rinderpest</b>											<b>Not mentioned</b>

Slide 20

**WHAT NEXT ?**

LEARN LESSONS FROM RINDERPEST ERADICATION USE AND BUILD ON SKILLS DEVELOPED

Progressive control leading to area eradication is feasible WITH INTERNATIONAL COLLABORATION

TO CAPITALISE FULLY ON GAINS FROM THE ERADICATION OF RINDERPEST THE FMD SITUATION MUST BE ADDRESSED

THERE ARE OTHER SERIOUS DISEASE ISSUES TO ADDRESS

For example:

- the serious losses being experienced in the Karachi Dairy Colonies

-PPR

Slide 22

**KEY FACTORS CONTRIBUTING TO PAKISTAN'S SUCCESS**

DEDICATION AND VISION OF KEY STAFF

Provincial teams

Dr Rafaqat Hussain Raja

Dr Manzoor Hussain

PARTICIPATORY DISEASE SURVEILLANCE AND EPIDEMIOLOGICAL ANALYSIS

BENEFIT FROM INTERNATIONAL EXPERIENCE AND ASSISTANCE - ACCESS TO BEST INTERNATIONAL EXPERTISE

Dr William Taylor, Dr Jeffrey Mariner, Dr Gholam Ali Khan, Dr Daad Mohammed

The FAO team Pakistan led by Dr Amed Aboul Naga

The EU Food Security and DG Development

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# EMPRES and the Global Framework for the Progressive Control of FMD and other Transboundary Diseases

(Presented by J. Lubroth, EMPRES)

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Slide 1

**EMPRES and  
the Global Framework for  
the Progressive Control of  
FMD and other Transboundary  
Animal Diseases**

Slide 4

**What are we aiming for ?**

A STRONG FAO AND OIE WORKING IN CLOSE PARTNERSHIP  
WITH COUNTRIES AND REGIONAL ORGANIZATIONS

- *Strengthening Veterinary Services*
- *Paradigm shift in disease control by sound epidemiological knowledge*
- *Progressive control of disease*
- *Progressive control of infection*

Slide 2

**GOAL = Vision  
Development Objective**

- To improve the protein food security and incomes of developing countries
- Safeguard the world livestock industry (of developed as well as development countries) from repeat shocks of infectious disease epidemics
- Thereby promoting safe and globalised trade in livestock and animal products

Slide 5

**GF-TADs is Demand Driven**

- World Food Summits (1996, 2002) and OIE 68 and 69<sup>th</sup> Session
- Resolution XIII of the 66th General Session of the International Committee of the OIE:
- \* Member Countries, the OIE and the World Health Organisation (WHO) collaborate with the Food and Agriculture Organisation of the United Nations (FAO) to progressively develop a hierarchical global early warning system, including pilot projects to be carried out on a regional basis, which complements, but does not duplicate or replace, the existing reporting obligations to the OIE.\* (Paris, 25-29 May 1996)

Slide 3

**CONCEPT**

Progressive control of  
transboundary animal diseases

**AT SOURCE**

as  
an International Public Good

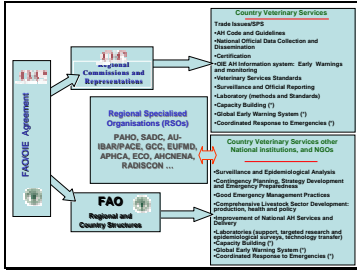
Slide 6

**GF-TADs is Demand Driven**

Thus:

- OIE and FAO as Governing Bodies
- Commitment by Heads of State and Ministries
- Expectations from Society
- Expectations from Regional Organisations
- Access to tools for the Member Countries
  - Capacity building
    - Diagnostics, Information Systems, vaccines...
  - Review of Legislation and Policy

Slide 7



Slide 10

- Phase I and beyond**
- Prevention systems to limit incursions of infection to new areas
    - Surveillance, diagnostics, and reporting
  - Creation and maintenance of disease-free zones
    - Veterinary system strengthening, Traceability, Surveillance, Diagnosis, Strategic immunisation, Compartmentalisation ...
  - Coalescing and maintenance of disease-free areas
    - Surveillance, diagnosis, strategic immunisation

Slide 8

**Phased Pathways to Purpose to Progressive Control**

Slide 11

- Regional Immediate Objectives = Phase 1 (6 year)**
- Regional nodes for Early Warning
  - Veterinary service rationalisation
  - National and Regional capacity building for diagnosis and surveillance
  - Surveillance for primary endemic areas
  - Pro-poor animal health delivery schemes
  - Pilot disease control programmes

Slide 9

- International Immediate Objectives = Phase 1 (6 years)**
- Verification of freedom from rinderpest (GREP)
  - FAO-OIE-WHO GLEWS for TADs
  - Epidemiological definition of disease distribution
  - Control strategies - developed with stakeholders
  - International & Regional Early Response capacity
  - Impact and Policy Analysis
  - International enabling research, and Technology transfer
  - Facilitate standards setting by OIE

Slide 12

International	Regional	National
GLEWS	Early Warning Nodes	Diagnosis & Surveillance
Epidemiological definition of primary endemic zones	Surveillance networks, Identification of primary endemic zones	Active surveillance, Identification of primary endemic zones
International Early Reaction	Regional & National contingency plans	Capacity of national veterinary services

Slide 13

International	Regional	National
Impact & Policy Analysis	Regional Analyses	National Analyses
Define Disease Control Strategies	Develop Regional Control Strategies	National /Regional Investment Projects

Slide 16

**Early Warning**

- All disease initiatives leading to improved awareness and knowledge of the distribution of disease or infection and forecasting further evolution of an outbreak
- To *detect rapidly* the introduction, or sudden increase in the incidence of, any disease of livestock which has the potential of developing to epidemic proportions

Slide 14

International	Regional	National
GREP	Coordinated surveillance	National dossiers to OIE
Enabling Research	Strengthen Regional Reference Labs	Active technology transfer
OIE standard setting	Disease Free Areas	Disease Free Zones and Compartmentalisation

Slide 17

**Early Warning**

- Investigation of reports of suspect cases of disease occurrence
- Collection of data
- Transparency
- **Analysis, analysis, analysis**
- Good information
  - Verify accuracy (validate)
- Surveillance Networks
- Laboratory Links and Support

Slide 15

Early Warning  
 Early Reaction  
 Enabling Research  
 Coordination

Slide 18

**Early Warning - Surveillance**

- Investigation of suspect cases
- Inspection at feedlots and point of concentration
- Market inspection and know ledged of marketing schemes
- Understanding risk and focusing on points of disease entry and dissemination
- Serological surveys including wildlife

Slide 19

**Early Reaction**

- **All the necessary measures taken without delay in control activities to contain and eliminate the disease in the shortest possible time frame**
- or at least return to the former favourable *status quo*

Slide 22

**Coordination**

- Global Reach and a Global Mandate
- FAO – Heads of State, Ministries, Field/CVO
- OIE – Chief Veterinary Officers
- Liaise with Regional Organisations
- Reference Laboratories and Field Needs
- Ability to structure and place donors, NGOs, private and public initiatives in sync with the needs of a Programme.

Slide 20

**Early Reaction**

- Infrastructure of veterinary services
- Strong linkages with stakeholders
- Preparedness Planning and Strategic Thinking
- Assistance in execution
- FAO's Technical Cooperation Programme
- Technical Backup / Backstopping - OIE/FAO
- Consultancies

Slide 23

**Good Emergency Management Practice**

- **GEMP** in animal health is the sum total of organised procedures, structures and resource management that lead to -
- early detection of disease or infection in an animal population,
- prediction of the likely spread,
- prompt limitation,
- targeted control and elimination
- with subsequent re-establishment of verifiable freedom from infection in accordance with the OIE's *International Animal Health Code*.

Slide 21

**Enabling Research**

- Improvement of knowledge of field occurrence of disease or infection
- Epidemiology of TADs or emerging diseases
- Assistance in validation of diagnostic assays or effectiveness of vaccines at the field level
- Financial support to reference laboratories
- Links with Joint Division FAO/IAEA

Slide 24

**EMPRES at Work**

- **Technical Cooperation Programme** (2001-2003)
- **Africa** - ASF, CBPP, FMD, NCD, Veterinary Vaccines, surveillance systems
- **Asia** - FMD, PPR, Information Systems, Evaluations
- **America** - Hemispheric Plan for CSF eradication, surveillance systems (for FMD and CSF)
- Others – Balkans, Middle East, Iraq, China ... the main epidemiologist at PACE

## Slide 25

**Key epidemiological aspects of EMPRES and GF-TADs**

- Disease (*infection*) at the SOURCE
- Hunting for the *antigen* rather than following the antibody
- **Infection versus disease**
- Upstream investigation
- Strategic use of *quality* vaccine
- Knowledge on animal production, land usage, marketing schemes, movement patterns ...
- **GL**obal Early Warning System **FAO-OIE-WHO**

## Slide 28

**EMPRES at work**

- Manual on disease surveillance
- Disease recognition manuals
- Contingency planning manuals
- CDs
- EMPRES Bulletin
- EMPRES website

## Slide 26

**Key structural aspects of EMPRES and GF-TADs**

- Central Secretariat hosted by FAO
- Steering Committee – FAO, OIE, donors
- Management Team – Senior Professionals
- Outposted officers to OIE, Joint Division with IAEA, WRL ...
- Coordination body with Regions/Clusters
- **GLEWS**
  - Improve reporting obligations – OIE
  - Strengthen analytical and prediction abilities
  - Agriculture, price differential, climate, refugee/migratory demographics, ...

## Slide 29

**Human resources are paramount**

- Field staff ... trained, motivated, managed & mobile
- Data input staff ... training, supervision
- Epidemiologists ... Computer use, analytical & data management skills
- Decision makers ... confident with making decisions based on realtime data (*evidence-based management*)

## Slide 27

**Key philosophical & implementation aspects of EMPRES and GF-TADs**

- **Regional Organisations** ...
- Promote private sector investment
- **Catalytic to government initiatives** of member countries
- **Strengthen veterinary systems**

## Slide 30

**Evidence-base Management**

- is the conscientious, explicit, and judicious use of current best external evidence in making decisions about an organised set of functions
- in animal health decision making, it means making use of all available surveillance, logistical and financial data, learning and experience, to arrive at rational decisions in dealing with disease situations.

Slide 31

**FAO and Funds**

- Regular Programme
  - Normative
- Trust Funds – SPFS / EMPRES
  - Italy
    - Central Asia – Afghanistan, Pakistan, Turkmenistan, Tajikistan, Uzbekistan
- Unilateral Trust Fund
  - Nigeria ?
  - Libya ?
  - Saudi Arabia
  - Iran
  - India
- Technical Cooperation Projects
  - FMD = 15, ASF = 2, Rinderpest = 5, BSE = 2, CSF = 2, Information systems = 6, Legislation = 3, Animal identification = 2, Disease Free Zones / Export Zones = 6
- Specific Donations
  - RABDISCON – IFAD
- Normative versus Operational
- Developmental versus Emergency

Slide 34

**Conclusions and Closing Remarks**

- From its inception in 1994, EMPRES has devoted itself and developed the basic building blocks required for GF-TADS
- It has responded, with essential technical input from FAO/IAEA, to member country requests for emergency actions, contingency planning, laboratory infrastructure, software development, capacity building, and strengthening compliance for disease reporting.
- The IDG / EMPRES is honoured by the OIE and WHO to host the Secretariat for GF-TADS; but with only 5 professional staff, this too needs addressing by the donor community.
- Livestock and the importance of healthy animals for food production needs to be brought to the attention and prioritisation at the Ministry level so that a long term commitment to this Public Good is achieved.

Slide 32

**EMPRES Staff**

- Senior Officer
- Secretariat for GREP (Animal Health Officer – Virology) – UK
- Animal Health Officer (Bacteriology) Ghana
- Animal Health Officer (Early Reaction) France
- Animal Health Officer (Early Warning) - *vacant*
- Main Epidemiologist – PACE – RSA
- Associate Professional Officer – None
- Animal Production and Health Officers - Regional

Slide 35

**Conclusions and Closing Remarks**

- FAO gets its mandates from and is set its priorities according to the Ministers, and Heads of State and Committee on Agriculture (COAG). OIE entry point is at the CVO level – who are in turn given their mandate by the Ministry.
- FAO can only assist if there is a clear indication that Livestock are important to rural and National livelihoods: the initiative must be promoted by Ministers.
- The important role of the private industry – not only in the provision of services or pharmaceuticals – but their essential contribution in financial terms is also needed. As such, a mechanism that governments can assist in providing incentives to private investment should be sought.

Slide 33

**Constraints**

- Weak epidemiological analysis
- Tools ?
- Political Will and Grass Roots initiatives
- Limited investment from the Private Sector / Mobilisation of resources ...
- Weak recognition of importance of livestock

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## Status of Rinderpest in Asia

*(Presented by Peter Roeder, GREP Secretary)*

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### Status of Rinderpest in Asia (summary of Dr Roeder's presentation)

A situation was described in which there is growing optimism that rinderpest has finally been eliminated from Asia. However, while only one endemic area of rinderpest is known to remain in Africa, the risk of a global resurgence of rinderpest will exist and vigilance must be maintained. Against this background the intention was to review the current status of accreditation of countries according to the OIE Pathway and to determine what action, if any, needs to be taken within a regional framework. The following table summarizes the outcome from the consultation.

#### Situation in Southeast Asia

Country	Status	Action need
<b>Cambodia</b>	Believed to be free from rinderpest for many years, no vaccination for more than 20 years	The 10 year rule could apply allowing application for Freedom from Infection  Situation to be discussed by GREP Secretary with OIE and assistance provided to Cambodia  Serum bank exists which could be used for serosurvey if required. Use of scarce animal health financial resources on rinderpest accreditation is not justifiable. International assistance will be required if specific active surveillance activities need to be undertaken
<b>China</b>	Believed to be free from rinderpest since 1953, no vaccination since 1955 except for one localised application in 1994 in Xinjiang; not currently an active participant in OIE	Complete serosurveillance and apply for Freedom from Infection in 2004 under 10 year rule. Promote China's active participation in OIE.
<b>Indonesia</b>	Free from Infection	Maintain surveillance Annual reconfirmation to OIE
<b>Laos</b>	Free from Infection	Maintain surveillance Annual reconfirmation to OIE
<b>Malaysia</b>	Free from Infection	Maintain surveillance Annual reconfirmation to OIE

(Follow through on other tables in this section)

<b>Myanmar</b>	Free from Infection	Complete serosurveillance and apply for Freedom from Infection in 2004; status of activities to be ascertained by GREP Secretary and a source of assistance identified if necessary
<b>Philippines</b>	Free from Infection	Maintain surveillance Annual reconfirmation to OIE
<b>Thailand</b>	Free from Infection	Complete serosurveillance and apply for Freedom from Infection in September 2003
<b>Viet Nam</b>	Free from Infection	Maintain surveillance Annual reconfirmation to OIE

### Recommendations

Although progress in accreditation of rinderpest freedom is proceeding well it is essential that all countries in the region maintain commitment and progress until all countries in the world have been accredited free from rinderpest infection i.e. until global eradication is assured. The situation needs to be constantly monitored and assistance provided immediately should progress falter. Maintaining vigilance against any possible resurgence includes diagnostic preparedness and must be maintained until the end. With limited resources, allocating them to accreditation of rinderpest freedom is difficult or even not possible for Cambodia and Myanmar to justify. However, ensuring that all countries achieve accreditation of freedom from rinderpest infection is a regional and global priority. Therefore, a regional initiative for the control of TADs should include rinderpest, ensuring that:

- early warning systems involving effective surveillance and diagnostic confirmation are maintained at national and regional levels
- early reaction systems are in place in case of resurgence/re-introduction of rinderpest
- all countries achieve OIE accreditation of Freedom from Rinderpest Infection by the end of 2007

To achieve this will probably require specific assistance for Cambodia and Myanmar.

### Situation in South Asia

<b>Country</b>	<b>OIE pathway status</b>	<b>Action needed</b>
<b>Nepal</b> <sup>1</sup>	Free from Infection (2002)	Maintain surveillance Annual reconfirmation to OIE

<b>India</b> <sup>1</sup>	Free from Disease (2003)	Complete OIE Pathway Apply for Freedom from Disease for whole country November 2003 Apply for Freedom from Infection 2004
<b>Bhutan</b> <sup>2</sup>	Provisionally Free (1992) Free from Disease (2000)	Complete Pathway Apply for Freedom from Disease 2003 Apply for Freedom from Infection 2005?
<b>Sri Lanka</b> <sup>3</sup>	Provisionally Free (1999)	Apply for Freedom from Disease 2003 Apply for Freedom from Infection 2004 or 2005?
<b>Pakistan</b> <sup>1</sup>	Provisionally Free (2003)	Apply for Freedom from Disease 2006 Apply for Freedom from Infection 2007
<b>Bangladesh</b> <sup>4</sup>	last rinderpest 1958 last vaccination 1998	Apply for Freedom from Disease 2003 Apply for Freedom from Infection 2005

<sup>1</sup> No specific action required other than to monitor progress and ensure that it is sustained in accord with the GREP timetable. These countries are on course to achieve accreditation of Freedom from Infection by OIE before 2010, in fact by the end of 2007.

<sup>2</sup> Although officially acknowledged by OIE as meeting the criteria for Freedom from Disease in May 2000, full endorsement of the status is dependent on Bhutan's renewing its membership. Bhutan sees little justification for this expense. If this problem is not resolved by Bhutan with OIE then action to resolve it will need to be taken up with OIE by the GREP Secretary. With limited resources and in the absence of a livestock export trade, pursuing the objective of accreditation of rinderpest freedom cannot be considered a priority by Bhutan.

<sup>3</sup> Sri Lanka now intends to apply to OIE for recognition of Freedom from Disease in 2003. A first full round of serosurveillance has been conducted in 1997/8 (4,455 sera excluding the north-east) and sera collected for 2001 (3,000) of which 1,000 have not yet been tested. There are staff training issues which need to be resolved urgently for progress to be made. With this resolved it is likely that progress will be resumed allowing for application of Freedom from Infection in 2004/5. The situation needs to be monitored closely. With limited resources and in the absence of a livestock export trade, pursuing the objective of accreditation of rinderpest freedom cannot be considered a priority by Sri Lanka.

<sup>4</sup> Bangladesh understands that declarations for Provisional Freedom from Rinderpest were sent to OIE in 2001 and 2003; however, these are not acknowledged by OIE. It is intended to make a definitive declaration in the next few weeks. Further progress will almost certainly require external support. This will need to be resolved by international/donor support.

## **Recommendations**

Although progress in accreditation of rinderpest freedom is proceeding well it is essential that all countries in the region maintain commitment and progress until all countries in world have been accredited free from rinderpest infection i.e. until global eradication is assured. The situation needs to be constantly monitored and assistance provided should progress falter. Maintaining vigilance against any possible resurgence includes diagnostic preparedness and must be maintained until the end. With limited resources and in the absence of a livestock export trade, pursuing the objective of accreditation of rinderpest freedom cannot be considered a priority by Bhutan and Sri Lanka. Ensuring that all countries achieve accreditation of freedom from rinderpest infection is, however, a regional priority.

Therefore, a regional initiative for the control of transboundary animal diseases should include rinderpest, ensuring that:

- early warning systems involving effective surveillance and diagnostic confirmation are maintained at national and regional levels
- early reaction systems are in place in case of resurgence/re-introduction of rinderpest
- all countries achieve OIE accreditation of Freedom from Rinderpest Infection by the end of 2007

# Suggestions to the regional framework for progressive control of FMD and other TADs in Asia and the Pacific

(Presented by T. Fujita, OIE Regional Representation for Asia and the Pacific)

Slide 1



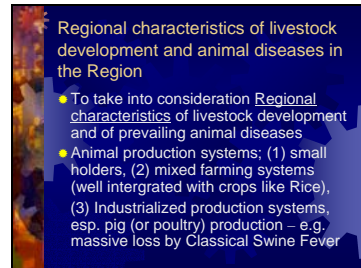
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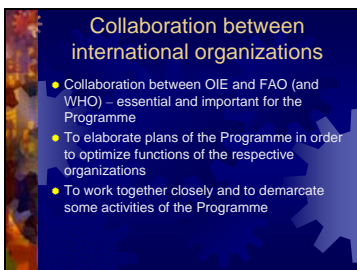
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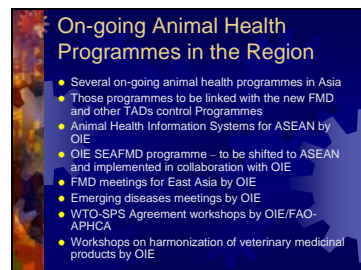
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Slide 3



Slide 6



Slide 7

**Selected Animal Diseases for the Programme**

- Transboundary characteristics, effects on human health, loss of productivity in animals, economic losses and negative impacts on trade and market access
- Importance and prevalence/occurrence of diseases, e.g. FMD, CSE, PPR (Rinderpest) and HS. (Priority diseases voted by OIE International Committee, 2002). Aquatic animal diseases to be considered soon.
- Newcastle disease

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**Technical aspects for the Programme (2)**

- Capacity building on:
  - disease information systems
  - analysis of collected data
  - disease diagnosis
  - disease surveillance and monitoring
  - quality of veterinary services
- Elevation of veterinary ethics
- Legislation of disease control and its effective implementation including animal movement management, and certification

Slide 8

**Existing mechanism for FMD control in the Region**

- SEAFMD Programme to be considered as a core function for FMD control in the new Programme (FMD for SE Asia)
- FMD control programme to be organized in South Asia (FAO-APHCA meeting, Bangladesh, 2000)
- FMD in East Asia (?)

Slide 11

**Technical aspects for the Programme (3)**

- Strengthening national policies of disease control including formulation of national models of disease prevention and control
- Research and Development including quality vaccine development, animal disease control, trade policy and economic analysis
- Regional cooperation and coordination, esp. for international animal quarantine
- Strengthening of participation of representatives countries on the standard setting activities of OIE

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**Technical aspects for the Programme (1)**

- To review further the disease control policies of countries in the Region
- To discuss for making a clear vision for future actions (warning, reaction and cooperation)
  - Strengthening Veterinary Services (institutional framework and resources)
  - Awareness of disease risks and their appeal to higher levels of government or state and other stakeholders
  - Coordination of different sectors in government authorities
  - Capacity building (to be continued)

Slide 12

**Immediate future development activities by the two organizations**

- Regional workshops/meetings to further elaborate and develop plans of the Programme in the Region for effective implementation and monitoring of the progress
- Meetings to develop educational materials for distribution to various organizations including farmers' organizations as well as to approach donors for their support to the Programme

Slide 13

### Regional Coordination and Structure

- 1) **Functions of Regional Steering Committee (RSC);** to provide guidance and to monitor the progress and other specific priorities for the Region
- 2) **Decision of RSC membership;** to be decided in consultation between OIE (OIE Regional Representation and OIE SEAFMD) and FAO Regional Representation and to be reported to regional meetings represented by permanent delegates of those organizations
- 3) **Proposed RSC membership;** executive members of the OIE Regional Commission and FAO-APHCA, and donors

Slide 16

### National level

- Member countries to **actively participate** in the Programme (No border for FMD and other TADs)
- To make efforts to **develop their transparent and effective disease information systems** and formulate their **national plans**
- **Networks** with global and regional reference centres
- **Increasing financial participation** of countries to the coordination of the Programme (e.g. increase of OIE contribution essential)

Slide 14

### Regional Management Group

- **Functions of Regional Management Group (RMG);** to oversee regional strategies developed by the Regional Programme Secretariat, advise the Secretariat and collate reports for submission to RSC
- **Decision of RMG Membership;** to be decided in consultation between OIE (Central Bureau, OIE Regional Representation, OIE SEAFMD) and FAO Regional Representation, and to be reported to regional meetings represented by permanent delegates of those organizations
- **RMG membership;** Senior officers/heads from both organizations, and to work with representatives of countries directly or through the Regional Programme Secretariat
- At initial stage, **different groups** of member countries (under RMG) for East Asia (Far East to South East Asia) and for South Asia

Slide 17

### Coordination between international organizations in the Region

- To **elaborate plans** for coordination between the two organizations (working network and joint activities) as well as collaboration between Regional Commissions and Regional Representations (in particular, on policy and major strategy matters) and to focus some specific activities
- To establish an effective mechanism of cooperation, in particular well-organized coordination and demarcation of activities between two organizations, and to find out resources

Slide 15

### Regional Programme Secretariat


- **Establishment of Regional Programme Secretariat (RPS);** To be established jointly by OIE Regional Representation in Tokyo with assistance of OIE SEAFMD RCU in Bangkok and by FAO Regional Representation in Bangkok
- **Functions of RPS;** to prepare information/data regarding the Programme for consideration by RGS and RMG, to provide such forums as workshops, etc.

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### Participation by member countries

- Some member countries to strongly recommended to **commit themselves to participate** in mutual activities to combat diseases together with other member countries, with the spirit of international cooperation
- International organizations **jointly to encourage** them to participate in international activities

Slide 19




Fund Raising

- Most important to facilitate activities of the Programme, as many countries in the Region lack funds necessary to implement activities in animal disease control in their countries
- To approach donor agencies

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Slide 20



Future cooperation from JLTA

- Where appropriate and applicable, JLTA to be approached for its support to a workshop for animal health in the Region for 2003 (or early 2004) to elaborate plans of the Programme, together with other agenda on animal health including Research.

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**Consultation for Asia on the OIE/FAO Global Framework for  
Transboundary Diseases - Resource presentation on foot-and-mouth disease**  
*(Presented by John Edwards, Office International des Epizooties (OIE), Thailand)*

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## **Introduction**

Sub-regional consultations on the OIE/FAO Global Framework for the Progressive Control of foot-and-mouth disease and Other Transboundary Diseases (GF-TADS) were held in June 2003 in Ludhiana, India and in July 2003 in Bangkok, Thailand. The aim of each was to identify the need for additional support through the GF-TADS process. The outcomes of these meetings are being further considered in a full regional consultation at this meeting being held in Lahore, Pakistan in association with the annual APHCA meeting from 25 to 29 August 2003.

In both the previous consultations Foot and Mouth Disease (FMD) was identified as a major priority and several proposals for additional support will be presented for consideration at the current meeting. The details of these proposals will be presented by representatives of their region.

This paper gives background information on Foot and Mouth Disease in the region and several of the key issues for consideration at this meeting.

## **Foot-and-mouth disease status, sources of disease and the main animal movement flows in the region**

### **Southeast Asia**

In Southeast Asia, there are OIE approved FMD free zones in Indonesia and parts of the Philippines (Mindanao and the Palawan-Masbate-Visayas island group). The last focus of infection in the Philippines is in Luzon Island and this is the object of a targeted eradication program funded with support from FAO/AusAID.

East Malaysia has never had FMD and is preparing a case to demonstrate its status to OIE within 12 months. The southern part of peninsular Malaysia has been essentially free of FMD and the occasional outbreaks have been successfully eradicated. FMD incursions have been more frequent in the five northern states of Malaysia and it is anticipated that the Malaysia-Thailand-Myanmar (MTM) Peninsular Campaign for FMD Freedom will result in a free zone including Malaysia and the southern parts of Thailand and Myanmar.

FMD is endemic in the remainder of mainland Southeast Asia, however, the prevalence and distribution varies according to the characteristics of the livestock industries, the geographical conditions and the level of control activity.

The major strains of FMD in Southeast Asia are types O, A and Asia 1. Type O topotypes are active in the region and these include the Pan Asian topotype, some of the

original Southeast Asian topo-types and in eastern parts the pig adapted strain. New type strains have been seen in Thailand and Malaysia in recent times and they are genetically distinct from previous strains and this has resulted in a need to change the strains used in vaccines in this area. Type C has not been seen since the mid 1990s.

The main spread of FMD in the region is thought to be associated with the movements of cattle, buffalo and pigs toward the higher priced markets in Bangkok and Malaysia. Many of these movements are illegal. The main sources are large scale movements from central Myanmar and Cambodia and smaller scale movements from Lao PDR and Viet Nam. Infected livestock products, eg suckling pigs for Chinese New Year, are also a potential source of infection. It is also thought that new strains such as the Pan Asia topo-type of Type O and the pig adapted strain of Type O have entered the region from PR China and particularly through the Upper Mekong river area and also along the border between Viet Nam and PR China. The pig adapted strain is active in the Philippines

### **South Asia**

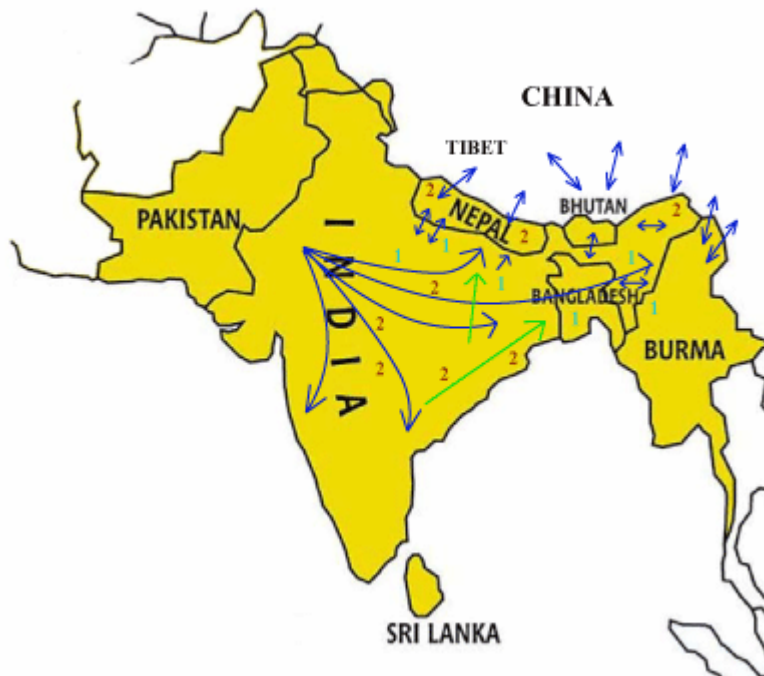
FMD is endemic in most parts of South Asia and has significant economic impacts. Type O is the dominant strain and both the Pan Asia topo-type and a recently emerged variant are widely distributed. Types A and Asia 1 are prevalent at a lower rate while type C is rare or absent.

The major source is thought to be movement of infected animals (clinical and carrier cases). Infected livestock products, people and vehicles are other sources. In South Asia relatively unrestricted movements of livestock are common and these include both local and long distance movements. Some of these follow well established traditional routes. Others are long distance movements often crossing national boundaries for sale and/or slaughter.

The main long distance movements described by delegates (Figure 1) included movements from the Punjab in the northwest of India to the northern states and also to the south of India. Movements also occur between India and its neighbouring countries Nepal and Bhutan. There are also large scale movements into Bangladesh for slaughter from India and Nepal.

Livestock movements also occur across the mountainous borders between PR China and India, Nepal and Bhutan. Movements of animals between South Asia and Myanmar are thought to occur along the borders of India and Bangladesh. There are small-scale local movements of animals in the mountainous areas. Larger scale movements occur when market prices dictate. Movements of goats to Sri Lanka from southern India are also described.

**Figure 1.** Major animal movement patterns in South Asia



## Main issues for consideration

### Regional coordination

Both regions have identified regional coordination as an important aspect for the future control of FMD. In the case of Southeast Asia, coordination is already provided through an existing Southeast Asia FMD (SEAFMD) Campaign.

The SEAFMD Campaign involves the coordination of FMD control by eight of the ASEAN countries and these include Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Thailand and Viet Nam. The programme is currently directed by an OIE Sub-Commission for FMD in Southeast Asia and is now half way through its second phase (Phase II). AusAID is the major donor for this phase of the campaign. It has been agreed that prime responsibility for the SEAFMD Campaign will be transferred to ASEAN for the next phase of the campaign. ASEAN has agreed to establish an Animal Health Trust Fund to assist in this process. The current funding for the campaign is approximately US\$300 000 per year from the major donor, assistance by the OIE Japan Trust Fund and a variety of in kind contributions by Thailand the lead country for FMD in Southeast Asia, member countries and other stakeholders. This new direction is aimed to provide for greater long term sustainability of the campaign. Additional international donor funding will be essential to ensure a smooth and successful transition and this should be an important element of the GF-TADS proposal for the Asian region.

Regional Coordination for South Asia has been under discussion for some time and there appears to be strong support for the concept. The essential elements for regional coordination are commitment by the member countries, a spirit of regional cooperation and resourcing and where necessary additional resources from the international donor community. There are several issues that need to be resolved to ensure that a regional coordination function for South Asia can be established. These include clarification of the functions expected, the management structure and an integrated approach to funding and these are discussed below.

For effective regional coordination there is a need for some kind of regional coordination unit, staffed to provide the management, technical and administrative skills required. There are several models for consideration and these include establishment with a member country as host, under a regional organization such as SAARC, or under an existing Regional Commission of an international organization.

In any of these cases there is a need for an organization or commission that has the ability to establish an accountable fund and to employ and manage staff.

A regional coordination unit can perform all or part of the following functions according to the staffing and resources provided. The functions include working with member countries and other stakeholders to:

- Strengthen commitment at national, regional and international levels
- Establish a regional strategic plan and an annual work plan that are aligned with harmonized national plans for FMD control
- Assist in the evaluation of national plans for FMD
- Develop and implement a communication and public awareness program to complement and strengthen member country activities
- Establish and maintain a regional website with the links and functions required
- Provide a forum to exchange information and experiences
- Arrange regional meetings
- Maintain a regional surveillance database and carry out epidemiological analysis and establish an early warning capacity
- Encourage relevant research
- Coordinate the provision of relevant training
- Develop standards for diagnosis, vaccine production, reagents and FMD control
- Actively involve all stakeholders including the private sector
- Work with members and the international donor community to achieve optimal resources
- Manage resources
- Provide reports required.

## **Strengthening laboratory networks**

FMD control requires a good diagnostic capacity and this involves a capacity for investigation of field outbreaks followed by access to a competent network of laboratories to confirm the diagnosis and to characterize strains. In both workshops it was recognized that this requires a World Reference Laboratory (WRL, Pirbright) supported by a network of regional reference laboratories (RRL). In turn these need to be linked in each country to a national laboratory system where initial FMD diagnosis can be carried out.

In Southeast Asia, ASEAN has agreed that the RRL will be at Pakchong, Thailand. A Biosecurity Level 3 laboratory has been built and it is now operating using local material and is waiting international evaluation of its biosecurity status before receiving its first international submissions.

At the South Asia consultation there appeared to be support for the concept of a RRL and India offered to host it. This will be the subject of further discussion at this meeting.

A RRL can perform all or part of the following functions according to the staffing and resources provided. The functions for either of the proposed RRLs could include:

- Provide a high quality diagnostic service for participating countries
- Maintaining a secure biocontainment facility
- Achieving and maintaining Quality Assurance accreditation
- Participate in an international proficiency testing program for FMD diagnosis and coordinate a regional program
- Establish and maintain strong linkages with the WRL, other RRL and national laboratories
- Seek international RL status within an agreed time frame
- Carry out strain characterization studies and early reporting of results to stakeholders
- Carry out relevant research including analysis of surveillance data
- Harmonise standards for FMD diagnosis in the region
- Provide training
- Distribution of quality assured reagents for FMD diagnosis
- Provide information and facilitate exchange of information

## **Epidemiological networks**

At both previous consultations delegates agreed that there was a need to build and strengthen epidemiological networks and to carry out studies to find the sources of infection and to understand the patterns of disease. This information is required in planning for disease control programs and also to direct activities once programs are implemented. There appears to be a need for skilled epidemiologists throughout the region. Overcoming this will require a combination of sharing of expertise, re-allocation of skilled staff, short term training, long term training within the region and overseas and strategic use of international expertise.

## Zoning as an option for FMD control

There is evidence from many parts of the world that FMD can be controlled and eradicated provided that it is possible to implement a full package of control measures. Zoning has been widely used as a means of eradicating diseases in many parts of the world. It recognises that there are several phases in any campaign and these usually include a control phase to get the prevalence down to where an eradication objective would be feasible. The disease control measures applied in these phases will be different. Progressive zoning also recognises that a stepwise approach will most likely bring success and that in many cases it will be necessary to concentrate resources in the zones where there is the greatest chance of success and then to build on the successes.

Zoning involves a country, an area within a country or groups of countries eg MTM. Zoning has long been a method for the progressive control of animal diseases and for achieving access to trade. There is increasing interest in the potential for zoning to increase access to trade by taking advantage of the changes brought about by the emergence of the WTO, the Sanitary and Phyto-sanitary (SPS) agreement and changes to the OIE Animal Health Code. The importance of zoning was recently reinforced by decisions at the OIE General Session.

To achieve free zone status to the standards of OIE and trading partners may be difficult to achieve for many countries, particularly where there are many neighbouring countries and particularly when resources are limiting. The OIE guidelines for zoning require an applicant to provide evidence that they can achieve the following:

- Describe the livestock industries and demonstrate that they have a competent veterinary service
- Demonstrate clearly defined zone boundaries
- Have carried out surveillance to demonstrate pre-zoning absence of disease
- Show that disease entry is preventable
- Have a surveillance system to show that disease occurrence is detectable
- Show that the disease can be eradicated

A set of principles to guide any future control or eradication activity in the Southeast Asia have been developed and these can readily be transferred to other regions. These include:

- Strong co-operation and support between neighbouring countries is required
- Zoning/regionalisation should be progressive and initially zones/regions should be small and established where they will be of greatest strategic benefit.
- Zone with the flow whenever possible. Zoning should, wherever possible, be established at the source of movements.
- Use geographical barriers to advantage whenever possible.
- Zoning should be planned to maximise the facilitation of trade and movement of animals and minimise disruption of traditional movement patterns.

- Build on existing plans and priorities for the establishment of zones whenever possible
- The method used to control FMD within a zone should be based on the status of the zone and should use the most cost-effective measures appropriate to that zone. For example in some cases vaccination may be required, in others a high level of surveillance and eradication of outbreaks may be the strategy that is required
- Establish agreed minimum standards for control of FMD within the zone
- The type of zones used will depend on the status of the zone and the phase of control. These would include Infected zones (IN), Control Zones (CZ), Eradication Zones (EZ) and Free Zones (with or without vaccination). Buffer zones (BZ) may also be needed in areas of strategic importance eg. Bordering high risk or uncontrolled areas

Using these principles, the locations for the establishment of zones for the long term control of FMD (10-20 years) have been identified. These are:

- Luzon Island
- Malaysia-Thailand-Myanmar Peninsular Campaign
- Lower Mekong (Viet Nam, Cambodia with Lao PDR and Thailand having a medium term interest)
- Upper Mekong (Lao PDR, Myanmar, Thailand and PR China)
- Red River basin and border with PR China (Viet Nam and PR China)
- Rhakine State and the upper central area of Myanmar

If successful these zones could be expanded and eventually would coalesce as progress was made.

It is recognised that some of the countries involved do not at present have the capacity or the resources to effectively establish and maintain these zones. If these zones are strategically placed to bring long term benefit to the whole region there needs to be a whole of region approach to building capacity and finding the resources required. It is considered that a long term strategic plan will be of benefit to the region because it is more likely to be successful and is more likely to attract the support of decision makers and potential funders. It can also give a focus to the substantial funding provided within the region by a range of organisations that are funding various aspects of disease control. It will need high level political support and co-operation with PR China, India and Bangladesh will be necessary.

The OIE Sub-Commission has endorsed the progressive zoning approach and agreed to the establishment of working groups to begin work for each potential zone. Funding will be needed for both the implementation and feasibility processes.

There was also strong interest in zoning in the South Asia consultation and zoning is an important aspect of the Indian national plan for FMD.

## **Recommendations from the mini-consultations**

### **Southeast Asia**

The FMD consultation was preceded by presentations on the regional coordination of FMD control through the Southeast Asia Foot and Mouth Disease (SEAFMD) Campaign, the progressive zoning approach to FMD control as endorsed by the OIE Sub-Commission for Foot and Mouth Disease in Southeast Asia, progress with the transition of the SEAFMD to ASEAN responsibility and country reports.

Delegates and observers were split into three groups to consider the critical gaps in the regional plans for FMD control and to identify proposals requiring additional funding for consideration by the GF-TADs. Following feedback from the groups a list of activities requiring additional support was compiled and this included some large scale regional initiatives and also many smaller scale activities. When participants were invited to assist in prioritization it became clear that FMD control and eradication requires an integrated multidisciplinary approach to be effective and specific small scale projects in isolation are unlikely to be effective investment of scarce resources. For this reason the workshop agreed on two main proposals for recommendation to GF-TADs. These were aligned to agreed regional priorities and were underpinned by a need for a strong and coordinated capacity for epidemiological investigation and diagnosis. In particular the progressive zoning approach will initially require the capacity to undertake technical and economic feasibility studies and these will require very good capacity for epidemiological and economic analysis.

#### **1. Strengthen regional co-ordination and co-operation by:**

- Ensure resourcing to ensure smooth transition of SEAFMD to ASEAN responsibility
- Strengthen the laboratory network including WRL, RRL (designated laboratory at Pak Chong) and National laboratories
- Establish an epidemiological network involving regional and national nodes
- Accelerate the development of harmonized information systems for animal health and production.
- Creating linkages with countries neighboring the region e.g. PR China, India, Bangladesh
- Establish mechanisms to integrate all stakeholders (public, private and international agencies) as partners in the funding and delivery of global, regional and national programme
- Strengthen communication with all stakeholders

#### **2. Accelerate the progressive zoning approach to the control and eradication of FMD in Southeast Asia by:**

- Provide resourcing to complete the feasibility process for the establishment of FMD free zones according to agreed principles for zoning for FMD. This involves support for working groups and to carry out epidemiological and economic studies. These studies will build on existing broad scale knowledge of the sources of FMD and will for each potential zone clarify the patterns of FMD spread including the identification of internal and external sources of infection by

investigation and modeling of patterns of movement of animals and the FMD virus transmission dynamics

- Increased resources to build capacity to deliver animal health services in countries with less resources (includes laboratory diagnosis, epidemiological analysis, delivery of field activities and vaccine quality control)
- Review policy and implement effective animal movement management to establish and maintain zone status
- Implement practical and harmonized approaches to animal identification
- Enhance planning and training for emergency preparedness
- Targeted programme of communications and public awareness
- Where there are significant trade opportunities for pigs zoning proposals will also need to consider classical swine fever

## South Asia

The FMD consultation was preceded by country reports and presentations on regional coordination and the progressive zoning approach to FMD control used in Southeast Asia. Delegates and observers were then split into three workshop groups to consider the critical gaps in the regional plans for FMD control and to identify proposals requiring additional funding for consideration by the GF-TADs. These groups were I - the northwestern countries including India, Pakistan and the western part of Nepal, II - the northeastern countries of India, Nepal, Bhutan and Bangladesh and III -the southern cone of India, Sri Lanka and the associated island groups.

The groups held several workshop sessions and provided feedback to the main group on FMD status, movement patterns for susceptible livestock and potential projects for consideration under the GF-TADs. The issues of regional coordination and the establishment of a regional reference laboratory were workshopped by the whole group.

The initiatives could be separated into several categories and these included those requiring national commitment, possibilities for regional collaboration and support including offers of support from India to its neighbouring countries. There were also suggestions for wider support and these were support for regional coordination, strengthened diagnostic capacity, zoning proposals and the need for increased epidemiological capacity and targeted epidemiological studies. These will be the subject of proposals for the GF-TADs.

Pakistan, Afghanistan and neighbouring countries in the Middle East were considered to be very important for the global control of FMD and a proposal to deal with these countries is necessary under the GF-TADs.

Regional initiatives proposed for FMD Control were:

1. Initiate a regional programme for the progressive control of FMD which is to be implemented within each country with a clearly defined timeframe. Since it will be difficult to launch a full scale program for the region as a whole or as a country as whole, it is desirable to have a well defined zonal approach as described by the OIE

- animal health code on the OIE pathway (freedom with vaccination/freedom without vaccination) to attain the ultimate goal of free status.
2. Undertake a detailed study of epidemiological status (generate the required data/subject to analysis the available data) of the different countries, and the region as a whole. This will help in defining the primary endemic zones and address the priorities for control.
  3. In order to generate the required resources there is a need to undertake the economic impact analysis of the proposed control initiatives both within the countries and the region. This will be very beneficial to get donor support for national as well as regional control programs.
  4. Since there is a great logistical difficulty in managing animal movement, within and between the countries in the region, the FMD disease situation is complicated. This needs to be addressed correctly by suitable means including legislations, quarantine measures, border management of animals, and animal identification schemes.
  5. There is a need to share the information about the prevalence, distribution, movement and emergence of the disease along with the early warning protocols in place.
  6. Considering the limited resources, and a large FMD susceptible livestock population in different countries of the region, suitable vaccination strategies need to be identified. For example, considering the use of monovalent type O vaccination as it is the most prevalent serotype, and vaccination of all species versus cattle and buffalo only.
  7. There is an urgent need for the establishment of independent vaccine quality assurance agency to ensure uniformity in the quality of vaccine to be used.
  8. To ensure FMD diagnosis in all the countries there is a need to establish a regional laboratory for FMD in the region. This will ensure the availability of diagnostics, assisting in establishment of appropriate laboratories where required, training of manpower, detailed characterization of field isolates, molecular epidemiology, selection of suitable candidate vaccine strains for the region, maintenance of the regional repository and collaboration with the World Reference Laboratory. The capabilities already available in India at the PDFMD (Project Directorate on FMD) of ICAR can be utilized for this purpose.
  9. There is a need for the creation of a national commission for each country under the overall umbrella of a South Asian regional commission for the control of FMD. This will help in giving a clear focus for FMD control in the region. This can be under the auspices of APHCA or any other appropriate body agreed by all the member countries within the Region. Such a structure would have a stronger lobbying capacity to attract donor funding.
  10. For the successful implementation of FMD control programmes within each of the member countries or within the region as a whole, participation and involvement of all the stakeholders (farmer groups, traders and livestock products, milk cooperatives, industry and other agencies) is essential.

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**Approaches for improved diagnosis and the development of  
vaccines to combat infectious diseases in animals  
(Food for thought and thinking for food)**

*(Prepared by J. R. Crowther, Animal Production and Health Section of the Joint  
FAO/IAEA Division, IAEA, Vienna)*

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## 1. Summary

This paper attempts to put emerging technologies into context with regard to their importance to developing countries. Often there is a lack of understanding of the actual needs inherent in managing and solving problems and an unrealistic assessment of the feasibility of approaches.

The progression of molecular techniques has been rapid since the development of the Polymerase Chain reaction (PCR). This allows molecular scientists to identify, characterise, copy, amplify and manipulate genes in a relatively simple way. The applications in all biological research fields have been enormous. The exploitation of the technology to devise new products and translate these to the commercial sector has also been remarkable. Molecular technologies are not so difficult to set up and therefore can offer developing countries access to a more competitive situation. However, developing countries must look at the apparent advantages offered in a different way. The immediate ‘hype’ of molecular biological science seems to offer an immediate solution to all problems, a sound bite to success. This often over-rides any of the real problems or needs associated with feasibility of introducing molecular technologies and their role. This can be very detrimental to more conventional and thoroughly practical methods, already available, which provide specific tools in the disease control area. It also might deflect resources entirely into the molecular field in terms of equipment, laboratory funding in general and particularly in training areas. This causes redundancy of staff, limits needed development in conventional techniques and polarisation of scientists into those with older (less glossy) and newer (molecular) camps.

Disease control in the area of diagnostics is now heavily dependent on more conventional techniques such as ELISA. This will not change and developments will centre using these in combination with more discriminatory molecular techniques offered by the PCR. A balance and parallel development is needed and this needs to be exemplified through advice from FAO about the feasibility and appropriateness of technology at the national and particularly regional level. This understanding requires increased knowledge by international scientists involved in developing countries as well as education of policy makers in developing nations.

Vaccines offer a particular challenge, where molecular science should provide many answers. The developing country may have a distinct advantage here but “vaccinology” needs to examine both the animal (immunology of target species) as well as the disease agent itself. This is a research-based science and as such is expensive and there is no

surety of success. Developing countries should exploit links with developed countries to provide the 'field' genetic resource (endemic disease situation) in order to devise and test vaccines developed through molecular studies.

An understanding of the demographic, economic and infrastructural basis of a countries disease elements, is needed before decisions about developmental support, can be made. This, due to the massive competitive demands on 'poor' economies, is seldom easy and rarely attempted. The developing trade situation can act as a catalyst in this consideration since International assurance (e.g. of the disease status) is now a key issue if links are to be made. Without a realistic analysis, we shall continue to react to developments in a knee jerk way and inject molecular science through small specific projects, without any attention paid to the real impact nationally. It should be a policy for FAO to deliver help only for projects dealing with the wider national issues. To do this there must be far greater cooperation between all agencies involved in project support. In order to do this a new system of delivery should be considered. This should also try and identify who should pay for developments since increase in wealth through trade usually means that commercial concerns benefit directly, the dispersion of increased wealth therefore remains a political problem better examined at the beginning of a developmental cycle than after.

## **2. Introduction**

The developmental state of any country is crucial in catalysing the national commitment to controlling and eventually eradicating diseases.

2.1. The possibilities of increasing trade, restricted by a country's contamination with disease agents, is probably the major stimulus in facilitating better planning and resources for control. The relative importance of diseases in terms of time and geography, is very varied. The political dimensions involved in disease control can take a high profile and should not be dismissed lightly. There can be no 'sound bite' to cover easy solutions merely through the introduction of any technologies. Control requires a complete package of good veterinary infrastructure, reporting systems, sample submission, laboratories with trained staff, validated methods, epidemiological units able to plan surveys, vaccination teams, etc.

2.2. The most relevant problem facing any plan to control livestock disease is unrestricted or poorly understood animal and animal products movement. Although this dogma is the first and last point always made in meetings at any level, it is always side tracked because of the apparent enormity of the problem. Without attention to this area, most interventions, including those considered in this paper, are a waste of time. This is exemplified by foot-and-mouth disease control world wide.

2.3. Comparing control measures aided by vaccines and diagnostics, with those involving identification and effective manipulation of gene (s) for increasing resistance and tolerance factors against disease, it must be recognized that the possible benefits involve a completely different time scale. Neither is it possible to divorce the two areas completely and specific diseases and concentrations of different animals in different countries with different mixes of livestock are obvious factors influencing the

successful exploitation of methods. This type of consideration is crucial in deciding where efforts should be made by individual countries in terms of resources and short, medium and long term planning. The cost benefit of one, or another, or a combination of approaches, should always be borne in mind and calculations independent of political consideration should be made to allow best advice.

2.4. Countries should strive to cooperate at the regional level. Regional co-operation is vital since diseases are transboundary in nature and may involve highly mobile vectors. Approaches in one country can severely effect another's efforts. Regional projects should be the main support target for FAO. They have get advantages in promoting understanding, administration, planning and transparency.

### **3. General background**

There are many initiatives by FAO who produce information and implement projects concerning disease control. Although the basic units for success are available including considerations of veterinary infrastructural requirements, disease reporting systems, contingency planning, epidemiological units, systems for data retrieval and analysis, vaccine campaign advice, sero-monitoring and surveillance systems, provision of and validation of kits, laboratory guidelines, accreditation guidance, training, expert visits.

It is however, difficult to achieve the complete package of measures in countries necessary to allow a successful approach to disease control. FAO are committed also to reacting to emergencies in terms of providing expertise, vaccines and laboratory support. Requests for emergency aid are the last thing that any disease managers want since it is an admission of failure on everyone involved. In order to achieve a better success at prophylactic measures rather than fire brigade activities, it is necessary to stimulate far better planning and awareness of the importance of livestock disease generally. This may mean an increase in staff by FAO and far greater cooperation between donors to reduce duplication and confusions of efforts.

3.1. The FAO indicate that 'Sustained production of livestock is impossible unless effective measures are in place to guarantee animal health through exclusion and/or containment of transboundary animal diseases and serious pests as well as through health management'. Some diseases (zoonoses) may cause public health problems where they can be transmitted to humans; they also may have unfavourable environmental consequences, e.g. when wildlife populations are decimated. Diseases also cause avoidable pain and suffering to many animals.

3.2. The FAO support the policy of helping member states in the control of major livestock diseases. The Emergency Prevention System for Transboundary Animal and Plant Pests and Diseases (EMPRES) - aims at controlling transboundary animal diseases. As for the emergency prevention system for transboundary animal diseases, FAO plays a catalytic role in monitoring and coordinating regional and international efforts and providing technical advice and other forms of support to member countries.

3.3. Evolving disease control strategies in any country involves consideration of the genetic nature of the disease agent as well as that of the host target. The major strategy

of the agent is to exploit its inherent high rate of replication, so that mutations are selected to overcome host defence mechanisms. This selection process vastly outweighs any of the possible genetic attributes of the far more slowly reproducing hosts. Strategies affording protection through breeding and manipulation, have therefore, to accomplish a more generalized protective cover. There are examples of such gene-advantaged animals, but the challenge data is most often singular and no account taken of the multiplicity of agents available to infect an animal independent to the gene(s) introduced.

3.4. There is a deep lack of fundamental knowledge on immunity mechanisms in livestock, however there is progress through genome mapping projects in chickens, cattle, pigs, sheep and goats, which may help. It might be concluded that the simpler the agent of disease in terms of genetic material the more risk there is to livestock e.g. virus diseases which are all the OIE list A pathogens! Where there is some stability in larger genomes of disease agents or the diseases are less pathogenic, there may be more chance of success in the breeding in of 'protective' features.

3.5. Vaccines are usually a direct intervention between the agent and livestock through inducing humoral or cellular immunity. As such the constant monitoring of strain variation is necessary and possible, through conventional and increasingly by molecular 'diagnostic' methods (molecular epidemiology), to take account of changes in the field affecting vaccine efficacy. This idealised situation takes account of the variability of the agents in the field for a specific disease. The fact that more than one vaccine can be used against different agents also gives the possibility to increasing the spectrum of protection. This is not as easy to produce in a genetic way in breeding.

3.6. Diagnostic approaches involve both serological and the newly highly regarded molecular techniques. The training element cannot be underestimated. Training on a continuous basis with attempts at larger scale training courses for participants from many countries should be a policy for both FAO and national concern. Such training should emphasise always the relationship between serological and molecular techniques as well as the advantages and drawbacks inherent in the use of the methods. Such training will build up expertise both in the technology as well as resistance to the "immediate solution" preaching of the total and singular molecular package as a certain answer to all diagnostic needs.

3.7. Associated with 3.6 is the developing technology gap. A gap of understanding between scientists who diverge due to the introduction of technologies e.g., molecular. This is observable in countries which have developed some potential to exploit products with the resources to set up molecular Institutions. Such Institutions suck in funding at the expense of the established and worthwhile technologies, which do actually provide adequate tools to perform diagnostic tasks. This sets up a divide centred on resource management between the more active field workers and the more showcase research oriented few. The split between the two camps should be avoided through planning tasks rather than assuming that technology per se is a solution in itself. Training then should be clearly identified within a total plan for any country and FAO should certainly evaluate requests for training in the light of overall national development needs regarding animal health.

3.8. Vaccines and the technology surrounding their development and production, prove a very difficult area to assess generally. Development involves conventional approaches as well as all the possibilities of genetic manipulation (below) and thus, requires extensive knowledge e.g., of animals' immunology, gene manipulation, adjuvant use, delivery systems, large-scale production, testing and certification (quality and safety). Thus, any serious national production usually has to be commercial. Commercial companies, addressing vaccine as a product for sale, identify only areas where there might be a profit. So their estimation of markets may vary considerably from the needs of regions. Even current highly purified FMD vaccines are barely profitable. As with the diagnostics, the vaccine market is highly fragmented. Development of vaccines for some important agents for use in developing countries is non-existent and coupled to the poor research training and facilities in such countries, ensures that no successful tool can be developed to aid control. The high cost of registering vaccines is also a limiting factor in their production in developing countries. This also sometimes stimulates bad practice where national vaccines are attempted. Some vaccines are more applicable to exploitation than others. Scaling up 'genetically' associated vaccines may be very difficult whereas the more conventional (ideally attenuated vaccines) are relatively easy to prepare (hence the success of rinderpest campaign and the development of the attenuated PPR vaccines). The FAO should attempt to put in place resources to help research into developing country requirements with regard vaccines and train people to have the necessary skills to perform good research.

3.9. Diagnostics involve the use of defined reagents either in the laboratory or in the field situation. This can be extended to the supply of kits. This whole area is beset with problems of validation. The measurement of the diagnostic sensitivity and specificity is a nightmare let alone the bad use of good reagents by poorly trained staff. The production of kits of good quality with robust reagents, is difficult enough, but the distribution and sustainability of kits is a nightmare. Again there are few candidates for profit in the diagnostic area to push companies to produce and distribute kits. This applies to both serologically based and molecular based approaches.

3.10. Reference laboratories for conventional and newer technologies are simply not adequate in the main to provide a useful service in the diagnostic or vaccine control areas. Although many organisations support the concept including FAO and ascribe a title to that end, there is little practical help in defining, maintaining, validating or using such Reference centres, as they should be. Projects to support the proper setting up of such reference laboratories to ISO-accreditation levels should be supported by FAO through training, advice and political negotiations to help sustainable funding. The exact role of any reference laboratory has to be defined from the start. National and Regional acceptance is of course vital in sustaining the centres. The FAO should take a more active part in setting up of quality laboratories and increase contact with other organisations charged with funding and management of diseases (EC, WB and OIE).

#### **4. Opportunities**

This section will deal with the reality and potential of newly developed methods for the examination of disease agents and their effects on animals to allow better control and diseases. Complimentarity with existing techniques will be examined. It is vital that

established tests are not disregarded because of the need to follow a scientific fashion. The co-existence of technologies is vital to ensure that tasks in a plan can be completed. It will also examine new approaches to vaccines, again contrasting approaches to the conventional methods.

4.1. The appropriateness (feasibility, cost, cost/benefit, training needs, facilities) of the approaches will be discussed to provide better judgment criteria for countries which are considering supporting for disease control. It must also be realized that there are two spheres for the exploitation of technologies in the research and applied areas. It is clear that “advancement” of research is more and more dependant on molecular (genetic) techniques. The spin off, or aim of research, is to develop better diagnostics and vaccines. This spin-off does not happen by accident and must be planned in the context of what is already available and what is ultimately specifically required by a country (or better a group of countries). It is not good to re-invent the wheel. It is good to apply science in areas which are most relevant to countries needs and where there is likely to be little competition from more developed countries.

4.2. Because molecular techniques offer very rapid manipulative methods to create new products, there is a vogue to build up Institutes to produce novel reagents seemingly for the sake of invention. This is not appropriate for many countries and while recognizing the freedom to allow scientists to fiddle in corners, it should be apparent that applied science is necessary to better allow developing countries to achieve stability in economic terms. The responsibility of FAO and like organisations is to guide scientists and administrators to the best pathways for utilizing techniques to solve immediate problems. This requires good plans to be produced and evaluated. Planning by countries within the context of overall developmental needs is often very bad. Here the FAO may be as guilty as any other in ignoring planning for the sake of political leniency.

4.3. Examples of approaches to technology transfer will also be given to illustrate difficulties. An attempt will also be made to cost the various activities necessary to set up newer technologies and estimate their impact. This will be a view from the Joint FAO/IAEA Division (AGE) in Vienna, charged with technological aspects of FAO.

#### 4.4. Diagnostics

4.4.1. Ideally diagnostics employ methods which allow:

- Identification of disease agents or parts of agents. (Confirmation of clinical diagnosis).
- Differentiation of agents (Differential diagnosis).
- Assessing the epidemiology of disease agents (Surveys).
- Monitoring of control interventions (e.g. Measuring efficacy of vaccines, drugs).

4.4.2. Diagnostics can be used in ideal situations:

- In the field situation e.g. pen side tests, biosensors). Low expertise and training.

- In small “local” laboratories. Limited equipment, ELISA, Agar gel tests, pen side test strips). Better expertise, some training. Communication with Reference centres.
- In Regional Reference Laboratories. Good equipment, all conventional tests including tissue culture as well as molecular equipment and reagents e.g. Polymerase Chain Reaction (PCR). Well-trained staff. Constant communication with other Reference Centres and World Reference center(s). Epidemiology units for design and analysis of work. Links to veterinary managers of disease control.
- In World Reference Laboratories (fully equipped, expert staff, research component, reference status, creating standards, developing and solving problems with samples from world). Constant communication and data retrieval from Reference Centres.

4.4.3. The need and location of where tests are to be done are related to the planning of any country, infrastructure, lines of communication, reporting system, and taking and transportation of samples. These areas alone would require extensive coverage but are amply documented in many of the initiative from FAO and Joint FAO/IAEA Division. Thus, the merits of technologies have to be judged according to the needs. Certain advancements offer tremendous advantages to more remote testing, whereas others have to be regarded as complimenting only existing techniques. The ability to perform research offers a new dimension to the possible roles of Reference laboratories and this is discussed below.

#### 4.5. Existing diagnostics

A very brief review of existing diagnostic methods is necessary before exploitation of newer technologies is discussed. This again should alert the reader to the possibilities of using existing technologies as well as newer ones to solve problems. Often the technologies are totally ignored or made redundant through the lack of maintenance of equipment. This is most obvious in the fields of microscopy (a large number of microscopes have been provided worldwide for fluorescence techniques which are useless for want of new objectives etc.). Many technologies have been introduced to countries requiring various equipment supply and training.

4.5.1. The most potent force in diagnostics in the past 30 years has been the Enzyme Linked Immunosorbent Assay (ELISA). The ELISA will remain a major technique since it fulfils the sensitivity criteria required for most testing. A great deal of technology transfer has taken place e.g. supply of ELISA readers. Many kits are available and in fact ELISAs form the large majority of prescribed tests for the OIE List A diseases. As such countries will be obliged to use the techniques to fulfil the required criteria under WTO rules. Unfortunately the levels of training required for countries to fully exploit the potential of this type of assay to develop tests, is poor and it thus it is woefully under exploited.

4.5.2. List 1 below is the easiest way to sum up other “conventionally” accepted tests available. Included are some surprises with regard to nuclear techniques\* since they have been used for over 25 years.

4.5.3. One major consideration of all tests is the use of radioactivity. This is becoming increasingly difficult from legislative direction and most techniques now tend to develop alternative markers to assess activities.

#### 4.6. Newer technologies in diagnostics

4.6.1. The most recent advances in molecular biological and other instrumentation technologies have been advantageous in improving diagnostic potential (and for the improvement of vaccines). Relevant biotechnological advances from product development and better research to improve understanding of diseases agents can be highlighted. These are genetic engineering (molecular biological advances); hybridoma technology and large scale (industrial production) of tissue culture; improvements in adjuvants and delivery systems for vaccines and molecular modelling for designing active anti-disease agent (particularly viruses) pharmaceuticals.

4.6.2. These improvements are a positive exploitation of the fundamental basic research into both the pathogen and also the host (e.g. better understanding of the immunology, allowing a better understanding of the mechanisms of pathogenesis) and the needs driven application of this research. Research then is the key to further development, and FAO should wherever possible further basic research into developing relevant, appropriate technologies as tools for developing countries. Advances also in other technologies are relevant, in particular the performance of computers in collecting, analysing and storing data and developments in instantaneous communication.

<b>List 1. Conventional techniques</b>
Tissue culture
Neutralisation testing
Compliment fixation
ELISA
Haemagglutination (HI) and inhibition tests (HAI)
Immuno histochemistry
Microscopy (including fluorescence)
Electron Microscopy
Poly acrylamide gel electrophoresis
Nucleic acid hybridization*
Immunoblotting*
Restriction Endonuclease mapping*

4.6.3. The massive leap in the ability to manipulate genomic information is linked absolutely to the development of the core Polymerase Chain Reaction (PCR) technology. This is the fundamental in most developments involving genes. Although, for the purposes of clarity, the vaccine and diagnostic sides are divorced, the technologies exploited are inter-related. List 2 summarises 'modern' approaches which are more recent to aid diagnosis. A list is most useful since there is a large amount of data to review. Most pertinent technologies will then be more extensively described.

### **List 2. Technologies to improve diagnostics**

#### **I. DNA manipulation** (PCR enables this)

- a. Expression specific proteins for use as diagnostic reagents. Expression. Systems: E.coli, yeasts, mammalian cells, Baculovirus
- b. Gene deletion. Linking diagnosis to vaccine used. Differentiation of vaccinated and infected animals, e.g., Pseudorabies vaccine

#### **II. Polymerase Chain Reaction.** Basic systems

- a. Amplification of genes
- b. Rescue and amplification from samples (RNA and DNA viruses)
- c. Detection/differentiation of genes with specific primers. Multiplex to assess many parameters disease complexes
- d. Rapid sequencing and comparison of products-differential diagnosis/confirmation
- e. Molecular epidemiology
- f. Portable PCR machines

#### **III. Real time PCR** (biggest developing area)

- a. Direct detection of products.
- b. Massive expansion of technology. Fastest growing research area
- c. Multiplex to assess many parameters disease complexes.
- d. Robotics (genome projects). Automation for high volume testing.
- e. Expensive start-up costs

#### **IV. DNA**

- a. Hybridization reactions
- .b. In situ hybridization in diagnosis
- c. Restriction endonuclease mapping-comparison of strains

**V. Synthetic proteins**

- a. Peptides identified and produced as reagents for diagnosis
- b. Epitope characterisation.
- c. Pepscan, phage libraries

**VI. Hybridoma technology –Monoclonal antibodies (Mabs)** (Reduction in efforts in last 5 years)

- a. Large supply Mabs from tissue culture
- b. Production of defined product for use in assays to detect antigens and antibodies (ELISA). Improved specificity and sensitivity over polyclonal serum based assays. (standards easier)
- c. Panels of Mabs for qualitative comparison of strains. Rapid differentiation between and within closely related strains
- d. Production of Mab escape mutants to allow characterisation of antigens. Characterisation of epitopes at molecular level
- e. Paratope profiling (determination of antibody spectrum)

**VII. Biosensors** (many systems with few useful developments)

- a. “Instant” measurement in a single instrument
- b. Pen side possibilities
- c. Strong developments for diagnosis and environmental monitoring

**VIII. Penside tests** (successful, requires research base for development)

Dip stick technologies. Rinderpest, PPR, FMDV antigen detection

**IX. Instruments**

Rapid measurement of various signals in immunoassays

Florescence polarization, Enzyme Linked Immunosorbent Assay (ELISA), bioluminometry, chemoluminescence.

**X. Availability commercial reagents/equipment**

Restriction enzymes, DNA polymerases, reverse transcriptases, labelled bases, conjugated antibodies (enzymes, gold particles, fluorescent markers), dig-labelling, cell culture, affinity purification, cytokines, MAbs, microtitre equipment, thermocyclers. KITS, PCR. PCR/ELISA

Allow sequencing, labelling , oligonucleotide primers, antibody production (including MABs)

Primers. Many Enzyme Immunoassays (virus diseases swine, ovine, bovine, poultry, fish, dogs, cats).

**XI. Services**

Sequence data banks/ host and agent. Sequencing .Out-sourced testing. Training. Comparative data accessible to all. PCR products sequences cheaply.

**XII. Computers**

Data collection, analysis, storage, communication of results. Databanks of sequences.

Essential in sequencing and comparative studies relating large amounts information. Essential as instrumentation “brain”

The list illustrates the width of possibilities and as such is complicated. The appropriateness of any technology has to be examined case by case. It also illustrates that serologically based methods certainly have their place beside the molecular methods. Great emphasis is placed on the PCR. Laboratories able to perform this assay should also be able to perform serological techniques. Screening tests followed by more confirmatory tests are a good principle to examine. Tests also have to be considered where certain vaccines are to be used.

#### 4.7. Diagnostics technology transfer in practice

4.7.1. The Joint FAO/IAEA Division in Vienna has had a long history in technology transfer of diagnostics. This includes the ELISA as well as more recently the PCR technologies. The transfer, once again, cannot be simply regarded as one of providing reagents. Training was found to be the most vital element. This includes all aspects of laboratory practice and more fundamental scientific information (often found to be very weak). The technology was also transferred within the context of projects, the technologies providing the tool to obtain data on which decisions could be made. As such, the whole package, from sample taking, to analysis and processing of data, to action, has to be considered. Effective use of technologies only comes through the completeness of the plan. A reiteration then, but one so fundamental that it may be said again, several times. The responsibility of FAO is to guide countries. Another strong feature often not considered is the counterpart Institution and individual's roll.

#### 4.8. ELISA

This transfer has been a continuous operation for some 15 years. The need for ELISA was generated through initiatives mainly involving rinderpest, foot-and-mouth disease, brucellosis and trypanosomes. Here ELISA kits were being developed for sero-monitoring or surveillance and these operations figured in projects. The transfer has mainly been very successful with networks of laboratories in most continents able to perform good assays. Such networks also served to further validate assays.

The instrumentation to read ELISA has been remarkably robust with few problems of servicing. The peripheral equipment is also robust (multi channel pipettes, tips washing, incubators). Kits have been developed as well as allowing other ELISA systems to be run based on the experience of the scientists. Training (fundamental as well as test specific) was always necessary (continuous) as new people came into various projects and as new initiatives (e.g. Internal quality control (IQC) and External Quality Control (EQA) were introduced. This approach has also allowed the development of local expertise and now many scientists from developing countries are capable of acting for their regions and Inter-regionally.

4.8.1. The cost of setting up ELISA technology would depend on the extent to which it was used and the present facilities in laboratories. List 3. illustrates the inherent costs. The figures are meant to approximate to what will be needed depending on the present levels of laboratory equipment and facilities as well as volume of intended work. The extent of samples examined, real price for kits and their exact make up (do they contain

plates etc.) would depend on activities. Research activities would increase the miscellaneous reagent requirements and no costs for experiments have been made.

<b>List 3. Cost in establishing ELISA</b>	
<b>Item</b>	<b>\$US</b>
ELISA reader.	\$6-8000
Computer.	\$2000
Calibration plate	\$700
Tips (per 1000) Needs depend on samples run.	\$15
Microtitre plates (depending on kit supply) 10 and 80 samples per plate	\$3-8 per plate
Miscellaneous reagents.	\$1000
Pipettes (multi channel and single).	\$1500
Storage for samples racks and containers.	\$1000 per 2500 samples
Freezers.	\$1000-\$3000
Kits (variable).	\$ 0.5-1.5 max per sample examined
Incubators/shaker*.	\$3000
Distilled water apparatus* (or supply of good water).	\$2000
Washer*.	\$1500
Training (3 man months) independent.	\$6-10,000
Books	\$200
Training expert visit short-term home training course.	\$ 1000

#### 4.9. Kits

4.9.1. Coupled to the ELISA technology is the need for kits. Sets of stable quality controlled reagents and materials that allow a test to be made on samples to ascertain the antibody status with regard to specific antibody quantity or measure antigens characteristic of disease agents. This area is beset with massive difficulties. Although many kits are available the validity of their use in many cases is dubious. Validation per se is the subject of OIE guidelines and this needs reviewing dramatically. It is very difficult to define the diagnostic sensitivity and diagnostic specificity of kits. Often validation is mainly concerned with establishing the specificity with regard to samples from non-infected countries since they are produced in developed countries.

4.9.2. There must be a move to increase the process of validation to set standards to define the "fitness for purpose" of any assays, so that producers can justify kits against these requirements. A process for registration of kits is also needed and the FAO should consult strongly with OIE to establish such a system in line with the rigorous demands

for certification of vaccines and in the whole accreditation process of laboratories. The main concern will be “who will pay” for this process, but without it there will be a continuation of the practice of kit supply to anyone, who will produce results (activity) with no quality control element (IQC or EQA) and who will supply data to disease management teams which essentially cannot be assured! To this end there is a meeting in November, 2002, in Vienna held organised by the Joint FAO/IAEA Division bringing together experts from FAO, FAO/IAEA, OIE, USDA, APHIS, to address the issues of veterinary testing in terms of redefining tests and examining a registration process.

4.9.3. Kits are also produced by commercial companies, Institutions that have a research base in particular diseases and locally produced (single laboratory kits). Often Institutions are suppliers of the specific reagents to companies. This causes problems in costing (too expensive for mass use in developing countries,), sustainability, distribution and ethics. An important initiative is to support sustainable kit production and distribution in developing countries. The Joint FAO/IAEA Division has been instrumental in helping Senegal assemble, and produce quality controlled kits for African Swine Fever. This is accomplished and kits sent. This is to be coupled to EQA rounds to assure quality. This initiative will be followed by a TC project (Regional S.E. Asian) to set up kit production for FMD in Thailand. This principle of sustainable, quality controlled production of kits for regions should be supported through projects from FAO and cooperation wherever possible with similar initiatives.

4.9.4. Associated with this initiative is the management of developing country laboratories to lead to accreditation. Standards have now been devised by IAEA through OIE to accredit laboratories. There are projects in 2003 in S.E Asia to accredit several laboratories under this scheme (IAEA, TC supported). It is vital that there is Regional co-operation to enable this process, particularly in the light of developing trading requirements. Again, FAO should have a policy of supporting all attempts to accredit laboratories. The same considerations for the use of PCR in diagnostics are necessary. Validation, reagent supply and accreditation are vital to the use of PCR, which is even more sensitive to poor practice in terms of contamination of laboratories, than ELISA methods.

#### 4.10. Diagnostics and Polymerase Chain Reaction (PCR)

The potential of the PCR is that minute amounts of genetic material can be amplified millions of times in a short time, allowing the detection from samples of a single copy of a genome or part genome. PCR products can then be identified exactly through sequencing. The ability to amplify genomes allows genetic manipulation of genes which is the basis of the gene revolution. The very fact of the ultimate sensitivity of the PCR produces some of the problems in use of the method in routine terms.

##### 4.10.1. The PCR amplification has many advantages:

- Rapid diagnosis (within hours).
- High sensitivity and specificity.
- Decreasing costs for each PCR assays.
- Automated systems are being introduced.

- Less training and experience is required, compared to virus isolation.
- Detection of viral nucleic acids in samples, which are unsuitable for virus isolation, like toxic, mummified foetuses, semen or organs carrying only viral DNA copies, for example, during latent herpes viral infections.
- Use of “general” or “universal” PCR primers, which can amplify any one of the members of an entire virus family.
- Standardisation of the PCR assays is relatively easy.
- PCR provides quantitative analysis possibilities.
- Multiplex PCR assays may simultaneously provide diagnosis for a whole disease complex, like respiratory disease, which can involve a wide range of possible agents - viruses, bacteria and parasites.

#### 4.10.2. PCR assays also have some limitations:

- The PCR can not discriminate between viable and nonviable agents.
- It is still relatively expensive.
- Due to its extreme sensitivity the PCR can produce false positives.
- False negatives may also occur due to enzyme-inhibitory substances in the sample or failure to add all of the essential components to the reaction.

#### 4.11. Transfer of PCR

Through its Co-ordinated Research Programme (CRP) the Joint Division has transferred this technology to many laboratories in Africa, and along with TC of IAEA, supported training through expert visits and workshops, supplied equipment and help set up diagnostic facilities in countries world-wide. Initially it was thought that the PCR technology would be very difficult to transfer, but this has proven false. So intrinsically the PCR can be transferred provided the parameters below are satisfied:

##### 4.11.1. Important features of transferring PCR technology

1. The laboratory design in which PCR is used is correct. This is vital since contamination of minute amounts of genes can totally destroy the effectiveness of the laboratory to diagnose anything.
2. That training is given before any work commences on PCR.
3. That equipment is suitable and complete.
4. That strict laboratory practices are adhered to and rigidly enforced.

##### 4.11.2. Cost involved in setting up fundamental PCR

Setting up a fundamental laboratory is the lead in to developing more expansive methods in PCR using the fast developing PCR technologies. List 5 indicates basic requirements.

**List 4. Basic requirements and costs for PCR laboratory**

<b>Item</b>	<b>Cost \$US</b>
1. Laboratory refurbishment, 3 –4 small laboratory stations/areas needed	Local costs (1-10,000 3500-8000)
2. Thermocycler	
3. Pipettes 3 sets x 3 Only for PCR stations	1500
4. Special tips (aerosol resistant) 10,000	3000
5. Enzymes for PCR	2000
6. Electrophoresis, power packs, visualisation of gels, recording , film	6000
7. Primers for agents	1000
8. Miscellaneous chemical s	2500
9. Gloves, lab coats	1000
10. Work stations (hoods) 2	3000
11. Refrigerators and freezers	2000
12. Labelled reagents* (Note supply problems)	2000
13. PCR tubes	1000
14. Micro centrifuge	3000
15. Training 3-6 man months per person (2 should be trained)	12-24000

## **5. Vaccines**

Vaccines should be used in some control programmes to produce protection in animals, taking into account all the other control factors being employed. Vaccines are usually best supplied through commercial sources in terms of sustainable quality but often are produced more locally. Vaccines have to be regarded as expensive in terms of delivery and product, so should be used maximally in a well structured campaign. This requires all the veterinary infrastructural factors discussed earlier to be in place, including facilities to test the efficacy of vaccines and understand local strain variation which might affect vaccine performance.

5.1. More conventional vaccines may be put into groups:

1. Attenuated strains of live agents.
2. Crude preparations of agents, killed and adjuvanted.
3. Relatively pure killed agents, adjuvanted

5.2. The ability to manipulate genes through PCR has allowed research into new forms of vaccines. The list below illustrates the areas only and this document a canto go into great detail on each area. Some topics are expanded slightly.

This can involve:

- Taking out of pathogenic genes from agents so that they immunise without causing disease.

- The selection of genes which produce certain immunogenic (protection inducing) proteins for insertion into other agents genomes (vectors).
- The identification of immunogenic proteins and selection of specific genes for expression in other systems to produce large quantities of immunising protein (subunits, polypeptide, peptide) or chemical synthesis of peptides from a known structure identified.
- The use of DNA only as a vaccinating agent.
- The preparation of agents with protein but no, or a completely defective genome.
- The expression of proteins on the surface of vectors as a chimera protein.
- Marker vaccines through insertion of genes in recombinant technologies to produce a protein associated with the replication of the vaccinating agent to identify vaccinated and naturally infected livestock. Can also be subunit vaccines.
- RNA virus vaccines-reverse genetics.
- Expression in plants

5.3. Research requirements regarding all vaccines (vaccinology) require the ability to manipulate genes (PCR etc). Thus any developmental intentions should realise that a full-scale molecular biology laboratory is needed. The specific needs of a region to develop a required vaccine is best justification to perform research based on any molecular theme. The conventional vaccine approaches should be examined first and if found wanting, steps should be taken to develop newer approaches. These must involve studies on the more local aspects of disease agents. Research leading to a possible product is not the end of the story since scaling up (manufacturing processes) is just as vital and facilities to do this must also be available. It is clear that a consolidated approach to genetic engineering in the vaccine area is needed in countries, a focus of resources. Similar techniques for developing vaccines and products can be used by human and animal as well as plant molecular scientists and Institutions for research should not be competing for similar resources.

5.4. Another factor in development is the intellectual property surrounding genes and methods involved. This must be addressed before any developments are made, since it might be contested that developments are suddenly “owned” by others where a commercial advantage is seen. The FAO should take account of this and provide clear advise on developing any vaccines.

5.5. General features which must be considered in vaccines include:

1. The host species immunology, protective mechanisms (humoral or cellular).
2. The agent structure and function (antigenicity, pathogenicity, variation).
3. The vaccine formulation in terms of agent (whole attenuated agent, whole inactivated agent, large mixture of antigens, polypeptides, peptides).
4. Delivery systems for vaccines (injection, oral, water, aerosol, particulate, etc.)
5. Physical stability of vaccines (heat stability affecting efficacy)
6. Need (quantity vaccine required, scaling up, industrialisation).
7. Safety to animals and humans (reversion of attenuated trains, sterility, residues due to adjuvants).

## 8. Animal experimentation facilities to assess usefulness and safety of vaccines.

Genetic developments certainly help in some of these areas over more conventional approaches and may offer distinct advantages to developing countries.

### 5.6. Vectored vaccines

These vaccines use a “proven” safe and vaccine (the vector) as the backbone on which to graft new genes which express immunogens from other pathogens. Thus, vaccination with the recombinant induces a protective immune response to the new foreign inserted gene product. The most commonly used approach is to use a vaccine with a large DNA genome as vector to deliver foreign antigens. In early experiments vaccinia virus was used as the vector and the most successful product of this type is the vaccinia/rabies recombinant vaccine, which is now widely used in Europe and the USA to control rabies. This vaccine strain can still cause disease in a minority of humans. Safer versions of the vaccinia virus, for example the vaccinia MVA strain, are now preferred for vaccine development. This virus infects but does not replicate in mammalian species.

Poxviruses, such as avipox (canarypox and fowlpox), swinepox and capripox, myxoma have been applied successfully as vectors and are more suited for veterinary use as they target the homologous host species. In the case of rinderpest virus, both vaccinia and capripox recombinant vaccines have been produced both of which effectively protect animals against challenge with virulent virus. A recombinant Newcastle disease virus vaccine, using fowlpox virus as the vector to express immunogenic proteins from the Newcastle disease virus, has been licensed as a commercial recombinant vectored vaccine and a canary pox-based vaccine for feline leukaemia is now also available.

5.6.1. Many other DNA viruses, which have large genomes and are easy to genetically manipulate, have been used as vectors. Some vaccines have been produced for avian diseases using herpes virus of turkeys (HVT) as the vector. One such vaccine is used to protect chickens against both infectious bursal disease (IBD) and Marek’s disease. The smallest DNA viruses that have been used as a vaccine vectors are the adenoviruses. These in many ways are the most difficult to work with since some have oncogenic potential, they are highly species-specific and the genome is relatively small and can accommodate at the most two extra genes. However, an adenovirus recombinant has proved to be very promising as a potential vector for FMDV antigens. Another complication is that adenoviruses are very common in nature, thus, the replication of the adenovirus recombinant vaccine may be reduced or prevented by the original immunity of the animals, for example racoons are infected with canine adenovirus, or related viruses and the CAV-rabies recombinant replicated very poorly in this species. In addition adenoviruses, unlike poxviruses, are not very stable in the environment which makes them unsuitable for the vaccination of wildlife.

### 5.7. Virus-like particles

Virus-like particles or VLPs are virus particles that lack a functional or have a defective genome. They can be used as effective vaccines since they bind to the virus receptors

on the host cell, enter the cells and induce an immunogenic response, without the dangers associated with replication, such as reversion to virulence.

5.7.1. For example four of the bluetongue virus proteins, namely the core proteins VP3 and VP7, as well as the two surface proteins VP 2 and VP5, when expressed together in a baculovirus recombinant can produce VLPs. Such VLPs are structurally identical to true virus particles and have been used to protect sheep against bluetongue. Their complex structure induces a better antigenic response than do individual virus proteins and they do not require adjuvants. A similar vaccine has been produced for African horse sickness, another orbivirus.

5.7.2. Other systems, for example the alphaviruses, Semliki forest virus and Western equine encephalitis, have been used to producing VLPs. Alphavirus replication requires the production of a subgenomic mRNA to produce the envelope glycoproteins and this region is substituted by foreign genes. The resulting virus is not able to form virus particles unless it is transfected into a cell which expresses the missing proteins, in which case it will produce VLPs. These can then be harvested and used to produce the vaccine virus which can enter and produce the foreign protein in new host cells but which cannot then replicate as infectious virions so they are safe to use as vaccines (Berglund et al., 1993).

## 5.8. DNA vaccines

Another breakthrough in vaccinology came with the finding that DNA itself could act as the vector and be used as a vaccine. This approach has shown great promise in animal model systems and is now a very active field of research for vaccine development. One of the most important features of DNA vaccines is their ability to induce a cell-mediated response through the production of cytotoxic T lymphocytes (CTLs). Because of this ability to induce a CTL response, a further development of this has been the prime-boost approach to a DNA vaccine expressing the immunogens is used to "prime" the immune system response, which is then amplified using a vectored vaccine, usually a vaccinia-based vaccine. This approach is now being used in clinical trials of vaccines to protect against HIV and parasitic diseases such as Leishmania and malaria. This approach has also worked with an adenovirus recombinant as the booster vaccine to protect pigs against CSF.

## 5.9. Engineering and production of cytokines improved adjuvants

The development of vaccines also includes improvement in adjuvants. Here there is scope to research into system. The main functions of the adjuvant in a vaccine are to keep the antigen at, or near, the injection site and to activate antigen presenting cells to achieve effective antigen processing and interleukin production. There is currently great interest in developing new adjuvants, particularly those which act as 'antigen depots' providing controlled release of antigen over a long time span. Candidates include oil-water emulsions, liposomes, iscoms and biodegradable microspheres.

The immune system is regulated and activated by hormone-like cytokines. Immune responses to vaccines depend on complex cytokine mediated interactions and it is

known that injection of certain cytokines can augment responses to vaccines. Recently cytokine genes have been engineered into live virus vectors enabling production of cytokines in a very localised environment. The expression of certain cytokines by vaccinia virus can selectively stimulate particular responses in mice following immunisation.

#### 5.10. Edible vaccines

This approach to vaccine production is still at the early stages but promising leads have been followed to the point where proof of principle has been established. While it is obvious that using plants to produce immunogens would be very easy and cost effective it is not clear yet how easy it will be to vaccinate the target host species using the oral route.

The major practical constraint is that concentration of recombinant antigen in the plant tissues is normally very low and unpredictable expression levels are achieved, depending on where the transgene integrates into the plant DNA. Nevertheless, a strong immune response has been reported to occur in mice either fed or injected with an extract from an alfalfa plant engineered to express either the VP1 structural protein of FMD or an FMD-specific peptide fused to betaGUS protein. This is essentially using a plant to produce a peptide, which is known to induce a protective response to FMD. Similarly, transgenes in potatoes which, express either the complete or part of the spike protein gene from swine-transmissible gastroenteritis virus, have been shown to be immunogenic when inoculated intraperitoneally in mice. A complication is the increasing public antipathy to the growing of genetically manipulated crops.

#### 5.11. Cost involved in developing, producing and using vaccines

This is not easy to assess without dealing with specific situations. The cost of research can be regarded as high, although it is not necessary difficult to set up well equipped laboratories to do the work. The main costs are maintaining scientists (salaries and reagents), equipment, buildings. This could amount to sums in the high 100,000s of dollars per year.

A critical mass of scientists is needed to examine different approaches and the risk is that success is not assured. Even where there is a potential vaccine candidate, this then has to be subjected to extensive testing to prove efficacy, robustness, safety, and qualitative consistency. The risk is also that vaccines have to be scaled up and this requires a manufacturing infrastructure, again difficult to quantify. However, research findings can be “sub-contracted” to interested third parties and arrangements made to produce products with mutually acceptable, financial arrangements. Once again, it must be emphasised that cooperative efforts in regions offer a far better pay back than individual countries all competing in any particular line of research. Data shared and work planned together is a far better competitive signal and is logical since the disease problems are likely to be the same.

One of the advantages in research could be that different countries actually do have the genetic target of interest as a disease, and as such can trial the vaccine under field

conditions. This product might have a much wider applicability and therefore, ensure a higher potential overall market value.

## 5.12. Conclusion on vaccines

5.12.1. Molecular methods offer unique ways of constructing novel vaccines. This development potential requires a relatively small outlay for equipment and reagents, but a high investment in training. There is little security in being certain that approaches will be successful. Research purely from the vaccine point of view is only part of the problem, investigations into the immunology of target species is necessary and lacking even in developed countries. Even where products look good from the small scale and animal experimental area, the need to register products is expensive.

5.12.2. Conventional approaches should always be looked at first where there is a more immediate need for control. The bad use of good vaccines must be avoided through good planning and coordination between field, diagnostic and epidemiological workers involved in disease control.

5.12.3. There can be a rapid utilisation of techniques developed in other laboratories (in developed countries) since genes and methods can be transferred easily. Care has to be taken where such exploitation is made with regard to patenting and intellectual property rights. The FAO should make this area clear and recommend procedures to help developing countries assimilate developments through furthering cooperation of developed and developing country scientists.

5.12.4. One point made before is that there is a danger that a technology gap will appear between the molecular scientists and those involved in diagnostics, certainly with regard to trained people able to test molecular products and constructs. The mutual understanding of both ends of the areas is necessary and this is particularly important in administrators decisions regarding the research and applied funding needed in developing (and developed) countries. This also includes those in charge of large scale "Aid" in e.g. WB and EC, who often favour molecular developments at the total expense of more feasible and useful conventional approaches, or who fail to fund elements necessary to evaluate molecular products. This is increasingly obvious in more rapidly developing countries e.g. Poland, Hungary, Czech Republic, who are tending to increase their 'genetic' research infrastructure but ignoring all the basic science. Ultimately this leads to frustration by scientists involved in molecular studies, who see a dead-end to their developments, a polarisation of funding which depresses the more basic scientist and a large waste of time and resources through ill conceived efforts to address the problems.

## 6.0 A perfect scenario-good planning

6.1. Basically a good plan will address the simple equation proposed, despite any other jargon imposed in management-speak. Such questions, if all answered will both justify the work, say who and where it will be done and address the massive problem, so often ignored as to HOW it will be done. The difficulty resides in the required DETAILS to say how and it is details that count. Senior management has a bad habit (including all

organisations) of not bothering with details at all and passing them on and on to be picked up at the so-called technical level. At this point, the difficulties usually not foreseen become too overbearing to overcome and a bad project follows, diluted in intention (Why are we doing this?). The simplistic overview is admitted, but basically this is a politically unacceptable but practical truth. To avoid this a few simple questions should be in the minds of planners at all levels and all should be answerable at all times during the formulation and implementation of a project.

## 6.2. What?

This questions exactly what is trying to be achieved by the project. An overall objective then.

## 6.3. Why?

This tries to get away from any seemingly obvious reasons and catalogues all the countries demands. Planning may well come up with an answer that there is no, 'Why' and that a project is therefore not worth doing. Many projects fail simple because there is no collective agreement on the aims nor perceived advantages to one section or another. Planning of the Why then becomes as broader exercise as can be made and a national as well as hopefully regional exercise.

## 6.4. When?

This is critical to planning since a time frame will dominate assessment of any achievements. It will indicate when things are expected and a budget line.

## 6.5. Where?

Critical too since this examines resources, indicates needs, alters ideas in time lines (a new building may be needed). It sorts out the political wrangles that often takes place when resources become available to a project were previous parties, not involved in planning suddenly announce their superior abilities to do the work proposed better.

## 6.6. Who?

Linked to Where, this seems to be the major area where a project may sink or swim. The suitability of counterparts to understand, be involved with and fulfil tasks in a time bound and open manner is critical. Political considerations again have to be overcome before a project is instigated since orientation of other less suitable people has a bad effect on most projects. This also applies to trained personnel who then leave to take up e.g. commercial jobs through their newly gained expertise (this is more and more apparent in developing country scientists trained in PCR).

## 6.7. How?

Once there is a consensus about a project then all aspects have to be reconsidered in great detail, the HOW. This entails responsibilities being given to personnel involved

in the various aspects of the project who can then estimate resources needed in time. This includes equipment, reagents, vaccines, training, laboratory refurbishment, data analysis methods, data storage, action plans etc. This can only be done when the previous 5 W are worked on. It is here that FAO can help most.

Armed with the principles and demand that good projects ONLY should be submitted to say FAO, the details can be fleshed out and resources (cash terms) allocated. This assumes that the criteria for a good project can be met by countries and this document may aid this process. Good planning required training and coordination. The latter requires a considerable political will which must be cultivated by all involved in food security issues.

## 7. FAO

- The FAO as a policy should train more countries to plan better and only support well-planned country projects with a bias towards Regional approaches.
- Projects should not be supported which only aim at a given direction e.g. we want to do something about disease.
- The threat of a “lack of effort” should not influence any increase in activity by FAO to interfere with market forces encouraging or discouraging efforts.
- Ultimately the trade issues will decide where resources from countries will be placed. This should be central to efforts both in allocating funds and re-investment initiatives to alleviate poverty.
- Regional education should be made by FAO at all times, since diseases are entirely trans-boundary and without all affected being concerned in the remit of the disease agent, there is little chance of success.
- Many of the paragraphs in paper one refer to activities that should be made in countries. They are telling countries to examine themselves in detail with regard to animal diseases. This also requires a HOW?
- There is a massive competition for resources both within any country and a massive increasing stretching of FAO resources to cover projects and normative roles in aid.
- There is a need internally to greatly increase the staffing levels of officers engaged in helping countries to evaluate and plan.
- There should be a serious cooperative effort between all donors, a real cooperative effort to streamline and coordinate responses, which presently often give conflicting advice and massively upset approaches based on smaller packets of aid through saturation of funding to inappropriate technologies to achieve results.
- There should be a cooperative effort to run regular general training programmes on a regional basis to increase the fundamental knowledge of counterparts in laboratory techniques., both immediately useful conventional techniques as well as molecular.
- Losses due to training personnel lost to commercial concerns should be examined and steps taken to redress balance.

- Regional meetings of senior officials concerned with animal health issues should be arranged routinely to foster awareness of the needs to plan measures from all perspectives. These should be supported from all donors to avoid duplication of effort and confusions in terms of advice given. Both research and applied activities should be addressed regionally.

## 8. Control of diseases - overall view

Figure 1. outlines the components involved in a countries consideration of veterinary matters concerning disease control. The black lines denote contact whilst the gray dashed lines and arrows denore a reporting flow of information or samples. Although this may seem complicated it indicates the various roles needed in a country, which must be complete to have a good chance of success. Letters have also been given to the various “blocks”, as well as numbers to question marks denoting important questions and linkages which may be absent. These are dealt with briefly now and the exploitation of molecular and conventional methods aiding diagnosis and vaccines are highlighted.

- A. This means that disease is present in a country. Disease likely to be seen by C, D and E first.
- B. Illegal movement is very common and causes movement of disease affecting both small farmers (C) and commercial concerns (F).
- C. The small farmer with subsistence existence. Education needed and links with D and E essential. Links may be physical rather than telephone or other method. Clinics may be important sources at seeing disease, but may reflect later stages.
- D. The veterinary helper. Probably the first to see disease or have it reported by (C). He/she is also part of other initiatives and can be trained to perform limited veterinary tasks. His work can be purposive (directed towards specific areas and diseases) as well as passive (routine, clinic approach). Contact rate must be high with C.
- E. Field veterinarian. Responsible for routine and purposive (funded) work. Often poorly paid and in poor contact with administrative levels higher up (I, J, M). enside tests may help as wel as high technology communications devises in remoter areas. Sampling necessary and means to send damples to (H) or direct to (I)
- F. Commercial operations relying on larger scale farming with higher profits. Links to governmental veterinarians and control can be weak (1? 2? And 3?) and hence not supervised. Disease often hidden increasing problems to (C) and other (F).
- G. Veterinarians employed privately. Can be affected by (F) commercial values and lack of transparency.
- H. Laboratory (clinic) able to perform some testing. Receive samples and pass them on to I or work with E to solve problems locally. Reporting to I important. Can use pen side tests as for E.
- I. Regional well equipped laboratory able to make diagnosis, differential diagnosis and analyse data etc as shown. Molecular methods required. May be the site of epidemiology unit (J) in which case takes on duties shown for (J).

Communication with a separate (J) and other national laboratories (K) vital. This is a key laboratory and must be supported through being able to receive, store, analyse and report data as quickly as possible to ((J) then to M) , E, K. Should also be reported to by F.

- J. Epidemiology unit sited in or separate to (I). Vital unit to design, plan, receive data, analyse data, prepare reports, communicate to field (I, H, E) an link strongly to policy makers in (M) to evolve contingency plans (\*) and be in charge with M of action plans \*\*. Links to International bodies also needed (N), as well as reporting and planning with other national laboratories (K).
- K. Similar laboratories to (I) and epidemiology units to (J) in other countries. Rapid communication needed on daily basis informing of disease picture and early warning of diseases. Bilateral communication necessary as well as meetings.
- L. A good knowledge by M of research Institutions needed to assess who does what with regard to developing products for diagnosis and vaccines. Strong relationship between M, N and J are needed as well as links to I. Training a key area for both veterinarians and researchers. Molecular methods needed.
- M. Vital that relevant Ministries plan concerted action. Linkages made will all concerned in control. Contingency plans prepared and constantly updaed in light of Regional disease and activities. Policies towards training and research made and funded.
- N. OIE role is to set standards and guidelines including serological and molecular methods. Validation and kits use can be examined in light of the trade issues. Reporting disease to OIE important.

## Note

Gray arrows need examination. Reporting system is vital and means of rapid communication from field to laboratory (H) and (I). There can be doubts about reporting disease and these should be fully investigate, particularly where there is a commercial set up with independent veterinary staff. (F, G).

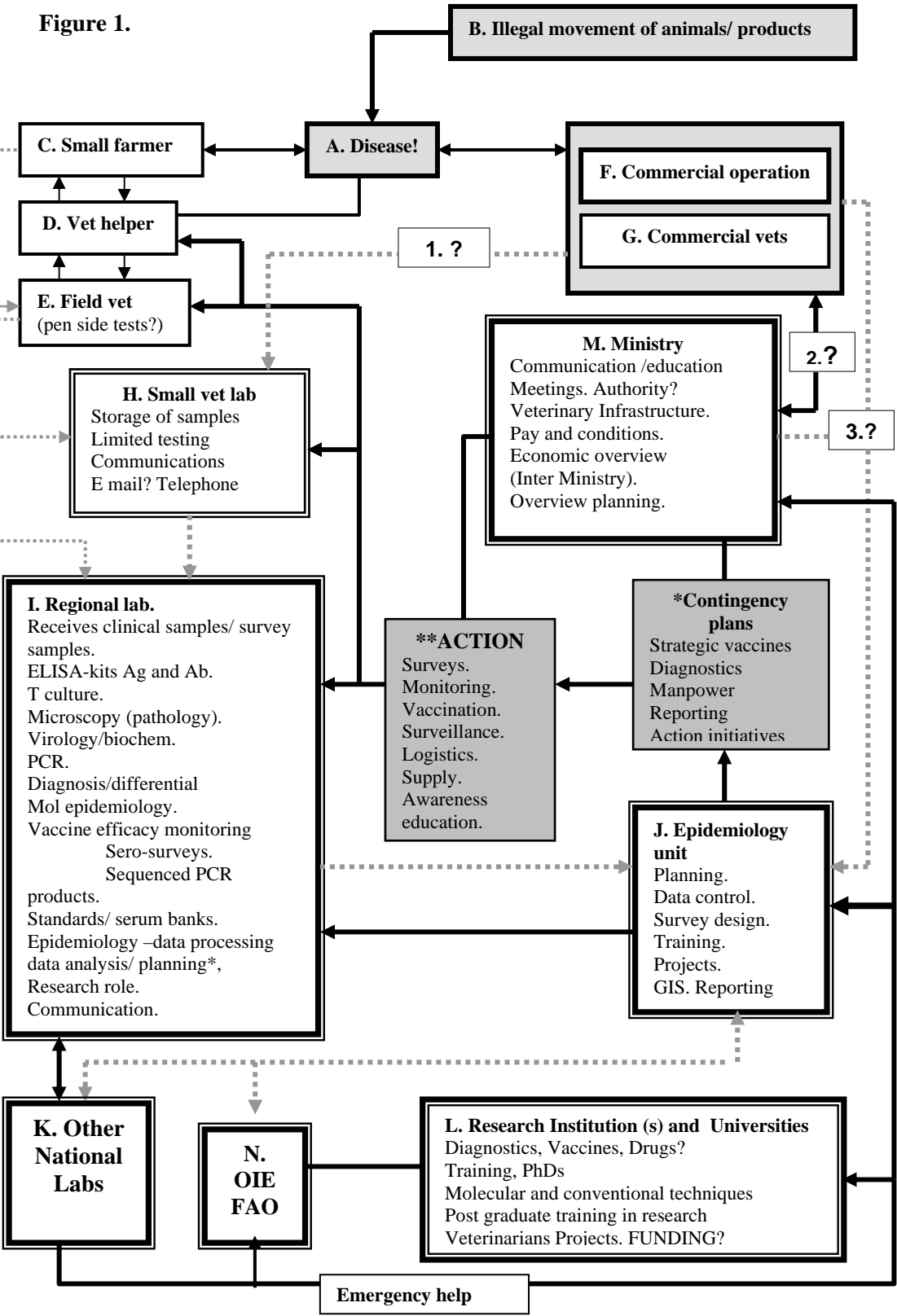
\* Contingency plans. Vital as they prepare for all eventualities concerning disease and responses. Action plan depend on measures outlined. Staff mobilization and protocols for control fully defined and practice needed.

\*\* Action. This is the action taken on any scenario. Following reporting and confirmation of disease the exact sequence of events as defined in contingency plans is made. Communication then is vital both to the teams and laboratories involved as well as back from field via reporting and sampling requirements. The laboratory must be have enough planned reagents for most eventualities and thus this is a cost to be built into overall budgets. The ministry can then be activated to call for International help in the event of a major crisis (see arrows connecting M, J and N).

## 8.1. Methods exploited

- D and E    Biosensors and pen side testing. Danger that mis-diagnosis (negative) is wrong. Samples must be taken and examined at better equipped laboratories. In remote areas can have higher value.
- G            Possible laboratories enabling local testing for vaccine efficacy (e.g. ELISA) and PCR diagnosis. This has been set up in some commercial concerns. Reporting though not mandatory needs. Legislative clarity. Danger of miss-diagnosis and local measure inadequate to control disease.
- H            Can be well equipped and would depend on size of a country and laboratories needed to cover geographical spread. Veterinarians could also be technicians here. ELISA suitable and good storage of samples for onward confirmation to central (regional labs). Molecular methods would depend on importance of lab. Staffing levels would have to be higher if PCR was run. Such laboratories also act as repositories for sample collection equipment and reagents and possibly vaccines.
- I            Top level laboratory able to do all techniques.
- Antigen isolation and identification through ELISA and PCR amplification, differential diagnosis. High capacity for outbreak situation, some automation where very extensive sampling needed. Involved in both routine confirmatory work and purposive sampling in control programmes, testing of vaccine efficacy, sero-monitoring, antigenic characterization at sequence level and molecular biological identification and molecular epidemiology.
  - Research needs to can be met with staffing adequately trained.
  - Reference center status also needed in regions to allow standards for conventional serology as well as PCR, EQA (also for conventional and PCR needs). May act as reference laboratory in own right for a country or as central laboratory where country has several labs.
  - Could get involved in ending kits for serology e.g. ELISA and for PCR (primers and protocols).
  - Should be on accreditation pathway at least. (FAO and IAEA set up programmes for this and IAEA through TC projects.)

Figure 1.



## South Asia – Priority Diseases

(Presented by V K Taneja, Deputy Director-General, ICAR (Animal Sciences), India)

Slide 1

**South Asia - Priority Diseases**

**Rinderpest** (*Different stages of freedom*)-RP

**Foot and Mouth Disease – FMD**

**Peste des Petits Ruminants –PPR**

**Haemorrhagic Septicemia-HS**

Slide 4

**South Asia - FMD**

1. Each country needs to establish its own national diagnostic facility and capacity for FMD (possible common for all TADs)

Slide 2

**South Asia**

- **Creation of a mechanism or an organisation at the national level for the control of TADs in each country is required.**
  - Involve stakeholders (farmers, livestock traders, industry etc.) for successful implementation of the TADs control program (common diseases and regions)
- **Creation of a Regional Coordination Unit for the control of TADs under APHCA with working groups for SA and SEA.**
  - RCU will be charged with identifying TORs and regional priorities.
  - Resources need to be identified to support RCU (common issue).

Slide 5

**South Asia - FMD**

**Recommendations for Regional Initiative contd...**

Need to establish a Regional Reference FMD Laboratory according to OIE/FAO guidelines and capable of supporting molecular based diagnostics with clearly defined regional mandate.

**Suggested that capabilities available with ICAR - Project Directorate on FMD could be used**

Slide 3

**South Asia - FMD**

**Recommendations for Regional Initiative**

Progressive FMD Control Programme with a defined timeframe

Undertake Economic impact analysis of FMD control both within the country and the region

Detailed Epidemiology of disease in each country and the region to define Primary endemic zones and address priorities for control

a. Control strategies Elaboration of epidemiology based are recommended

Defined zonal approach as per OIE pathway for creation of Disease Free Zones within each country.

Slide 6

**South Asia - FMD**

**Recommendations for Regional Initiative contd...**

Availability of appropriate, safe and efficacious vaccines is a prerequisite

- Vaccine quality will be independently evaluated

**Vaccination strategies need to be developed on epidemiological information relating to current virus strains circulating and susceptible species involved.**

Slide 7

**South Asia - FMD**

**Recommendations for Regional Initiative contd...**

Management and control of animal movements: within and between countries for success of control program

- Legislation
- Animal Identification
- Quarantine

Share information about prevalence, spatial distribution, movement and emergence of the disease with early warning protocols in place (common for all diseases and subregion).

Slide 10

**South Asia - Rinderpest**

**Recommendations for Regional Initiative**

Regional initiative for the control of TADs should include Rinderpest ensuring that:

- early warning systems involving effective surveillance and diagnostic confirmation is maintained at national and regional levels
- early reaction systems are in place in case of resurgence/re-introduction
- all countries achieve OIE accreditation of freedom from infection by the end of 2007

Slide 8

**South Asia : FMD- Key Issues for the Regional Initiative contd..**

Long term political will essential for success

ENGAGE CHINA (COMMON ISSUE FOR BOTH SUB-REGIONS)

PUBLIC AWARENESS IMPORTANT BUT NATIONAL GOVT. RESPONSIBILITY

Slide 11

**South Asia - PPR**

**Present situation**

PPR is considered to be of high importance by all countries in South Asia

It merits inclusion in a regional TAD initiative

Control of PPR in small ruminants should be taken up simultaneously with FMD

Slide 9

**South Asia - Rinderpest**

**Present Situation**

Countries in the region are in different stages of attaining the Rinderpest free status

Many countries have been accredited "free from Rinderpest infection"

It is essential for all countries in the region to maintain commitment

Slide 12

**South Asia - PPR**

**Recommendations for Regional Initiative**

Regional initiative for the control of transboundary animal diseases should include PPR

Epidemiological studies are needed for each country to develop control strategies

Locally developed diagnostics and vaccines should be harmonized for use

Slide 13

**South Asia - PPR**

**Priority issues requiring support are :**

- quality assurance of vaccines and diagnostics with harmonization across the region
- Differential diagnostics is a priority.
- infrastructure and human resource development
- enhancing regional early warning capabilities and epidemiological understanding through sharing of disease information, and
- management of livestock movement.

Slide 16

**South Asia  
Haemorrhagic Septicaemia**

**Recommendations for Regional Initiative**

There is lack of data on the disease

Regional coordination among the countries for collecting epidemiological data and diagnostics

Countries have the conventional capabilities for diagnosis

Molecular effective diagnostics need to be developed

There is need for development of better vaccines and use of new adjuvant in the production of HS vaccines.

Slide 14

**South Asia - PPR**

**Priority issues requiring support are :**

Within the regional program, maintaining Bhutan & Sri Lanka free from infection must be a priority.

Combining FMD and PPR control program can be easily justified as it will be beneficial in terms of:

- optimizing use of resources
- cost savings
- logistics for both together : vaccination, sero-monitoring
- immediate and higher socio-economic impact than FMD
- PPR eradication is feasible and faster
- increased chance of political goodwill

Slide 17

**South Asia  
Haemorrhagic Septicaemia**

**Recommendations for Regional Initiative**

Effective control measures of HS vis-à-vis FMD is required

Role of combined vaccines need to be assessed

Development of new generation vaccines

Strengthening of sero-diagnosis facilities in the region

Slide 15

**South Asia  
Haemorrhagic Septicaemia**

**Present Status**

HS is widely prevalent and considered to be an important disease in all the countries in South Asia

The regional initiative for the control of transboundary animal diseases should include HS where relevant

Slide 18

**Other areas of cooperation in  
South Asia**

- Strengthening of standard of veterinary services in the region
- Harmonization of legislation for the purposes of trade
- Harmonization of diagnostic reagents, tests and standards for mutual recognition and test results for trade purposes
- Joint collaborative work on agreed areas of mutual benefits; and
- Visits of scientists for joint work

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## Summary recommendation of the Southeast Asia consultation on transboundary diseases

(Presented by Chaweewon Leowijuk, Deputy Director-General, DLD, Thailand)

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Slide 1

Summary Recommendations of the South East Asia Consultation on Transboundary Animal Diseases

Chaweewon Leowijuk

Slide 4

Resource Person

- FMD : Dr. John Edwards
- Rinderpest & PPR : Dr. Peter Roeder
- Classical Swine Fever : Dr. Trevor Drew
- Haemorrhagic Septicemia : Dr. Rajchane Atthi
- Organizing team : Dr. Morzaria, Dr. Edwards, Dr. Benigno

Slide 2

This summary is adopted from the FAO/OIE Consultation on Regional Control of Transboundary Animal Diseases 28-29 July 2003 Bangkok, Thailand

Slide 5

Development of Recommendations

- Reviewed information of FMD, Rinderpest & PPR, CSF, HS was presented by the expert as an introduction prior to each discussion session
- "Brain storming" of small discussion group facilitated by FAO expert for each TAD
- Outputs of the discussion were summarized and presented to the group for more comments
- The proposal was formulated based on the general agreements of the participants

Slide 3

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- Dr. Budi Tri Akoso (Indonesia)
- Dr. Syseng Khounsay (Laos PDR)
- Dr. Kamarudin Md. Isa (Malaysia)
- Dr. Ne Vin (Myanmar)
- Dr. Ronello C. Abila (Philippines)
- Dr. Chaweewon Leowijuk (Thailand)
- Dr. Hoang Van Nam (Vietnam)

Slide 6

Four prioritized Transboundary Animal Diseases

- Foot and Mouth Disease
- Rinderpest and Peste des Petits Ruminants (PPR)
- Classical Swine Fever
- Haemorrhagic Septicemia

Slide 7

**Rinderpest :**  
The Global Rinderpest Eradication Programme (GREP)

Current status	Action Needed
<ul style="list-style-type: none"> <li>● Free from Infection                             <ul style="list-style-type: none"> <li>● Indonesia, Laos, Malaysia, Philippines, Vietnam</li> </ul> </li> <li>● Free from Disease                             <ul style="list-style-type: none"> <li>● Thailand, Myanmar</li> </ul> </li> <li>● Undefined                             <ul style="list-style-type: none"> <li>● China, Cambodia</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● Maintain surveillance and annual reconfirmation to OIE</li> <li>● Complete sero-surveillance and apply for Freedom from Infection</li> <li>● Complete sero-surveillance and apply for Freedom of Infection under the 10 year rule</li> </ul>

Slide 10

**PPR : Recommendations**

- Raise awareness of the risk introduction and strengthen emergency preparedness plan
- Active surveillance for PPR along the Bangladesh/India/Myanmar border

Slide 8

**Rinderpest :**  
**Recommendations**

- Maintain commitment and progress
- Constantly monitor the situation and assistance can be provided immediately
- Maintaining vigilance against re-emergence by
  - Early warning system
  - Early reaction system
- Achieve Global Freedom from Rinderpest by the end of 2007
- Specific assistance will probably required for China and Cambodia

Slide 11

**Foot and Mouth Disease:**

**Current activities**

- FMD control in the region through SEA-FMD Campaign
- Progressive zoning approach, endorsed by the OIE Sub-Commission
- Transition of SEAFMD to ASEAN

Slide 9

**Peste des Petits Ruminants (PPR) :**  
**Current status**

- Currently all countries in SEA and China are believed to be free
- However epidemics in Nepal, India and Bangladesh pose an increasing risk to Myanmar and the region

Slide 12

**FMD : Recommendations**

**2 Major Approaches**

- Strengthen Regional co-ordination and co-operation
- Accelerate the progressive zoning approach to the control and eradication of FMD in SEA

Slide 13

**I Strengthen Regional co-ordination and co-operation by :**

- Ensure smooth transition of SEAFMD to ASEAN
- Strengthen laboratory network
- Establish epidemiology network
- Harmonized information system
- Link with neighboring countries of the region eg. China, India and Bangladesh
- Integrate all stakeholders
- Communicate with all stakeholders

Slide 16

**Classical Swine Fever:**

**Current status**

- Endemic in SEA
- Live attenuated vaccination is a common practice in many countries
- It is feasible and possible to eradicate CSF in some countries in SEA
- More pro-active and coordinated approach to control CSF should be initiated

Slide 14

**II Accelerate the progressive zoning approach to control and eradication of FMD in SEA by**

- Provide resource for the establishment of FMD free zone
- Increase capacity buildings in animal health services
- Review policy and implementation on animal movement management
- Generate practical and universal animal identification system

Slide 17

**Classical Swine Fever:**

**Recommendation**

- Formulation of policy for CSF control by governments of ASEAN member countries
- The policy and strategies must be based on sound epidemiological data
- The policy should support CSF control program facilitated by regional & international agencies

Slide 15

**II Accelerate the progressive zoning approach to control and eradication of FMD in SEA by**

- Planning and training for emergency preparedness
- Create communication program to raise public awareness
- Consider pig zoning for CSF in the area with potential trade opportunities

Slide 18

**Classical Swine Fever:**

**Recommendation**

- Harmonization of testing and prophylactic control
- Promulgate stakeholders and raise awareness of the industry
- Extensive training on clinical and laboratory diagnosis
- Existing epidemiological tools (for FMD) can be utilised for CSF

## Slide 19

## Classical Swine Fever:

## Other considerations

- Degree of industrialization of pig farming widely varies among SEA countries. In countries where village based system is predominant the social importance of pig rearing and its integral part must be taken into account in planning.

## Slide 20

## Haemorrhagic Septicemia (HS)

## Current status

- HS is of utmost concern to farmers
- HS control strategies should be drafted
- Needs:
  - High quality vaccine
  - Update information on HS outbreaks
- Simultaneous HS and FMD vaccination should be decided by national authority
- More studies should be conducted to formulated recommended prophylactic measures for the region

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## **Provisional Agenda for the 64<sup>th</sup> Executive Committee Meeting and the 28<sup>th</sup> Session of APHCA**

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1. Opening of the session
2. Adoption of the agenda, induction of chairperson and election of executive committee members
3. Minutes of the 62<sup>nd</sup> and the 63<sup>rd</sup> executive committee meetings and the 27<sup>th</sup> session of APHCA
4. Statement of accounts of APHCA trust fund for 2004 and other financial matters
5. Report on APHCA activities during 2003-2004
6. APHCA programme of work and budget for 2005 and 2006
7. Update and future requirements for regional collaboration in the control of HPAI in Asia and the Pacific
8. Workshop on small-scale dairy production and processing
9. Provisional agenda and venue for the 65<sup>th</sup> executive committee meeting and the 29<sup>th</sup> session of APHCA
10. Other business
11. Adoption of the minutes/report of the session

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## **Inaugural address**

*By Sikandar Hayat Khan Bosan*

*Minister of State for Food, Agriculture and Livestock, Pakistan*

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His Excellency Dr Jose Q. Molina, Chairman, APHCA,  
 His Excellency Dr Lubroth, FAO ROME,  
 His Excellency Dr Peter Roeder, Secretary of GREP, FAO Rome,  
 Mr Salik Nazir Ahman, Secretary, Ministry of Food Agriculture and Livestock,  
 Mr Razaqat Hussain Raja, Animal Husbandry Commissioner,  
 Distinguished guests, ladies and gentlemen,

We are delighted and honored to host the 62<sup>nd</sup> Executive Committee meeting and the 27<sup>th</sup> Session of the Animal Production and Health Commission for Asia and the Pacific (APHCA) and welcome you all to Pakistan.

I have been told that APHCA sessions are principally designed to enhance the development of the livestock industry within the Asia Pacific region. These annual meetings help the member countries to share information and views on various aspects of livestock production and health. The member country may be benefited from each other's experiences.

Livestock raising is an integral part of agriculture and its role in the rural economy may well be realized from the fact that million of rural families are deriving their livelihood from it. World Bank more recently has therefore included livestock sector in their list of programs for funding livestock development programme as well as opportunities in livestock sector for member countries. These countries may increase the output of their livestock sector by controlling diseases of trade and economic importance.

Livestock plays a vital role in Pakistan's economy. It accounts for 38.4 percent of the agriculture value added and 9.3 percent of national GDP. Its net foreign exchange earnings were to the tune of Rs. 51.5 billion for the year 2001-2002 which accounted 11.4 percent of the overall export earning of the country. Its role in the rural economy may be realized from the fact that 5-7 million rural families are involved in livestock raising, deriving 25-30 percent of their incomes from it. Livestock sector had achieved 4-5 percent growth during the last decade. Our livestock development policy revolves around following:

- Fulfillment of the ever increasing urban demand for livestock products;
- Phasing out of import of livestock products;
- Promotion of exports of livestock and livestock products after meeting domestic demand;
- Rural poverty alleviation through raising livestock.

Our strategy for future development of the livestock sector focuses on increasing the productivity per unit animal; rather than livestock numbers, improving animal health coverage; improving marketing facilities; and improving the quality of livestock

products. The strategy depends on the private sector for its implementation and on free market prices to determine the allocation of resources.

According to a FAO study, the global livestock output is growing at a rate of 2.5 percent per year and meat production now exceeds 230 million tonnes. The world demand and consumption of livestock products is expected to nearly double in the next 20 years. Most of this demand growth is expected to take place in developing countries associated with greater population growth and emerging economies, particularly in Asia.

In the Asia and Pacific countries (excluding China) meat production has risen from 18 million tonnes in 1981 to 34 million tonnes in 2001, a growth of 5 percent per year for 20 years. In particular, chicken meat has increased from 3.8 million tonnes to 10.1 million tonnes, beef and buffalo meat from 6.5 to 11 million tonnes and sheep / goat meat from 3.3 to 4.6 million tonnes. In addition milk production has increased from 82 million tonnes to 184 million tonnes and egg production from 5.4 million tonnes to 10.7 million tonnes in those twenty years.

The coming years are a critical period for livestock production in the Asian Region. Poorly planned animal breeding strategies, presence of transboundary animal diseases, absence of well planned control strategies and inadequate veterinary infrastructure threaten the region's ability to meet future demands of livestock products and are further threatening food security. The region has the largest proportion of the world's population (over 50 percent). Asia has the largest and fastest growing livestock industry of any region but the sustainability of this position is in doubt unless improved production. Member countries and the region as a whole must immediately begin to increase understanding of the role and value of the transboundary livestock animal diseases and develop comprehensive, effective and financially viable strategies to increase livestock production and further ensure the control of prevalent animal diseases leading to their complete eradication. The member countries of the region should also develop mutual trade in livestock and livestock products. The main thrust and focus of activity should be alleviation of poverty of the region through exploitation of regional livestock resources.

A progressive control mechanism through regional coordination and harmonization of regulations for a coordinated approach towards control and eradication of livestock diseases is a pre-requisite for improving intra-region trade and safeguarding countries from transboundary animal diseases. The member states are also required to deliberate on their policy stances towards quarantine related issues. The member states may also consider the present trade situation in livestock products and limiting factors to trade expansion.

Recognizing the existence of considerable potentials and opportunities for forging APHCA cooperation in livestock, there is an urgent need to evolve well-framed and integrated approaches and to prioritize and streamline the present activities in order to have more effective cooperation and a coordinated approach towards a common regional goal of controlling transboundary livestock disease. The political commitment on the future cooperation framework is also essential. Therefore, this meeting provides an

excellent forum to ensure regional professional endorsement and to guide the livestock authorities as well as political leadership on livestock related issues.

I hope, the deliberations of APHCA meeting would attain the desired goal of cooperation regarding limiting and controlling the transboundary animal disease. Furthermore the member states may wish to collect, compile and exchange information on the existing difficulties which they are recently facing regarding control of transboundary animal disease for discussions and taking common appropriate actions. I hope that this forum, after an in depth discussion, will come up with beneficial, cutting edge resolutions and viable plans for the regional to control and eradicate transboundary animal diseases. This would lead to long lasting visible change in the rural socioeconomic conditions of the countries.

Lastly, I wish to express my gratitude to all delegated and observes for their full cooperation and contribution to the 62<sup>nd</sup> executive committee meeting and the 27<sup>th</sup> Session of APHCA. I take this opportunity to thank the organizers FAO-APHCA and M/O Food, Agriculture & Livestock for organizing of meeting and session. I would also like to express my gratitude to all those who contributed in organizing this event.

I wish the participants a vary fruitful and productive meeting and with that, I declare the 62<sup>nd</sup> executive committee meeting and the 27<sup>th</sup> Session of Animal Production and Health Commission for Asia and the Pacific open.

Pakistan Zindabad

**Welcome address for the 27<sup>th</sup> APHCA Session**

*By J.Q. Molina, Director, Bureau of Animal Industry, Philippines  
(APHCA ex-chairperson)*

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Delegates from APHCA member countries, member of the executive committee, officers from FAO regional office for Asia and the Pacific, delegates from observer countries and international organization, officials of the Islamic Republic of Pakistan, speakers and resource persons, honored guest ladies and gentlemen, good morning.

First of all and on behalf of APHCA, I would like to thank the Islamic Republic of Pakistan Government for graciously hosting this 27<sup>th</sup> session of the Animal Production and Health Commission for Asia and the Pacific (APHCA) and the 62<sup>nd</sup> executive committee meeting. We are all very happy to be able to travel to your country and get to know more about your people, your cities and towns and your animal production and agriculture.

APHCA has grown a long way since its founding in 1975. It is worthwhile that we again revisit the basis for its establishment - technical cooperation among development countries (TCDC). Based on us, continue with our strengths and innovate on our perceived weakness to build on what has been achieved. It is my fervent hope that we will be able to do this during this session and in our future meetings.

I therefore thank all of you for attending this 27<sup>th</sup> APHCA session Thank you for taking time out from your busy work schedules to join us for the week. So let us all strive to make it a vary productive and successful one.

Again, good morning to everybody.

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## **Welcome address for the 27<sup>th</sup> APHCA Session**

*By Razaqat Hussain Raja, Animal Husbandry Commissioner, Pakistan  
(APHCA chairperson for the 27<sup>th</sup> session)*

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Honorable Sikandar Hayat Khan Bosan, Minister of State for Food, Agriculture and Livestock, Honorable Salik Nazir Ahmad, Secretary, Food, Agriculture and Livestock, his excellency, Dr Jose Q. Molina, Chairman, APHCA, His Excellencies Dr Lubroth and Dr Peter Roeder, distinguished guests, ladies and gentlemen, good morning. I have the privilege to welcome you all to this 62<sup>nd</sup> executive committee meeting and the 27<sup>th</sup> APHCA session on my behalf and on behalf of the Ministry of Food Agriculture and Livestock.

I am indebted to my honorable minister and honorable secretary, for sparing valuable time out of their busy schedule to grace this occasion. I am thankful to FAO-APHCA for selecting Pakistan to host the 27<sup>th</sup> session of APHCA in Lahore. I am also thankful to APHCA delegates who have traveled long distances to participate in the session.

I and my team will do our best to make your stay in Pakistan as comfortable as possible. However, if there is any shortfall I hope you that you will ignore it.

I hope that the forum will help the member countries to exchange information and views on various aspects of animal production and health and will come up with well-framed, integrated viable plans and approaches for a regional goals of controlling transboundary livestock diseases and improving livestock productivity.

I am thankful to my colleagues in MINFAL and livestock department, Government of the Punjab, who have done hard work for months to organize this session. I am also thankful to the hotel management for extending their facilities.

One again I thankful to minister, secretary and all those who encouraged me and supported me to host this session of APHCA

I hope this session will help us to achieve effective regional cooperation.

Thank you

## **Welcome address for the 27<sup>th</sup> APHCA Session**

*by J. Lubroth, FAO/EMPRES, Rome, Italy*

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Dear Honourable Minister of State for Food, Agriculture and Livestock and Honourable Secretary Sikandar Hayat Khan Bosan dear colleagues, dear Dr Molina and Dr Raja, Ladies and Gentlemen,

On behalf of the Food and Agriculture Organization of the United Nations, I thank the Government of Pakistan for graciously hosting the 27th Animal Health Commission for Asia and the Pacific and Regional Consultation of the initiative of the *Global Framework for the Progressive Control of Foot-and-Mouth Disease and Other Transboundary Animal Diseases*.

I welcome the delegates of APHCA and their staff; representatives of other international organizations: Office International des Epizooties and the Joint Division of FAO/IAEA.

On behalf of the Animal Production and Health Division of FAO, we are grateful to the Regional Office of FAO in Bangkok for all the arrangements of the APHCA meeting along with the diligent collaboration of the Minister of State for Food, Agriculture and Livestock of the Government of Pakistan and the preparation of the proposed agenda.

The documents presented are quite varied and will lead to, I hope, to healthy and productive discussions.

Issues on traceability will be discussed – not only for the importance in disease control from a national and regional perspective – but also for performance recording, policy decisions, basis for modern food safety concerns (including those of HACCP). We will also hear updates on the State of the World's Animal Genetic Resources for Asia; rationale and developments on the Pro-Poor Livestock Facility initiatives in the Region; an update on the Global Rinderpest Eradication Programme; contributions from the Joint Division of FAO/IAEA; and the Global Framework for the Progressive Control of Foot-and-Mouth Disease and Other Transboundary Animal Diseases (GF-TADs) which takes its call from the two World Food Summits (1996 and 2002) in Rome and the 69<sup>th</sup> OIE Conference in Paris. We will hear and discuss the recommendations conducted at the two Sub-Regional Consultations on the Global Framework held recently in India and Thailand.

Investment in livestock is severely needed. Some 70 percent of the poor people around the world have livestock as a method of sustenance; 40-60 percent of the population of the Region depend on livestock. The Green Revolution of the 60's through the 80's could not have possible without the control of rinderpest allowing animals – cattle and buffalo – to survive and plow the fields or carry the harvested crops to market places.

Governments and ministries – not just agriculture – need to hear about the meaning of livestock and promote a more holistic and justified prioritisation of the importance of food producing animals in their plans for development and the future of their markets.

I also welcome the initiative to heighten the relevance of APHCA for the improvement of animal health and production in the Region. FAO is at your service – and the committee on agriculture needs to hear loud and clear the recommendations made at this session and those of the GF-TADs proposal.