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Biosecurity Strengthening Project in Timor-Leste OSRO/TIM/701/AUL

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Composition of the Evaluation Team

Evaluation team

The evaluation was conducted by Dr. Tony Forman, Animal Health specialist.

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Acronyms

AQIS	Australian Quarantine and Inspection Service
AUD	Australian dollar
AusAID	Australian Agency for International Development
BSL2+	Biosafety level for laboratory operation
DAFF	Australian Department of Agriculture Fisheries and Forestry
DLVS	Directorate of Livestock and Veterinary Services
DLO	District Livestock Office(r)
DQB	Directorate of Quarantine and Biosecurity
EID	Emerging Infectious Disease
GPS	Global Positioning System
GoTL	Government of Timor-Leste
HPAI	Highly Pathogenic Avian Influenza (bird flu)
MAF	Ministry of Agriculture and Fisheries
PCC	Programme Coordinating Committee
PCR	Polymerase Chain Reaction (diagnostic test procedure)
PWC	Programme Working Committee
SOP	Standard Operating Procedure
UNTL	National University of Timor Leste
USAID	United States Agency for International Development
VLW	Village Livestock Worker

Executive Summary

Information about the evaluation

ES1. The evaluation was conducted at the request of AusAID, the donor. It was conducted between 3 and 25 October 2011 including a mission to Timor-Leste from 7 to 22 October (including travel).

ES2. The Evaluation assesses performance of the Project during the period July 2007 to October 2011, with the Project having a further two months to its completion date of December 2011.

ES3. The Project was designed at a time when highly pathogenic avian influenza (HPAI or bird flu) was regarded as an imminent threat to poultry in Timor-Leste and when the possibility of a devastating human influenza pandemic was a great international concern. However, the need of Timor-Leste for assistance in developing its regulatory veterinary services was also recognised and this was accommodated in the design. Objectives included improving livestock disease surveillance and response, establishing a veterinary laboratory and drafting animal health legislation. The Project also aimed to improve poultry and pig health and husbandry at the household level.

Key findings

ES4. The Project has achieved commendable results under difficult operating circumstances. Security concerns delayed commencement of the Project. Difficulties in Government meeting budget needs resulted in further delays and substantial budgetary revision, particularly in relation to financing construction of the veterinary laboratory. The very limited staff numbers and capacity of the veterinary services was a significant constraint that also limited the outcomes and made the scope of the Project design over-optimistic.

ES5. A major focus of the Project was capacity-building that was addressed by training of veterinary service staff and undertaking field and laboratory activities that enabled them to apply and consolidate their skills. A livestock disease surveillance and reporting system was established and preliminary data collected on prevalent diseases.

ES6. This surveillance and reporting system, together with awareness-raising activities and provision of a basic diagnostic capacity, improved the possibility for Timor-Leste to detect any incursion of bird flu and to undertake control and eradication actions. While such an incursion did not eventuate, the threat exists and ongoing vigilance is advised.

ES7. The drafted veterinary legislation is consistent with international standards but with an election scheduled for 2012, it was not appropriate for government to proceed with enactment of the legislation until structural changes within the Ministry of Agriculture can be considered.

ES8. The Project objective of achieving a measurable improvement in livestock health and husbandry over the course of the Project was unrealistic with the time and resources available. However, consultancies undertaken to examine poultry and pig production and

health provided valuable information, including guidance on improving vaccination programmes and demonstrating the potential for improved village pig production.

ES9. Construction of the veterinary laboratory was a significant achievement that demonstrated the commitment of both Government and FAO personnel to meeting Project objectives. At the time of the evaluation, the laboratory was operational although further work is necessary to establish procedures for operating at a BSL2+ containment level (required for dangerous diseases, including bird flu) and to establish engineering maintenance procedures.

Conclusions

ES10. It must be stressed that the outcomes achieved are all fragile and sustainability will require a high level of Government commitment and some continuing international support. In particular, the technical, engineering and budgetary requirements for maintaining and utilising the veterinary laboratory will represent a challenge.

ES11. While a new phase of the current AusAID funded project will not be an option, a no-cost extension to the Project would be favourably considered by the donor. This would help to bring Project activities to a conclusion and assist MAF in assuming ongoing responsibilities. There may be other possibilities for support from Australian government agencies. FAO is also well placed to provide continuing support to MAF if an alternative funding source were found.

ES12. For future support to MAF, consideration could be given to a broader scope of support to the livestock sector, including policy and strategy development. This would provide a clearer context and approach for development of the veterinary services.

ES13. Further capacity building for field and laboratory operations is essential. Complementary assistance could be provided by Australian agencies for laboratory technical and engineering expertise and for developing skills in epidemiology and by the established arrangement with Bogor Agricultural University for continuing laboratory technical training.

ES14. The new veterinary laboratory is well constructed with sophisticated engineering but is too small to meet the needs of MAF in the medium term. Since much of the laboratory requirement can be met by a more conventional facility, MAF will need to consider its long-term options for accommodating veterinary testing and possibly other MAF testing requirements.

ES15. The drafted animal health legislation is a valuable asset, with political considerations relating to forthcoming elections being the main barrier to passing it into law. Structure of the veterinary services within MAF needs to be considered for optimum use of scarce personnel resources.

ES16. The weaknesses in veterinary field services will take some years to address. Active surveillance-based epidemiological studies will be the most productive means of establishing livestock disease status and planning control and eradication strategies.

Recommendations

Recommendation 1: To FAO Representation in Timor-Leste on sustaining Project activities

FAO should encourage MAF to urgently consider recurrent budget needs for the veterinary services, particularly for the maintenance and operation of the veterinary laboratory.

Recommendation 2: To FAO TCES on Project extension

A six-month no-cost extension to the Project should be sought from AusAID, to enable continued operational support to Project activities until June 2012.

Recommendation 3: To FAO on new project options

FAO should explore with MAF options for continuing support to MAF livestock services, possibly including policy and strategy development.

Recommendation 4: To FAO Representation in Timor-Leste on further support to MAF veterinary services

FAO should advocate to MAF that technical support be sought from appropriate Australian government agencies to provide assistance to MAF veterinary services, possibly funded through the AusAID Public Sector Linkages Programme.

Recommendation 5: To FAO Project management on engineering support for the veterinary laboratory

Specialist advice should be sought to determine engineering requirements to finalise setting to work of the veterinary laboratory and to make appropriate arrangements for ongoing maintenance, including training and preparation of SOPs for maintenance works.

Recommendation 6: To FAO Representation in Timor-Leste on sustaining Project activities

FAO should recommend to MAF that consideration be given to continuing the training arrangement with Bogor Agricultural University and with developing collaborative training and working arrangements with appropriate Australian laboratories.

Recommendation 7: To FAO Representation in Timor-Leste on MAF forward planning

FAO should propose to MAF that medium term planning should include expectations that the veterinary laboratory will need to be expanded, with additional accommodation having a lower requirement for biocontainment.

Recommendation 8: To FAO Representation in Timor-Leste on legislation

FAO should recommend that Government of Timor-Leste consider proceeding with the drafted animal health legislation to enact it into law at a suitable time in the future. Restructuring of the veterinary services within MAF, for optimal efficiency and coordination of operations, should be considered at the same time.

Recommendation 9: To FAO Representation in Timor-Leste on strategy for veterinary service development

FAO should advocate to MAF that the most effective means of deploying scarce veterinary services in the medium term may be to focus on epidemiological studies to define the health status of Timor-Leste livestock, support livestock export initiatives and plan effective disease control initiatives.

1 Introduction

Evaluation background

1. The evaluation was conducted at the request of the donor, AusAID. It assesses the performance of FAO in implementation of the Project between July 2007 and October 2011.

Structure of the report

2. The report is structured according to OED guidelines of October 2011. Following the description of the evaluation approach in Chapters 2 and 3, the description of the Project activities and the findings of the evaluation are in Chapter 4 and assessment of results in Chapter 5. The sequence of Chapter 4 was designed in principle to follow that of the Project Document. However, since the original and extension Project Documents were somewhat different in structure, with objectives being implied by outcomes in the second document and the activities overlapping but not identical, the activities were merged to form an evaluation matrix (Annex 6) and it is this sequence that is followed in the text.
3. Chapter 6 describes the conclusions and recommendations, with each recommendation following from the conclusion drawn in the preceding paragraph(s).
4. Annexes describe the evaluation terms of reference (Annex 1), profiles of the team members (Annex 2), list of documents reviewed (Annex 3), list of people consulted (Annex 4), mission itinerary (Annex 5) and the evaluation matrix (Annex 6).

2 Evaluation purpose and scope

Purpose

5. The Project fell within AusAID criteria for a final evaluation to be required. The FAO Office of Evaluation was requested to undertake the evaluation on behalf of the donor. It was intended to provide, for the considerations of the Government of Timor-Leste, the Government of Australia and FAO:
 - i) conclusions about the project achievements;
 - ii) recommendations about any additional short-term activities required to promote the sustainability of the outcomes from the BSP, in particular the veterinary laboratory; and
 - iii) lessons learned for future development of emerging infectious disease (EID) management and biosecurity in the country.

Scope

6. The evaluation covered the two phases of the Project, until the time of the mission, being about two months before the scheduled termination date.

3 Evaluation methodology

7. The evaluation was based on both AusAID and FAO evaluation standards, focusing on those issues of most relevance to the scope of this evaluation. It was conducted by a

consultant who has expertise in transboundary disease prevention and control and in veterinary laboratory management.

8. The conduct of the evaluation included interviews with MAF management and staff, in Dili and in decentralised locations; with AusAID personnel in Dili and in Canberra; with USAID and DAFF as collaborating agencies; with UNTL and WHO Representatives; and with a focus group comprising farmers, extension officers and village livestock workers. There were three field visits to two District Livestock Offices, to a border quarantine post, to a sampling team in the field and to a commercial poultry farm. There were two visits to the new veterinary laboratory.
9. The evaluation plan included:
 - review of documentation and planning of mission, 4 days;
 - field mission to Timor Leste, including travel, 16 days;
 - preparation and submission of draft report, 5 days;
 - consideration of draft report by AusAID, FAO and MAF, 2 weeks; and
 - preparation of final report for approval by FAO, 3 days.
10. Stakeholders were identified as:
 - Ministry of Agriculture and Fisheries of Timor-Leste (MAF) – in particular, the Directorate of Livestock and Veterinary Services (DLVS) and the Directorate of Quarantine and Biosecurity (DQB);
 - AusAID;
 - FAO; and
 - livestock producers of Timor-Leste.

4 Background and Context

Country and rural sector

11. Timor-Leste is located in on the southernmost edge of the Indonesian archipelago, northwest of Australia. The country includes the eastern half of Timor Island as well as the Oe-cussi enclave in the northwest portion of Indonesian West Timor, and the islands of Atauro and Jaco (Figure 1). It has a mountainous terrain of 15,000 square kilometres and a tropical, semi-arid climate with distinct wet and dry seasons. Administratively, there are 13 districts, 64 sub-districts and 442 villages.
12. Timor-Leste became an independent country in 2002, following 400 years of Portuguese colonial rule, Japanese and Indonesian occupation and UN Transitional Administration.
13. There is a fragile political stability in the country. Following independence there were periods of unrest which resulted in a UN Integrated Mission for Timor-Leste being deployed in 2006 and which is still present. However, following parliamentary elections in 2007 the country has been relatively peaceful. A presidential and parliamentary election will be held again in 2012.
14. In 2010 Timor-Leste had an estimated population of 1.1 million people with an estimated per capita income in 2009 of \$US 542¹. Agriculture provides livelihood for about 80% of the population, representing about 27% of Timor-Leste's GDP. Productivity is very low with about 40% of the rural population engaging in subsistence farming with no marketable surplus².
15. Livestock production is part of village agricultural production, with cattle, buffalo, goats, pigs and poultry being raised. There are about 400,000 pigs, which are bred for local consumption and for sale but are also part of traditional culture, being used for special celebrations and for brides' dowries. Some are free ranging and others are housed. They are generally raised by women. Production is constrained by poor nutrition. Classical swine fever is present, of unknown impact and probably eradicable with a properly conducted vaccination campaign.
16. Poultry are almost entirely raised as scavenging birds (FAO Sector 4 system), sometimes housed at night, with between about 5 and 30 birds per household and a total population of over 800,000. Again, it is mainly women who look after poultry although men engage in cock-fighting. Chickens are raised both for meat consumption and for sale, with eggs being less important as a food source. The disease status of poultry is not well known but Newcastle disease is widespread and is subject to vaccination.

¹ US Department of State

² USAID Strategic Plan for East Timor – cited by Counahan 2008

Figure 1 – Map of Timor- Leste



Source: www.mapsofworld.com

4.2 Livestock services and emerging infectious diseases

17. Livestock services come under the Ministry of Agriculture and Fisheries (MAF). The Directorate of Livestock and Veterinary Services (DLVS) is one of the 12 directorates in MAF with a mandate for delivering animal health services and improving the productivity of livestock in the country. Animal health services are largely limited to vaccination activities on irregular basis, mainly due to lack of sufficient human resource and infrastructure but also because of budgetary constraints.
18. At the commencement of the Project in 2007 the country had neither a veterinary laboratory nor functioning animal health posts. A total of 421 village livestock workers (VLWs) had been trained through the World Bank Agricultural Rehabilitation Project to support the livestock sector of the country in a private paid or voluntary capacity.
19. The Directorate of Quarantine and Biosecurity (DQB) is responsible for quarantine inspection at international borders and entry ports and also with some responsibility for livestock movement control within the country.
20. The emergence of highly pathogenic avian influenza (HPAI or bird flu) in South-East Asia in late 2003, with the occurrence of human cases of H5N1 influenza infection with high mortality, caused world-wide concern that a devastating pandemic of human influenza could eventuate. National governments and international agencies identified the urgent need to control the disease in poultry, partly to minimise its economic impact on poultry production but more importantly to reduce the risk of human infection. Indonesia became one of several countries in which the disease became entrenched and although the Province of West Timor was not affected, Timor-Leste was regarded as at risk of an incursion of HPAI and in need of international support to prevent this and to prepare to control any outbreaks that occurred.
21. However, there was also a broader perspective. New diseases emerge periodically and about 50% of human emerging infectious diseases (EIDs) arise from animal sources. In addition to H5N1 influenza, other recent examples include sudden acute respiratory

syndrome (SARS) and Nipah virus infection. All of these diseases have arisen in Asia and the international community has recognised the need to assist countries in monitoring animal populations for the emergence of diseases that could spread to humans (zoonotic diseases). Consequently, in addition to the clear need to assist Timor-Leste in developing a capacity to support national livestock production, a focus on emerging diseases was high on the international agenda.

22. The Australian Government had been collaborating with the Ministry of Agriculture for some years, in undertaking surveillance for livestock diseases and funding became available to develop a Project of support to improve the capacity for HPAI and other emerging infectious disease (EID) prevention and control and to more broadly assist in the development of government veterinary services.

4.3 Government policies

23. The National Development Plan of 2002 provided a vision to have by 2020 sustainable, competitive and prosperous agriculture, forestry and fisheries industries that support improved living standards for the nation's people. The MAF Policy and Strategic Framework of 2004 had objectives in contributing to the National Plan of:
 - improving the level of food security;
 - value-adding by fostering output processing and marketing;
 - sustainable production and management of natural resources;
 - contributing to balance of trade by commodity export and import substitution; and
 - increasing income and employment in rural areas.
24. The Strategic Development Plan for 2011-2030, indicates an intention to support the development of livestock-based commercial enterprises for a range of livestock species. Cattle exports to West Timor have traditionally been an important export and expansion of the potential for breeding, fattening and exporting cattle to other markets, including Malaysia and the Philippines, are seen as opportunities of the greatest potential. These broad strategic areas have not been further developed.
25. The Government through MAF has a policy of developing veterinary services through a decentralised system which includes District Livestock Officers and agricultural extension workers. MAF supports a diploma course in veterinary science at the University of Timor-Leste (UNTL), with a view to locating graduates in all villages to provide animal health support. Veterinary training in Portugal is also supported by MAF, to provide personnel to MAF and to UNTL. MAF also undertakes annual free vaccination campaigns for Newcastle disease (poultry), classical swine fever (swine) and haemorrhagic septicaemia (cattle and buffalo).

5 Assessment of Project

5.1 Project description and justification

26. The Project was described in two Documents, the original for the planned period of July 2007 to June 2010 and another for the second phase, July 2010 to December 2011. The Project was clearly and adequately described, including the transition to the second phase. The AusAID Quality at Entry Report indicated general satisfaction with the Project description. Some elaboration of the monitoring and evaluation criteria was sought and this was addressed in the Inception Report.
27. The Project was primarily justified on the need to provide assistance to Government of Timor-Leste (GoTL) with preparing for the occurrence of HPAI and in particular for the possibility of pandemic human influenza caused by the H5N1 virus responsible for the poultry disease. At the time, HPAI had become established in several countries in South-East Asia, including Indonesia and had demonstrated its ability for spread to other regions of the world. While Indonesian West Timor had reported only one outbreak in 2006, it was reasonable to assume that Timor-Leste was at moderate risk of an incursion of the disease. This justification was highly acceptable to the donor and was also accepted by GoTL who at the time was in accord with the attitude of the international community, that pandemic influenza was a real and immediate threat. This was independently confirmed in discussion with a representative of WHO (M. Counahan) who was engaged in discussion with GoTL at the time.
28. There was a further implicit justification on the need for capacity building in MAF within the two Directorates responsible for delivery of veterinary services. The services were under-resourced and acutely lacking in trained personnel. The AusAID Quality at Entry Report made it clear that the donor was amenable to this broad objective of the Project. The Secretary of State for Agriculture was clearly supportive of this need for capacity building and it was consistent with national policy to develop veterinary services to support the livestock sector.
29. The mission concurred with this justification. Preparedness for HPAI involves a broad veterinary service capability, including border quarantine, disease surveillance, investigation and diagnosis, and control and eradication activities. Such capacity cannot be developed for one disease alone so it was necessary to take a broad development approach, notwithstanding the emergency nature of the focus on HPAI.
30. The second phase of the Project was well justified on the basis of delays that had occurred before and during Project implementation because of security concerns and government budgetary constraints and the need to achieve sustainable outcomes to work in progress. It was supported by both donor and GoTL. The evaluation mission assessed this second phase as essential, in particular because the investment in the establishment of the veterinary laboratory would have been jeopardized had the Project been terminated at the original completion date and there were good prospects for at least some of the planned outputs being achieved during the extension period.

5.2 Project objectives

31. The original Project Document stated seven objectives covering:
 - project management;

- communication and awareness of poultry and pig health and of HPAI and EID prevention and control;
- disease surveillance, quarantine and outbreak response for HPAI and other livestock diseases;
- improvement of poultry and pig health and husbandry;
- design and establishment of a veterinary laboratory;
- drafting of animal health legislation; and
- research and development into HPAI and other EID prevention and control.

32. While the objectives were relevant in the context of country needs to develop the livestock sector, the scope and expectations of the Project were probably too broad. The need was to develop regulatory veterinary services, with the long term objective of supporting development of the livestock sector and the short term aim of improving preparedness for HPAI. In the situation of an almost non-functional veterinary service, it would have been sufficient scope to aim at capacity building of the veterinary services. The attempt to include a livestock production perspective was probably intended to provide an incentive for livestock producers to engage with veterinary services in developing an awareness of the threat of HPAI and other EIDs and in this respect the intent would be commendable. But within the time frame of the Project, the expectation of improving poultry and pig health is considered to have been unrealistic.

33. The scope of Phase 2 of the Project (objectives implied by expected outputs) was narrower, focusing almost entirely on capacity building and specific animal health activities, including:

- development of a functional BSL2 diagnostic veterinary laboratory;
- training veterinary and technical laboratory personnel;
- improving capacity of MAF veterinary personnel to undertake disease surveillance;
- implementing disease reporting (passive surveillance);
- undertaking epidemiological mapping of livestock diseases;
- training UNTL students in animal health related disciplines; and
- some continuing communication and awareness activities.

34. These were appropriate objectives although still challenging within the period remaining for the Project extension (18 months). They were relevant and comprehensive in aiming to support livestock disease surveillance and epidemiological analysis, to start to define the national disease status of the different livestock species.

5.3 Project design

35. As indicated above, the design was probably over-ambitious in scope. A narrower focus on animal health activities would probably have been more appropriate in the context of the time-frame of the Project and the national needs for development of the veterinary services. However, on the basis of the defined scope, the structure of the Project components was appropriate.

36. Some of the expected outputs from the Project as stated in the original Project Document were unrealistic. In particular, the proposal that the incidence of poultry and pig disease would generally be reduced was too great an expectation.

37. Much of the communication and awareness component of the Project was in fact implemented within the FAO country programme³ using USAID funding. This was appropriate, since the USAID Project preceded the AusAID funding and needed to be completed, the absorption capacity was insufficient to justify two projects each providing resources for the same component and it was possible to put the funds for this component to appropriate use in other parts of the AusAID Project implementation.

5.4 Institutional arrangements

38. The counterpart implementing agency was MAF. The two Directorates within MAF engaged in the delivery of animal health services, DVLS and DQB, were both involved in implementation, although the former was the lead Directorate and this was appropriate. The Project represented a major part of the operational activities of the Department of Animal Health within DLVS and the Project was therefore well embedded into the MAF infrastructure. The Project Office was within the MAF administration complex at Comoro and operated in close day-to-day liaison with its MAF counterpart personnel.
39. However, there were some constraints. It proved impossible to appoint a national project manager from within MAF. It was also difficult to find a suitable staff member willing to accept the position of national epidemiologist for the Project and a counterpart Project national consultant for pairing with the pig and poultry international consultants. This was apparently due to acceptance of an FAO position possibly compromising long-term career prospects in the evolving public service. However, it was detrimental to the sustaining of activities after Project completion, for which the development of staff capacity by involvement of personnel in Project activities would have been highly beneficial.
40. The development of a passive disease surveillance system was dependent on agricultural extension workers (who are within MAF but in a different Directorate) providing routine monthly reports on significant livestock disease events. There was apparently a reluctance of these personnel to accept these duties outside of their own Directorate, even with the incentives offered, and an inability of their line managers to require them to comply. This was severely detrimental to the development of the routine disease reporting system.

5.5 Beneficiaries

41. For the course of the Project implementation period, the main beneficiaries were MAF personnel who took advantage of the opportunity to develop their skills, particularly those who received support for post-graduate training and laboratory personnel. MAF benefitted from improved staff capacity and from an engagement of veterinary staff in a much higher level service delivery than was previously occurring.
42. While there are prospective beneficiaries in the livestock sector, the benefits are yet to be realized and will be dependent on post-Project enhancement of laboratory capability

³ In common with other countries, support for HPAI prevention and control from multiple donor sources was implemented by FAO through an integrated country programme, to optimise efficiency and avoid duplication of activities.

and disease surveillance providing prospects for improved disease control and a greater capacity for disease certification for livestock exports.

43. The Australian Quarantine and Inspection Service (AQIS) is also a prospective beneficiary with an enhanced surveillance and laboratory testing capacity providing the opportunity to more efficiently and effectively monitor the livestock disease situation in Timor-Leste as part of its Northern Australia Quarantine Strategy. However, this again is yet to be realized and AQIS personnel accept that a long-term development perspective needs to be taken. In the interim, it was evident to the mission that a strong working relationship has been developed between MAF and AQIS which must be of mutual benefit to both agencies in sharing information on livestock disease status in Timor-Leste.

5.6 Assessment of Project implementation and management

5.6.1 Project budget and expenditure

44. The original Project budget was AUD 4,750,000 (equivalent to approximately USD 3,769,841). Project expenditure was initially very slow, largely due to security concerns limiting opportunities to commence implementation of activities. Also, it proved difficult for FAO to identify a suitable candidate for the position of Team Leader for the FAO Country Programme.
45. At a crucial time in the expenditure cycle, it became apparent that GoTL did not have funds available for construction of the laboratory, which was expected to be a government contribution. A decision was made for a major budget revision, with Project funds of about AUD 1.3 million being allocated to the laboratory construction. Part of the re-allocation of funds involved greatly reducing the communication and awareness component, in recognition that this could be addressed with USAID funding.
46. Extension of the Project to a second phase provided an additional AUD 915,000 (equivalent to about USD 850,372 as per FAO records at the time of approval).
47. After the first year's difficulty with expending the annual budget, all other annual budgets were expended satisfactorily with no other major budget revision.
48. It is anticipated that at the end of the Project period in December 2011 there will be approximately AUD 200,000 of uncommitted funds.

5.6.2 Activities and outputs

1. Effective Project management and implementation

49. The Project was implemented under very challenging conditions. The remoteness of the country with many day to day necessities needing to be imported, very significant weaknesses in counterpart staff availability and capability and a pervading political uncertainty within the public service following years of extended conflict and civil disruption, all conspired to hamper the smooth flow of Project activity. Provision of external inputs, such as major items of equipment and international consultancies was satisfactory. Activities dependent on local inputs or counterpart initiatives were often delayed or incompletely implemented.

50. Programme⁴ Coordinating Committee (PCC) meetings were conducted from February 2008 to May 2011, although with decreasing frequency, reflecting a gradual decrease and narrower focus of Project activity that required less coordinating oversight. Programme Working Committee (PWC) meetings were conducted between August 2008 and July 2011. The meetings performed in keeping stakeholders informed of progress and in facilitating necessary approvals and arrangements for Project activities and were assessed by the mission as being adequate. Donor and GoTL stakeholders were generally satisfied with the level of communication and advice of Project activities with additional informal contact meeting their requirements.
51. The original project document and the extension document that there would be backstopping from FAO Headquarters and RAP Bangkok. Backstopping missions - which have the benefit of providing some additional technical input, allow management to monitor the progress of the Project and be alerted to any issues, and provide additional advocacy to Government - were concentrated around mid-2008 and were mainly focused on establishing the details of the prospective Project workplan, including the conduct of the Inception Workshop and preparation of the Inception Report. Subsequently, technical support was provided from the FAO Regional Office through the Team Leader's participation in regular ECTAD⁵ coordination meetings and advice from FAO technical staff in clearing reports and addressing particular enquiries. Given the challenges in Project implementation and the likelihood of Project outcomes not being fully achieved, the mission believes it would have been preferable for the Project Team Leader of have had more in-country backstopping, even if only by one annual visit. This may have placed FAO in a stronger position to encourage GoTL to sustain commitment to Project activities, particularly in providing budgetary support to field surveillance activities. It may have accelerated finalization of veterinary laboratory infrastructure and allowed stronger advocacy for the draft veterinary legislation.
52. International consultancies were conducted in a timely fashion and only one (the second mission for the poultry production expert) abandoned due to difficulties in arranging suitable timing and an assessment that the mission would not add sufficient value to be worth pursuing. The evaluation mission accepted this decision as one of many indications that the livestock production objectives of the Project were always going to be difficult to achieve.

2. Functional veterinary laboratory

53. The establishment of the veterinary laboratory became a major focus of the Project and was a significant achievement in the difficult operating environment of the Project. The decision to fund the construction of the laboratory from Project budget was a wise one as the construction simply would not have been accomplished otherwise.
54. The international community was faced with a dilemma in providing laboratory facilities to enable diagnostic testing for avian influenza, not just in Timor-Leste but in many countries. There was an obligation for such facilities to meet international standards for containment of the pathogen and to avoid infection of laboratory personnel. The

⁴ These meetings were conducted in the context of the FAO Country Programme, involving both the AusAID and the USAID funded Projects.

⁵ ECTAD – FAO Emergency Centre for Transboundary Animal Diseases – a coordination facility at Headquarters, regional and national levels.

standard required is referred to as BSL2+ (a biosafety level that is above 2 but less than 3). However, it was always understood that provision of such facilities would be expensive and more importantly, would represent a challenge for maintenance in the long term in developing countries. The problem was particularly evident in Timor-Leste where there was no other veterinary laboratory facility, so the facility had to accommodate a broad range of testing activity, most of which does not require the BSL2+ containment level.

55. The decision was made to have the laboratory built in a modular fashion and delivered pre-fabricated. This was a wise decision from both a cost and a time management perspective. The design was appropriate to the requirement but the laboratory accommodation is very limited, this being the consequence of having to provide a facility of sophisticated engineering design at a reasonable budget. The laboratory was delivered, installed and handed over by July 2010 but delays were experienced in the provision of electrical supply and other obligations of GoTL. It was officially opened in August 2011.
56. At the time of this evaluation the laboratory was established and in use but not operating as a BSL2+ facility. It is expected that operation at this containment level can be achieved by the completion date of the Project in December 2011, with further engineering input already planned. While there is adequate documentation for the engineering utilities, standard operating procedures (SOPs) have not been prepared for operation and maintenance of the plant⁶ and staff have not been adequately trained to fulfill these requirements. This will be an essential need, together with arrangements for provision of ongoing specialised engineering maintenance support from locally available service providers and/or from the Korean manufacturer of the laboratory.
57. The vulnerability of this facility is emphasised. It will represent a significant challenge to ensure the availability of MAF budget, the commitment, capability and discipline of laboratory support personnel and the satisfactory contracting of specialised engineering support to ensure the continued operation of the laboratory.
58. Meeting the containment requirements depends not only on the engineering utilities but also on work practices of laboratory staff. Staff have not been trained to work in a BSL2+ environment, nor have SOPs been prepared. Again, there will be an ongoing requirement for external assistance to ensure that scientific and technical staff maintain the standards required to ensure safe operation in the facility when dangerous pathogens may be handled.
59. The laboratory is under the responsibility of an enthusiastic and committed person and staff were reported to be committed to their work and to appreciate the career opportunity that their work presents. Two of the four trained DLVS staff are women.
60. At the time of the evaluation, laboratory staff were undergoing at-the-bench training with the assistance of scientists from Bogor Agricultural University. They had just commenced a process of collecting samples in the field (blood smear, serum, faeces) from

⁶ FAO Operations staff believe these SOPs have been prepared but the laboratory manager had no knowledge of them.

cattle, pigs and poultry to undertake a range of testing that will consolidate their skills and start to accumulate baseline information on common disease occurrence in the country.

61. The laboratory had stocks of some reagents and consumables, sufficient for work to continue on parasitological examinations, bacteriology and some serology. However, many more reagents and supplies will be required as the range of laboratory tests required is progressively increased. MAF has identified priority livestock diseases as Newcastle disease, classical swine fever and haemorrhagic septicaemia and a capability for avian influenza has also been accommodated. Careful planning will be required to determine what the testing needs are and how to best utilise the laboratory facilities (see below).
62. MAF management has determined that the laboratory should be made available not only for DLVS testing requirements but also for Quarantine testing and for testing of plant specimens for export certification. A PCR⁷ machine has been placed in the laboratory for plant disease testing. While the intent of sharing the facility in this way is commendable, the laboratory space is too restricted to make this a viable arrangement. PCR testing needs to be conducted under carefully controlled conditions to avoid cross-contamination, generally achieved by undertaking different parts of the procedure in three different locations. This is not possible using the veterinary laboratory as a shared facility.

3. Improved capacity of laboratory personnel

63. Four DLVS and two DQB personnel (including two women) were trained at Bogor Agricultural University in performance of laboratory testing and associated laboratory activities. This training was negotiated after an unsuccessful attempt to have the training conducted at an Indonesian government veterinary laboratory which would have had the advantage of forging a government to government link. Such a link may have had particular long-term benefits in gaining Indonesian acceptance of Timor-Leste livestock disease status and export testing capability.
64. Nevertheless, the arrangement with Bogor Agricultural University has been very successful. Training at Bogor has been thorough and documentation of the training comprehensive. The follow up training now being conducted in the new laboratory is being carried out in an equally thorough manner. This will need to be complemented with the preparation of written SOPs for all specific tests and for general laboratory procedures. This training was unavoidably delayed because of delays in bringing the laboratory into operation.
65. Staff training will need to be an ongoing process and for some years will require external support. It would be highly beneficial if an ongoing relationship with Bogor can be established as part of this support. However, it is highly desirable for staff to receive broader training than can be provided at Bogor, enabling them to develop skills in laboratory operations and to conduct tests on for a broad range of pathogens. A relationship with Australian laboratories, particularly the Australian Animal Health Laboratory in Geelong, Vic. and the Berrimah laboratory in Darwin, NT would facilitate this and help to strengthen the discipline of operating in a secure facility.

⁷ PCR – polymerase chain reaction. A highly sensitive diagnostic technology that can be used to detect pathogenic organisms.

4. Strengthened surveillance capacity

66. A consultancy on surveillance and reporting early in the implementation period (Abebe) identified weaknesses in the current systems and provided the opportunity to plan the direction of related Project activities.
67. The plan for livestock disease surveillance was to have programmes of passive surveillance (routine monthly reporting of significant animal disease events) and active surveillance (planned activities to collect specimens and data to seek evidence of specific diseases). The plan to engage village livestock workers (VLWs), previously trained under the World Bank funded Rural Development Programme, proved untenable. The VLWs are privately employed and although they are paid to participate in vaccination campaigns, their involvement in routine disease reporting was unacceptable to them. Many of the trained VLWs had in any event left that occupation.
68. Training of agricultural extension personnel was conducted for the routine disease surveillance. These are MAF staff but not under the supervision of DLVS. One and half-day training courses were held with the intention of equipping these staff with the skills and knowledge to collect basic information about disease events (but not to make a diagnosis or undertake treatment). A total of 397 personnel were trained, which included 38 female staff. Disease investigation and response teams were established at all 13 District Livestock Offices and equipment provided (computer, printer, cool boxes, GPS) to facilitate outbreak investigation and reporting.
69. This training equipped field personnel to fulfill a role in establishing routine periodic disease reporting but without having the skills to implement any real level of disease response. Judging by their performance in undertaking the task for which they were trained (see *Passive surveillance implemented* below) the training was insufficient to instill in the trainees a sense of purpose and commitment to undertaking the work on an ongoing basis. A greater degree of engagement is necessary to ensure this commitment and in the longer term, this will be sought from personnel trained as paraveterinarians at UNTL, who are destined to assume responsibility for such surveillance duties.

5. HPAI preparedness

70. A draft *Preparedness and Response Plan for Influenza Pandemic* was prepared in late 2009 but has not gone through an approval process. As no incursion of HPAI occurred, no H5N1 human pandemic eventuated and the H1N1 pandemic (swine flu) proved far less dramatic than many predicted, there was a clear loss of interest in pandemic preparedness. A National Task Force and Technical Working Group were established in 2005 but subsequently disbanded. A National Commission of the Avian Flu was established by the Council of Ministers in June 2008 but is apparently inactive.
71. A field exercise to test elements of the functionality of the response plan was conducted in February 2007 (Counahan) but there have been no further simulation exercises during the course of the Project.
72. Nevertheless, the Project assisted MAF to be prepared for an HPAI incursion. Although introduction of a routine disease reporting system was weak there was an awareness of HPAI created amongst MAF personnel. Rapid antigen test and serology reagents for HPAI are available in the laboratory. Personal protection equipment is available in District offices and a response capacity, including field testing to confirm the

presence or otherwise of HPAI, has been developed to enable DLVS to undertake a disease investigation.

73. Quarantine personnel have an awareness of the threat of HPAI and enforce a ban on importation of poultry and poultry products from infected countries, including Indonesia.
74. A consultancy (Curran) identified potential migrating wild bird sites and instructed MAF personnel in investigating and sampling wild birds for possible avian influenza infection. A consultancy on poultry marketing (Larsen) identified avian influenza transmission risk factors along the market chain.
75. To improve public awareness of HPAI, communication initiatives were undertaken with combined support from AusAID and USAID. This commenced with an anthropological participatory assessment (Hickler) to guide formulation of a communication strategy, followed by an awareness campaign focused on areas at high risk of entry or dissemination of the disease. Training was delivered to 215 village people, 23 of whom were females, in 10 districts. In a focus group discussion, farmers had no real awareness of avian influenza although extension workers and VLWs did. This discussion took place in a district bordering Indonesia West Timor and did not provide confidence that farmers had the capability of recognising the possibility of HPAI or reacting to it differently to an occurrence of the very common Newcastle disease.
76. The mission assessment was that there is a basic capacity to prevent an incursion of HPAI but that capacity is weak (concluded also in Counahan's report). Fortunately, the low state of development of the poultry industry is such that risk factors for entry and establishment of HPAI are low, especially while the disease is absent from Indonesian West Timor. Nevertheless, the expected Project outcomes of minimising the risk of introduction and establishment of HPAI and putting into place mechanisms for immediate reporting and appropriate response to HPAI and other EIDs have not been demonstrably achieved.

6. Mapping of animal diseases

77. Active disease surveillance activities have been conducted for several years in collaboration between DQB and AQIS, with specimens being sent to Australia for testing. These have been lightly structured activities, consisting of visits to villages with sampling of livestock that happen to be available. Tests are conducted for diseases of particular interest to Australia but also for some of particular National Timor-Leste significance. Surveillance more specifically directed to the interests of the Timor-Leste livestock industry were planned to be conducted jointly with DLVS and DQB personnel as part of the current Project activity. These surveillance activities had only just commenced, due to the delays in establishing laboratory diagnostic capabilities and were observed in the field during the evaluation. If this work is continued until the end of the Project it will provide some basic information on a range of diseases but is unlikely to accumulate the extent of data required to describe the epidemiology and distribution of the diseases. In the opinion of the mission the expected output was over-ambitious but the exercise is a valuable starting point toward that goal.

7. Passive surveillance implemented

78. Following recommendations from two consultancies (Angus) routine monthly disease reporting was piloted for 6 months in three districts and then extended to all 13

districts for a further 6 months with Project support. It was planned that DLVS would then assume responsibility for the surveillance. The consultant also assisted in setting up an Excel based disease database and instruction was given by FAO staff (Kamata) on the use of the TADinfo⁸ database.

79. While the reporting from the three districts during the pilot phase was moderately successful, overall the attempt of introducing this surveillance did not achieve the objective. In one report from DLVS, the Director noted that reports for the month amounted to only one-sixth of expected reports and concluded that this was unsatisfactory. However, the overall average reporting rate during the period of Project support was 28%, compared with no reporting at the start of the Project.
80. Indications from discussions with field staff were that many reports were inaccurate, including reports of livestock deaths which, when investigated, proved false. It would appear that the agricultural extension personnel were unenthusiastic about the programme and DLVS had little or no ability to require them to participate. Within three months of Project support having finished (December 2010), there was almost no continued reporting.

8. UNTL student teaching

81. With the delay in setting the laboratory to work, student training in the new facility had only just commenced. However, some instruction had been given in necropsy parasitological examinations. This initiative is considered to be highly beneficial for students with limited access to practical procedures and should be encouraged.

9. Poultry and pig production improved

82. A consultancy undertaken in poultry production (Pagani) provided useful descriptive information on the current village-based poultry sector in Timor-Leste and predicted the development of commercial industry, particularly for egg production. This has in fact eventuated. Recommendations were made for improved poultry nutrition and vaccination and training was provided to MAF and NGO personnel on improved biosecurity for poultry production. The need was emphasized for a market-oriented approach to improve production and that as intensification of production increases, so will biosecurity issues and the and the implications of HPAI introduction. These were sound recommendations.
83. Three consultancies in pig production were undertaken (Culter) again providing descriptive data on the industry and giving practical instruction in examination and sampling of pigs. An excellent initiative was to engage UNTL students in undertaking a feeding trial with locally available feed which demonstrated a potential for greatly improved growth rates with feeding available fodder and improved husbandry. The consultant noted that improved feeding of pigs was unlikely to occur before sufficient food is grown to meet human consumption needs and there is surplus crop production. This is a sound conclusion that indicates the long-term approach required to improve pig production in Timor-Leste.

⁸ TADinfo – an FAO-developed database for reporting, collating and analysing data on the occurrence of transboundary animal diseases.

84. The Project provided support during one year for the annual vaccination campaigns for poultry and pigs including the purchase (jointly with USAID) of more than one million doses of vaccine. Shortcomings had already been identified (Cutler) in these campaigns and recommendations adopted for maintaining cold chain (including provision of 80 efficient cold boxes), and a team approach to vaccination significantly improved the efficacy of the operations.
85. The expectation of demonstrating improved production during the Project period was unrealistic and was not met.

10. Animal health legislation drafted

86. Substantial effort was put into this component with two international consultants (Robertson and Roberts) each undertaking two missions. Legislation was drafted and made available to the Secretary of State for Agriculture. One of the consultants (Robertson) identified benefits in making structural changes within MAF so that a single competent authority (rather than both DLVS and DQB) could be clearly identified with responsibility for administering the law and subsidiary regulations. This would potentially improve the utilization of scarce veterinary personnel resources.
87. Although this argument was made for optimising efficiency of delivering veterinary services, it could require changes in legislation. The draft legislation was therefore modified to give the flexibility for any of the four options for restructuring to be accommodated within the legislation.
88. The Secretary of State judged that with elections imminent, it was an inappropriate time to make structural changes in line with the options presented. Further consideration of the draft legislation by GoTL was put in abeyance.

11. Conduct research and development

89. Funding was provided to three UNTL and DLVS staff members, being full support for one to undertake MSc studies and partial support to the two others for PhD studies. All three personnel made excellent use of the opportunities to further their epidemiological skills and a valuable contribution was made to basic knowledge of the disease status of livestock in Timor-Leste.

5.6.3 Government support

90. The Secretary of State for Agriculture, management personnel in MAF headquarters and other staff in the veterinary services in Dili and decentralised locations were all in support of the Project and appreciative of the efforts that had been made to achieve objectives. So at the level of intent, support was excellent. However, the Public Service is young and challenged by the need to work on many competing fronts to develop infrastructure, apportion recurrent budget and establish institutional procedures. While the nation has a high revenue stream from petroleum resources, there is limited funding for recurrent budget and MAF is not well funded. Technical expertise within the veterinary services is extremely limited by the very small numbers of qualified personnel. There are only eleven veterinarians in the country, nine of whom are MAF personnel.
91. Thus MAF struggled to support the Project with counterpart technical staff, with funding of inputs that had been agreed would be provided by GoTL and with timely provision of such inputs. The delay in commencing laboratory construction because of

lack of government budget had a substantial constraining influence on the implementation of activities that were dependent on a laboratory diagnostic testing capability.

5.6.4 Project management

92. Management of the Project was effective, with GoTL being very satisfied with implementation. The Project office was situated within MAF and this facilitated development of a close collaboration between Project personnel and MAF staff. AusAID personnel expressed satisfaction with communication and coordination with Project management. Two AusAID Quality at Implementation Reports (June 2010 and March 2011) expressed the need for FAO to provide information at the outcomes as well as outputs level and to provide more detail on capacity building and on sustainability issues. This was a reasonable request but was not repeated at interview with the evaluation mission. It appeared to be a procedural deficiency rather than a serious issue affecting communication with the donor.

5.6.5 Technical and operational

93. Technical input from the Team Leader, from FAO Headquarters and the Regional Office and from consultants was appropriate and adequate. One consultancy mission was cancelled due to difficulties in recruitment of the Consultant for a second mission. This did not impact significantly on Project outcomes since it was in the component of poultry production which was unlikely in any event to achieve a sustainable outcome within the Project period.

5.7 Assessment of Results

5.7.1 Effects and impact of Project activities

94. The most important outcome of the Project is enhancement of the capacity of MAF personnel. Many factors constrained the achievement of Project objectives but starting from such a very low capacity within MAF, the training and engagement of staff in disease surveillance, outbreak investigation, reporting, laboratory testing and epidemiological studies has produced a cadre of personnel with a basic capacity on which to build a veterinary service.

95. This capacity building needs to be much greater than could be provided with the Project and continue over an extended period of time. Other initiatives such as training of technicians at UNTL and veterinary training outside the country will contribute to this. Additional training in specialist areas including epidemiology and laboratory diagnosis will also be essential.

96. The establishment of a system for disease reporting and investigation was again a critical step for a veterinary service which previously had effectively almost no functionality. The limited capacity of the system needs to be accepted. At best, it probably at present provides some assurance that if livestock sickness or mortality significantly above that normally experienced were to occur, it would be reported more quickly than previously and would be followed up by an investigation. If outbreaks of HPAI were to occur with higher than normal incidence of poultry mortality, there is an increased likelihood that this would be identified and lead to a diagnosis of the disease with subsequent action to control and eradicate it.

97. The value of annual vaccination of poultry, pigs and cattle cannot be assessed but it is unlikely that it has a significant impact on disease prevalence. There is too little known about the prevalence and impact of the target diseases and no data on the efficacy of the vaccination. However, applying the number of doses indicated for only one annual campaign, even if conditions of vaccination were ideal, would be unlikely to significantly reduce disease impact. While the recommendations by a consultant for improving vaccination procedures were sound and were implemented, in the opinion of the evaluation mission such vaccination programmes need to be preceded by epidemiological studies to define disease status and to determine the benefit-cost of vaccination.
98. The construction and setting to work of the veterinary laboratory was again an achievement which is essential to a functional veterinary service. With about two months to the completion of the Project, it is a reasonable expectation that laboratory scientific and technical staff will have a basic ability to operate the laboratory and undertake basic microbiological, serological and parasitological tests.

5.7.2 Sustainability and environmental impact of results

99. All of the outcomes of the Project will need continuing external support to be sustained. With the current staff capacity both in Dili and in the decentralised MAF system, the ability to undertake disease surveillance, investigation and reporting is too fragile to expect it to be maintained without continuing external inputs. However, even with external support, the sustainability of a functional system must be questioned until a greater number of trained veterinary personnel become available. It would also require a substantial increase in MAF recurrent budget support.
100. The challenge to maintaining the engineering services and the operational capacity of the new veterinary laboratory needs to be appreciated. It is understood that continuing support will be available from the provider of the building and equipment in the form of two more site visits. These will be important for identifying and rectifying any outstanding engineering concerns while the facility is being put into regular use. It is certain that ongoing external engineering maintenance support, including technical skills and spares parts, will be required for some years, in the absence of such capacity within MAF. It would be desirable for a laboratory staff member to be appointed and trained as a maintenance technician but this person would still need specialist support.
101. The laboratory will need recurrent budget to maintain and operate the facility and to provide for expendable materials for diagnostic testing. Staff will need continuing support to maintain and develop their diagnostic skills and to ensure operation of the facility at the BSL2+ level. It is likely that the facility could be operated at a lower level of containment (as it is operated now) with arrangements to immediately change to the BSL2+ mode when required. SOPs need to be developed and strictly adhered to.
102. As the veterinary services develop and a broader range of testing services is required (for example, food safety testing), the laboratory will prove too small. While it is designed for modular expansion, it is likely that a better solution would be to extend the accommodation with more conventional construction with less sophisticated engineering services. The current BSL2+ facility could then be used for pathological and microbiological work that justifies that level of containment.

103. The direct environmental impact of the Project and the maintenance of activities are likely to be largely neutral. The veterinary laboratory will consume power and produce liquid and solid waste. There will be a budgetary incentive to minimise operation of the air handling plant when it is not required. Waste liquid effluent can be treated with inorganic chemicals that with dilution will have a negligible environmental affect at the disposal site. The incinerator is a two-stage burner that should produce well combusted gases within normal environmental standards.

5.7.3 Gender equity in Project implementation and results

104. Considerable effort was made to engage women in Project activities but it was usually very difficult to identify (or to have nominated) women for training initiatives as there were insufficient women in MAF employment. Overall, of 675 people trained only 72 were females. In an English language training course organized by FAO, 41 MAF staff participated of whom 15 were females and this was the highest female participation rate.

105. There is often a high engagement of women in laboratory scientific and technical activities and it was reported that there is a high interest amongst women to work in the new veterinary laboratory. This may therefore be an opportunity to improve gender balance within the veterinary services.

5.7.4 Cost-effectiveness

106. Appropriate decisions were made to implement the Project in a cost-effective manner. It was essential to have a technical expert as Team Leader for day-to-day coordination of Project activities but otherwise technical services were provided by FAO headquarters or regional personnel or by international consultants. The training of laboratory staff by Indonesian experts was appropriate and an economical approach.

107. The decision to fund construction of the veterinary laboratory represented a major budgetary revision, of about \$ 1.3 million. However, recognising that funds were not available from the anticipated GoTL source, it was essential to keep the Project operational. It was therefore appropriate to make that budget revision. In any event, prefabricated construction of the laboratory was an economical solution for such a complex facility. There will be a continuing financial burden on MAF to maintain the laboratory but that is a consequence of establishing a high containment laboratory. This was unavoidable in the context of providing an appropriate facility to handle HPAI diagnosis, even though it was not optimal in providing MAF with the best solution for long-term veterinary laboratory diagnostic needs.

108. The decision to fund the pig and poultry vaccination programme for one year was also appropriate given the lack of funding available from MAF and gave the Project a greater opportunity for engagement in this activity. Similarly, funding disease surveillance and response for one year enabled it to become a focus of Project activity and it is unfortunate that the budget could not be subsequently provided from MAF resources to allow it to be sustained.

5.7.5 Major factors affecting project results

109. There were some major constraints on Project implementation and outcomes, indicated above in this Report and summarized as follows:

i). The unstable security situation early in the Project period caused significant delays to commencement of implementation.

- ii). Delays in commencing construction of the laboratory due to unavailability of GoTL budget and further delays in completing the facility after delivery, resulted in much of the planned laboratory based work, and field work dependent on laboratory services, not being completed.
- iii). The number and the skills of available MAF personnel, and the limited ability of veterinary service staff to supervise personnel from other departments in MAF, had a major constraining effect on the success of the field work. The uncertain prevailing political situation and insecurity of tenure in a young public service may also have affected the commitment of staff to Project activities, which they may have regarded as being outside of the core functions.
- iv). Lack of budget from MAF, both for planned capital investment (the laboratory) and for recurrent funding for field activities, both constrained Project implementation and will challenge sustainability.

6 Conclusions and recommendations

110. There are several components of the Project whose sustainability is fragile and dependent on continuing budgetary support and external technical assistance. There is a compelling need for MAF to consider recurrent budget requirements, in particular for the laboratory maintenance and operation but also for improved support to field services. While other project funds may be sourced externally for specific activities, it is unlikely that donor funding will be forthcoming for recurrent budget. FAO Operations staff may be able to assist MAF with quantifying the needs.

Recommendation 1: To FAO Representation in Timor-Leste on sustaining Project activities

FAO should encourage MAF to urgently consider recurrent budget needs for the veterinary services, particularly for the maintenance and operation of the veterinary laboratory.
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111. AusAID has indicated that there will be no Project extension with additional budget. However, it is likely that a request for a no-cost extension would be favourably considered. FAO Operations personnel have indicated that the estimated \$ 200,000 expected to be remaining unspent could be used to extend the Project by 6 months, with funding being committed to continued support to training laboratory staff through Bogor Agricultural University (about 30% of budget); continued support to field surveillance and reporting (about 20%); laboratory consumables (about 15%); engineering maintenance for the laboratory (about 20%); and general operating expenses, possibly with one international consultancy (the remaining 15%).
112. Such an extension would improve the prospects for sustainability of Project activities by consolidating active surveillance studies that have only recently commenced and completing the setting to work of the veterinary laboratory. In the opinion of the evaluator this latter need in particular is unlikely to be achieved without an extension of time and there is much dependent on it, in terms of the Project's investment in its success. At the end of this prospective no-cost extension, the laboratory should be fully operational and contractual arrangements finalised for engineering support. Staff should be fully trained and diagnostic testing should be completed on samples collected in the field from cattle, pigs and poultry. This should provide a commencement of national baseline data on disease status for these species and establish procedures for extension spatially, temporally and to an expanded range of diseases.

Recommendation 2: To FAO TCES on Project extension

A six-month no-cost extension to the Project should be sought from AusAID, to enable continued operational support to Project activities until June 2012.

113. FAO has an ongoing presence in Timor-Leste (having just been upgraded to a Representation) and has developed an excellent working relationship with MAF. It is well positioned to provide ongoing support to MAF in providing services to the livestock sector, should alternative sources of funding be identified. One possibility for support could be a broader collaboration in developing livestock sector policy and strategy, which could guide both GoTL and the donor community in developing a focused and coordination approach to improving livestock services, including animal health.

Recommendation 3: To FAO on new project options

FAO should explore with MAF options for continuing support to MAF livestock services, possibly including policy and strategy development.

114. The Australian Department of Agriculture, Fisheries and Forestry (DAFF) has been collaborating with MAF since the 1980s in identifying livestock diseases and improving quarantine operations, as part of its Northern Australia Quarantine Policy. Other Australian support has been provided by the Northern Territory veterinary laboratory at Berrimah and by the Australian Animal Health Laboratory in Geelong, Vic. These agencies would be well placed to provide MAF with continuing support, in particular as specialist technical expertise, in areas including laboratory biocontainment and engineering services, laboratory diagnostic testing and disease surveillance activities in the field. The last could be driven by a clear animal health strategy and a more formal epidemiological approach. A Whole of Government approach to Australian support involving such agencies could attract support from AusAID through their Public Sector Linkages Programme.

Recommendation 4: To FAO Representation in Timor-Leste on further support to MAF veterinary services

FAO should advocate to MAF that technical support be sought from appropriate Australian government agencies to provide assistance to MAF veterinary services, possibly funded through the AusAID Public Sector Linkages Programme.

115. The veterinary laboratory is an asset that is at risk of failing if it does not get continuing support. Engineering needs are as follows:

- completing the setting to work of the whole facility, including all engineering plant and laboratory equipment;
- ensuring that documentation for the engineering plant is complete, including description and drawings required for repair and maintenance;
- preparing SOPs for maintenance; and
- making satisfactory long-term arrangements for routine maintenance and emergency repair of the engineering plant and equipment.

116. Specialist assistance should be sought in determining these needs, which may be available locally or through FAO. The construction company is due to make two more visits to the site to finalise setting to work. The next is due in November 2011 and, if a

no-cost extension is approved, it would be appropriate for the final inspection to be scheduled for shortly before Project completion. Ongoing maintenance would best be provided by having a permanent laboratory staff member with the appropriate skills, backed up by local engineering expertise.

Recommendation 5: To FAO Project management on engineering support for the veterinary laboratory

Specialist advice should be sought to determine engineering requirements to finalise setting to work of the veterinary laboratory and to make appropriate arrangements for ongoing maintenance, including training and preparation of SOPs for maintenance works.

117. There is also a need for continuing support for laboratory scientific work. This includes:

- training staff in maintenance of BSL2+ containment conditions for laboratory work;
- preparing SOPs for undertaking laboratory work;
- further training for staff in undertaking specific diagnostic tests and interpretation of results and in regular refresher training; and
- preparing SOPs for diagnostic tests.

118. The excellent arrangement made with Bogor Agricultural University could be continued as a cost-effective and culturally suitable means of providing continuing training. However, some specialised aspects of operating the BSL2+ facility and in undertaking some of the tests which an expanded responsibility might require, may be better provided by others. The Australian Animal Health Laboratory and Berrimah laboratory are obvious possibilities.

Recommendation 6: To FAO Representation in Timor-Leste on sustaining Project activities

FAO should recommend to MAF that consideration be given to continuing the training arrangement with Bogor Agricultural University and with developing collaborative training and working arrangements with appropriate Australian laboratories.

119. It will not take long for the new laboratory to be found lacking in space. Although designed for modular expansion, it would be more cost-effective to plan for a more conventional construction of low containment accommodation with less demanding engineering support, retaining the current facility for work that requires a high level of containment. An expanded laboratory should accommodate all veterinary laboratory requirements for MAF, including those of DLVS and DQB and any future needs for public health (food safety) testing.

Recommendation 7: To FAO Representation in Timor-Leste on MAF forward planning

FAO should propose to MAF that medium term planning should include expectations that the veterinary laboratory will need to be expanded, with additional accommodation having a lower requirement for biocontainment.

120. Enactment of new animal health legislation drafted with assistance from the Project did not proceed. The draft legislation meets international recommendations. Although it was redrafted to accommodate restructuring options, it was deemed by MAF management

to be inadvisable to consider the legislation at the time. While GoTL is unlikely to proceed with any restructuring prior to next year's elections, the draft legislation is a valuable asset and should be held for future consideration. Restructuring of the veterinary services within MAF, for optimal efficiency and coordination of operations, should be considered at the same time.

Recommendation 8: To FAO Representation in Timor-Leste on legislation

FAO should recommend that Government of Timor-Leste consider proceeding with the drafted animal health legislation to enact it into law at a suitable time in the future. Restructuring of the veterinary services within MAF, for optimal efficiency and coordination of operations, should be considered at the same time.

121. The weaknesses in veterinary field services will take some years to address. Although it is necessary to maintain reporting and investigation of unusual deaths, through the passive surveillance system established with Project support, it is likely that active surveillance will be a more productive means of determining the animal health status of Timor-Leste in the medium term. Active surveillance should be planned as a comprehensive ongoing epidemiological activity to determine the prevalence and distribution of diseases and their economic impact with a view to:

- proving freedom from disease, especially those that have importance for export of livestock; and
- planning appropriate control and eradication approaches, where that is justified.

122. Plans for increasing the export of cattle to neighbouring countries could provide an initial focus for this work. The annual vaccinations currently undertaken could be guided by the outcomes of epidemiological studies to make control efforts more effective.

Recommendation 9: To FAO Representation in Timor-Leste on strategy for veterinary service development

FAO should advocate to MAF that the most effective means of deploying scarce veterinary services in the medium term may be to focus on epidemiological studies to define the health status of Timor-Leste livestock, support livestock export initiatives and plan effective disease control initiatives.

7 Lessons learned

123. The Project demonstrates the difficulty of implementing emergency interventions in a development context of very low national capacity and therefore strictly limited absorption capacity.

124. The decision to construct a high containment laboratory in a country with such limited infrastructure and low human resource availability was justified at the time of Project formulation on the basis of international human health concerns. This dictated the need to provide safe working conditions for all avian influenza laboratory diagnostic work in an emergency, although under normal conditions there will rarely be a need for the sophisticated, high containment functions of the laboratory. The predictable legacy was an asset that will demand substantial financial and technical support to maintain and it may be difficult for GoTL to meet the need. In a situation in which there was no pre-

existing laboratory facility, it may have been preferable to construct a conventional laboratory of lower containment and more applicable to most veterinary diagnostic requirements including many avian influenza diagnostic procedures, and make provision to meet needs for high containment laboratory work at an international reference laboratory.

125. As indicated elsewhere in this Report, there were elements of the Project design that were over-optimistic and destined to not meet objectives. It was unrealistic to expect national livestock production or animal health status to be measurably improved in the course of, or as a direct result of, the Project implementation. While it is tempting to approach Project formulation optimistically, it is preferable to keep expectations realistic and consider carefully the circumstances in which the Project will be implemented.

126. However, it is sometimes difficult to constrain a worthwhile medium-term objective within a short time-frame. The fact that a robust surveillance and reporting system was not achieved within the Project period should not be seen as a failure. The GoTL now has the elements of a system that with commitment and some continuing external support can be developed into a valuable means to provide animal health services to the livestock sector in the future.

Annex 1. Evaluation terms of reference

Background

The *East Timor Biosecurity Strengthening Project* (BSP) is funded by the Australian Government through AusAID and is implemented by the United Nations Food and Agriculture Organization (FAO) in partnership with the Ministry of Agriculture and Fisheries (MAF) of Timor-Leste.

No independent evaluation has been undertaken to date for the BSP. As the project is coming to its end in December 2011, consultation with the MAF, FAO and AusAID have commissioned an evaluation of the BSP. Such evaluation is in line with AusAID's quality processes requirement for an independent evaluation to be undertaken every four years for all activities supported by a total Australian funding of AUD 3 million or more. Given the importance of health issues addressed by the project, which may justify additional support to the country, FAO has accepted to carry out this evaluation making an exception to the prevailing criteria for undertaking project evaluations.

Project summary

The overall goal of the BSP is to *contribute to rural development and livestock health and production in Timor-Leste in coordination with international efforts to prevent and control Highly Pathogenic Avian Influenza (HPAI) and emerging infectious diseases (EIDs).*

The BSP was implemented in two phases: an original phase of 3 years, July 2007-June 2010, with a funding of US\$ 3,769 million (\$A4.75 million); a phase 2, extending the project to December 2011 with an additional funding of \$A 915,000 by AusAid.

Under the above goal, the objectives of BSP Phase 1 were:

1. *To promote effective project management and timely implementation of capacity building, technical, management and financial activities.*
2. *To increase knowledge and awareness of poultry and pig health and production, HPAI and EIDs prevention and control.*
3. *To enhance active and passive disease surveillance, and quarantine and disease response to HPAI, EIDs and other killer diseases of livestock.*
4. *To improve poultry and pig health and husbandry at the household level.*
5. *To facilitate the design and establishment of an appropriate laboratory and capacity building program for laboratory staff.*
6. *To draft appropriate animal health legislation that will support the efficient prevention and control of livestock disease.*
7. *To conduct research and development associated with HPAI and EID prevention and control.*

Under Phase 2, the stated expected outputs included:

1. *Functional and well managed BSL2 Diagnostic Veterinary Laboratory*
2. *Improved capacity of the veterinarians and laboratory technicians to diagnose animal disease*

3. *Strengthened capacity of the Directorate of Quarantine and Biosecurity in disease surveillance*
4. *Well-trained national and district surveillance teams and communication materials (posters, pamphlets and radio projects in the major languages)*
5. *Epidemiology mapping of major animal diseases in Timor-Leste*
6. *Passive animal disease surveillance system implemented country wide*
7. *Expanded practical knowledge of UNTL students of livestock and animal health related disciplines*
8. *Training programmes, posters, radio programmes are produced that improve understanding poultry health and production and hygiene practices relating to zoonotic disease resulting in increased awareness of the public regarding animal health problems and the related threats and risks .*

Related activities

Complimentary support is provided to MAF by the Australian Department of Agriculture Forestry and Fisheries (DAFF) under the AusAID-funded Public Sector Linkages Program (PSLP). The *Animal Health Laboratory – developing a basic capacity* activity commenced in May 2010 and will end in September 2011 with a total cost of A\$ 250,000. This activity compliments the BSP by providing training (in Timor-Leste and Australia) to MAF staff in the skills necessary to manage and utilise the veterinary laboratory to perform simple diagnostic tests for key livestock diseases. The activity is also intended to strengthen linkages between MAF, DAFF and animal health laboratories in Australia. DAFF will also commence another programme under the PSLP providing support for plant health. This programme is to commence in July 2011 and end in June 2012 with a total cost of around A\$ 250,000 and will identify pests and diseases posing quarantine risk and trade needs. Training will be provided to local staff to help develop a plant health reporting and response system. The programme will utilise the veterinary laboratory which has the potential to be used for broader applications than livestock health.

The Australian Centre for International Agricultural Research (ACIAR) has recently commenced an adaptive research project on smallholder cattle production in Timor-Leste (through a partnership with an Indonesian university). ACIAR also plans a complementary project to improve productivity and profitability of smallholder cattle production. Eradication of the cattle disease brucellosis in both Timor-Leste and in Indonesian West Timor (NTT) will be part of these projects (in conjunction with a project in Indonesia).

Australia has supported the World Health Organisation (WHO) to implement its 2005 Asia Pacific Strategy for Emerging Diseases (APSED) at a cost of AUD12 million from 2007 to 2010. The aim of APSED was to build capacity in partner countries on EID prevention, detection and control. Australia is considering support to the WHO's 2010 APSED. During 2010 APSED activities in Timor-Leste included:

- A national epidemiology conference following a regional conference in Delhi in 2010.
- Supporting efforts to build national diagnostic capacity.

Strategic context

The *Australia–Timor-Leste Country Strategy 2009-2014* includes as a key priority increasing employment by increasing agricultural productivity. The two main activities that contribute to this objective are the Seeds for Life (SoL) programme which began its third phase in

February 2011 and the Market Development Facility (MDF) which is due to commence during 2011, subject to agreement by the Government of Timor-Leste (GoTL). The third phase of SoL is implemented by ACIAR with A\$25 million of joint AusAID and ACIAR funding over five years. It aims to provide access to the seeds of improved food crop varieties to 60,000 farming households and to establish the foundations of a national seed system. The MDF aims to make markets more competitive and accessible to poor men and women. It will analyse markets in target countries that are growing or have the potential to grow, identify market failures and opportunities, and facilitate changes to address these through appropriate interventions.

AusAID is rationalising its portfolio of activities in East Timor to improve the efficiency of its program and to facilitate deeper and more focused policy engagement. Consistent with this objective, AusAID plans to focus its bilateral efforts in the agriculture sector towards the successful implementation of SoL and the MDF and related policy dialogue with GoTL. AusAID therefore plans to phase out its bilateral engagement on EIDs and biosecurity in the medium term, while leaving scope for other Australian Government agencies and AusAID-funded regional initiatives to provide assistance in this field. However, AusAID is prepared to consider options for further short-term support to facilitate GoTL taking full responsibility for the management of their EID prevention and control systems, and to ensure that outcomes from the BSP are sustainable.

Purpose of the evaluation

The evaluation is intended to provide, before the conclusion of the BSP by December 2011, for the considerations of the Government of Timor-Leste, the Government of Australia and FAO: i) conclusions about the project achievements; ii) recommendations about any additional short-term activities required to promote the sustainability of the outcomes from the BSP, in particular the veterinary laboratory; iii) lessons learned for future development of EID Management and biosecurity in the country.

With regard to the project, AusAID's attaches the highest priority to the relevance of its outcomes, its effectiveness and institutional sustainability, which are of greatest relevance to guiding a decision on whether to provide any future short-term assistance.

Scope of the evaluation

The primary objectives of the evaluation are therefore:

- To meet the accountability requirements of both AusAID and FAO by assessing the relevance, effectiveness, efficiency, sustainability and contribution to gender equality of the BSP.
- To determine whether any additional Australia assistance is necessary in the short term to promote the sustainability of the outcomes from the BSP.
- To provide lessons learned in relation to EID management and biosecurity in Timor-Leste, highlighting those lessons relevant to other countries, especially small and low-capacity states.

The primary users of the report are the Government of Timor-Leste, the AusAID (Dili Post and East Timor Section in Canberra) and FAO.

The evaluation team will base their work on both AusAID's and FAO evaluation standards, focusing on those issues of most relevance to the scope of this evaluation.

Evaluation method

The evaluation team will review relevant documents, including BSP planning documents and reports and prepare an evaluation plan to be submitted to FAO prior to the field mission.

The evaluation plan should outline the methods and timeframe the evaluation team will use to meet the objectives and scope in these ToRs, including:

- an evaluation design that describes a logical model for assessing the activity, including an evaluation matrix;
- a process for information collection and analysis;
- any substantive challenges to achieving the evaluation objectives that will have to be addressed.

The matrix will include questions that will cover all OECD-DAC evaluation criteria of relevance, effectiveness, efficiency, impact and sustainability. It will include for example (to be finetuned):

1. To what extent was the design of the BSP informed by a sound analysis of Timor-Leste's needs in relation to EIDs and biosecurity capacity? (*Relevance*)
2. Was the BSP the most appropriate approach to addressing Timor-Leste's needs in relation to EIDs and biosecurity capacity? (*Relevance - Effectiveness*)
3. To what extent are outcomes achieved by the BSP to date (in particular the veterinary laboratory), useful to Timor-Leste's current needs in relation to EIDs and biosecurity capacity? (*Effectiveness – Efficiency - Impact*)
4. Did the implementation of the BSP make effective use of time and resources to achieve the outcomes? (*Efficiency*)
5. Were risks to the achievement of the objectives of the BSP managed appropriately? (*Efficiency - Impact*)
6. Does MAF have sufficient ownership, capacity and resources to maintain the outcomes from the BSP after it has ceased? (*Sustainability*)
 - a. Does MAF have the capacity and resources to sustain the veterinary laboratory after the BSP has ceased? (*Sustainability*)
 - b. Is there potential for MAF to utilize the veterinary laboratory for broader purposes such as plant disease, food safety, SPS certification, and quarantine? (*Sustainability*)
7. Are there any areas of the BSP that are clearly not sustainable? (*Sustainability*)
8. Is there a need for any short-term assistance to MAF to promote the sustainability of those outcomes from the BSP that are most relevant to East Timor's current needs in relation to EIDs and biosecurity capacity? (*Sustainability*)
 - a. What are the options for any such short term assistance?
 - b. Out of these options which is the recommended based on its impact on sustainability and cost effectiveness?

As well as cross-cutting issues (environment, gender,...)

9. With reference to international experience, to what extent did the BSP contribute to formulation of effective strategies to deal with gender issues relevant to EIDs and biosecurity?

The team will undertake field visits in Timor Leste for consultations (interviews, focus groups) with national and international stakeholders, including FAO implementation team, MAF, beneficiaries, and to inspect field sites, including the veterinary laboratory, as deemed necessary. Before its field visits, the team will identify and submit the list of stakeholders.

The team will also consult with the DAFF team implementing the animal and plant health activities, in Australia and/or Timor Leste as appropriate.

Evaluation team composition

The evaluation team will consist of a Team Leader consultant and sectoral specialist in Emerging Infectious Diseases (EID) management and biosecurity.

The Team Leader will manage the team to effectively utilize the expertise of each team member in meeting the ToRs and contractual obligations. The team leader will have primary responsibility for developing a detailed evaluation methodology to be outlined in the evaluation plan (see below).

The Team Leader will have the final say on the composition and recommendations of the evaluation report.

Reporting requirements

The evaluation team will prepare the following documents:

- An evaluation plan (evaluation matrix, stakeholders list, programme of visits) prior to undertaking the mission to Timor Leste;
- An aide-memoire summarizing initial findings from the mission.
- A draft report for consideration by project stakeholders.
- A final report after considering comments from AusAID, FAO and MAF for approval by FAO.

Review requirements

AusAID and the FAO will seek internal views on the draft report from relevant sector experts and country staff for consideration by the evaluation team.

Evaluation timeline

An indicative timeline for the evaluation is as follows:

- Contracting of team members - by end August
- Briefing of team members on key issues and preliminary document review
- Submission by the consultants of an evaluation plan (including fine tuned methodology, programme of visits, ...) - 1st week September
- Field mission to Timor Leste (including a briefing on logistics and a feedback session with key stakeholders and submission of aide memoire) – end September (2 weeks)
- Data processing, preparation and submission of draft report – mid October (7 days)
- Consideration of draft report by AusAID, FAO and MAF –end October (2 weeks)
- Submission of final report – by mid November.

Annex 2. Profile of team members

Tony Forman is a veterinarian with post-graduate qualifications in veterinary microbiology who has spent most of his career working on the prevention and control of transboundary diseases and with extensive experience in management of veterinary diagnostic activities in high security laboratories. He has undertaken many evaluation consultancies for FAO and other agencies.

Luc Dubreuil is a Senior Evaluation Officer in the FAO Office of Evaluation.

Annex 3. List of documents reviewed

- A final report on the activities of National Animal Disease Investigation and Response Team (N-ADIRT) in 13 Districts presented to BSP/FAO Timor-Leste Biosecurity Strengthening Project.
- Ahlers, C. Back to office reports. August, September and October 2008.
- Amaral, AC. Risk assessment to demonstrate freedom of highly pathogenic avian influenza (HPAI) in Timor Leste. PhD thesis, January 2011.
- Angus, S. First mission report – veterinary epidemiologist/surveillance expert. December 2008.
- Angus, S. Second mission report – veterinary epidemiologist/surveillance expert. May 2009.
- AusAID. Quality at Entry Report. May 2007.
- AusAID. Quality at Implementation Reports. 2008, 2009, 2010 and 2011.
- Counahan, M. Situational analysis of avian influenza in Timor-Leste. July 2008.
- Curran, J. Assessment of a wild bird surveillance strategy for avian influenza in Timor-Leste. November 2009.
- Cutler, R. Pig production and animal health in Timor-Leste: situation analysis. First mission report. March 2009.
- Cutler, R. Pig health and production in Timor-Leste: implementation. Second mission report. July 2009.
- Cutler, R. Pig health and production in Timor-Leste: implementation. Third mission report. December 2009.
- Democratic Republic of Timor-Leste. Strategic development plan 2011-2030.
- Do Karmo, A. A cross-sectional study of Newcastle disease in village chickens in Lautem, Dili, Covalima, Bobonaro and Oe-cusse districts of Timor-Leste. MSc thesis, November 2009.
- Final Report – Training of veterinarians and technicians from Timor-Leste on veterinary laboratory diagnostics at Faculty of Veterinary Medicine, Bogor Agricultural University. 5 January to 25 February 2010.
- Final Report. Veterinary Laboratory Diagnostic Training for Animal Quarantine Veterinary Officers of Timor Leste. 1-26 November 2010. Faculty of Veterinary Medicine, Bogor Agricultural University.
- Hickler, B. Anthropological participatory assessment for a communications strategy for Timor-Leste. August 2008.
- Kamata, A. Back to office report. September 2008.
- Larsen, P. Timor-Leste poultry market chains and avian influenza risk assessment. February 2009.
- Leake, J. (2003). Second draft livestock policy document for Ministry of Agriculture and Fisheries.
- Meeting minutes. Strategic plan for developing a veterinary diagnostic laboratory in Timor-Leste. September 2008.
- Mid-Term Report – On-the-bench veterinary laboratory diagnostic training in Timor Leste to Timorese staff of the Ministry of Agriculture and Fisheries. September 2011. Faculty of Veterinary Medicine, Bogor Agricultural University.
- National Directorate of Livestock and Veterinary Services. Progress report for September and October 2010. March 2011.
- National Directorate of Livestock and Veterinary Services. Progress report of vaccination campaign of Newcastle disease for chicken and classical swine fever for pigs. November 2009.
- OSRO/TIM/701/AUL. Project Document. Biosecurity strengthening project for East Timor. July 2007 to June 2010.

- OSRO/TIM/701/AUL. Project Document Phase 2. Biosecurity strengthening project for East Timor. July 2010 to December 2011.
- OSRO/TIM/701/AUL. Amendment to Project Document. October 2007.
- OSRO/TIM/701/AUL. Interim Progress Report. June 2010.
- Programme Coordinating Committee Meeting minutes numbers 1 to 6.
- Programme Working Committee Meeting minutes numbers 1 to 14.
- Preparedness and response plan for influenza pandemic in RDTL. October 2009.
- Research Project report 1. Better pig feeding monitoring and chemical analysis (ET-BPF-MA) for sustainable pig meat production – a management and nutrition decision support system for East Timor pig production (pigs farmers). UNTL, July 2009.
- Robertson, I. First mission report on the veterinary regulatory environment. April 2009.
- Robertson, I. Second mission report on the veterinary regulatory environment, September 2009.
- Roberts, J. Draft Legislation for Animal Disease Prevention and Control. First mission report. June 2009.
- Roberts, J. Draft Legislation for Animal Disease Prevention and Control. Second mission report. November 2009.
- Serao, E. Investigation into the production and health status of rural scavenging chicken in East Timor. Final report. MSc dissertation.
- Wolde, AA. Veterinary Surveillance and Reporting System in Timor-Leste: Assessment report. November 2008.

Annex 4. List of institutions and stakeholders met during the evaluation process

Ministry of Agriculture and Fisheries

H.E. Valentino Varela, Secretary of State for Livestock
Filipe Mesquita, Advisor to the Secretary of State for Livestock
Calisto da Costa Varela, National Director of Livestock and Veterinary Services
Antonino Do Karmo, Department Head of Veterinary Services
Joanita B.Da Costa Jong, National consultant epidemiologist
Rui Daniele, National Director Quarantine and Biosecurity
Manuel da Costa, Department Head of Animal Quarantine
Mario Francisco Amaral, Department Head of Quarantine Laboratory
Feliciano de Conceicao, Department Head of Veterinary Laboratory
Agusta Ximenes, Veterinary Laboratory Technician
Marco Aurelio, Quarantine Inspector, Batugade
Alexio Soares, DLO, Bobonaro
Guillherme da Costa, District Financial Officer, Bobonaro
Aleixo Soares, DLO, Ermera
Arlindo do Santos, Assistant DLO, Ermera
Oscar Paulino, DLO Aileu
Joaquim Cesqueira, Extension Officer
Fernando Oliveira Maia, Extension Officer
Virginia Soares, Extension Officer

AusAID

Vincent Ashcroft, Country Head, Minister Counsellor (Development)
Jeff Prime, First Secretary
Scott McNamara, Timor-Leste Desk Officer, Canberra
Joao Fernandez, Programme Officer
Lara Andrews, Programme Assistant

DAFF&Department of Resources, NT Australia

Peter Beers, DAFF Canberra
James Wollner, DAFF Canberra
Lorna Melville, Berrimah Veterinary Laboratory, Darwin

FAO

Man Ho So, FAO Representative
Fabrizio Cesaretti, Emergency Coordinator
Abebe Wossene Wolde, Programme Manager
Alessia Anibaldi, Operations Officer
Jorge Pinto Soares, Communications Officer
Yohanes Usboko, National Programme Manager

USAID

Angela Rodrigues
David Boyes, Project leader (cattle fattening and marketing)

WHO

Megan Counahan, WHO

UNTL

Zefferino Tilman, Head, Department of Animal Health

Acacio Amaral, Department of Animal Health

Jorge Silva, Faculty of Agriculture

Flaviano Soares, Faculty of Agriculture

Private sector

David Agostinho, Consultant Engineer

Octavia da Costa, Manager Gracia Poultry Farm

Francisco Bere Araujo, Farmer

Alfredo Mali Bere, Farmer

Lizeta Maria Maia Dos Santos, Village Livestock Worker and Farmer

Guilhermina dos Santos, Village Livestock Worker

Annex 5. Mission itinerary

Date	Activity
Mon 03 to Thu 06 Oct	Document review, preparation of Evaluation Plan
Fri 07 Oct	Depart home location
Sat 08 Oct	Arrive in Dili Briefing with FAO Team Leader
Sun 09 Oct	Document review
Mon 10 Oct	Briefing with FAO Emergency Coordinator Meet with Secretary of State for Agriculture Meet with AusAID staff
Tue 11 Oct	Meet with Project management personnel - review of Project outcomes Meet with Quarantine and Biosecurity Directorate Meet with Veterinary Service personnel
Wed 12 Oct	Visit Veterinary Laboratory Security briefing Discussion with FAO Team Leader
Thu 13 Oct	Visit Gracia Poultry Farm, Railaku Meet with Ermera District Livestock personnel Meet with USAID
Fri 14 Oct	Visit University of Timor Leste Meet with WHO expert Meet with laboratory engineering consultant Meet with USAID cattle marketing project manager
Sat 15 Oct	Drafting report
Sun 16 Oct	Drafting report
Mon 17 Oct	Teleconference with AusAID and DAFF Meet with Aileu District Livestock Officer
Tue 18 Oct	Meet with Quarantine inspectors at Batugade border control Visit District Agriculture Office at Bobonaro Overnight at Maliana
Wed 19 Oct	FGD with farmers, extension workers and VLWs Observe active surveillance team Return to Dili
Thu 20 Oct	Debriefing with Secretary of State for Agriculture and AusAID Discussions with Team Leader
Fri 21 Oct	Drafting report
Sat 22 Oct	Travel to home location
Sun 23 to Thu 27 Oct	Finalise Evaluation Report

Annex 6. Evaluation matrix

Timor Leste - Biosecurity Strengthening Project – OSRO/TIM/701/AUL

Evaluation Matrix⁹

Evaluation questions	Assessment Criteria	Means of verification	Sources of verification
Project objectives and design			
Description and justification criteria (relevance (to country/beneficiaries needs) and coherence with government policies)	Clear understanding and endorsement by stakeholders	Explicit links/references to government policies, process of determining national needs (consultations with stakeholders, workshops, other)	Personal interviews with MAF, donor and FAO personnel Discussion with stakeholders conception/formulation reports
Objective (relevance)	Retrospective endorsement of objective by stakeholders	Consideration of Project activities with respect to MAF strategic plans	Personal interviews with stakeholders Documented strategic plans
Design (relevance and effectiveness)	Relevance to national needs Project outcomes achieved according to work plans and within budget Adequacy of Project documents and inception report	MAF and other stakeholders satisfied with the Project implementation and achievement of outcomes Work plans, logical framework matrix, risk matrix, budget documentation, comprehensive	Personal interviews with MAF senior staff, Project management and AusAID personnel Project reports & personal interviews Personal interviews
Institutional arrangements (effectiveness; efficiency)	Counterpart (MAF) satisfied with collaborative arrangements	Project activities integrated into routine MAF activities. Implementation within budget	Personal interviews Inspection of records of disbursement of funds
Beneficiaries (Impact)	Correct identification of beneficiaries	Stakeholders confirm their interest in Project outcomes Existence of selection process Analysis of project impact on targeted direct and indirect beneficiaries -	Visits with Timorese Government, DAFF and donor personnel; Reports and studies Baseline survey Impact assessment survey
Project implementation			
Budget and expenditure (efficiency)	Budget allocations enabled; efficient & timely implementation of activities	Extent of budget expenditure Requirements for budget revisions	Project reports and PWC minutes Project reports and FPMIS reports
Staffing (efficiency)	Staff timely available in numbers and qualifications	Number and qualification of staff/consultants recruited versus project doc and actual needs	Reports, training agreements,...

⁹ The Project was implemented in two phases (May 2008 – June 2010 and July 2010 continuing to December 2011). Since the objectives and outputs of the two phases overlap considerably, they have been merged (as activities and outputs) in the Table.

Evaluation of Timor-Leste Biosecurity Strengthening Project

Evaluation questions	Assessment Criteria	Means of verification	Sources of verification
		Training of staff (#/topics)	
Project operations (efficiency)	Operations dealt with timely and adequately by FAO and project admin staff	Implementation of inputs and activities achieved according to work plans	Interviews Project and FAO Annual reports Annual work plans
Activities and outputs			
<i>1. Effective Project management & implementation</i>	Implementation timely, effective, cost-effective and comprehensive	Inputs delivered and activities undertaken according to work plans Documentation shows that selected option for laboratory construction was the most cost-effective	Project reports Discussions with stakeholders & Project management staff Project financial documents
<i>2. Functional veterinary laboratory</i>			
- <i>establishment of laboratory</i>	Building of suitable design completed	Building design meets BSL2+ criteria Facility provided and operational	Personal visit
- <i>management & operation</i>	Fully operational laboratory, producing test data as required by users	Samples submitted and testing undertaken Full staff complement	Laboratory visit, project reports Inspection of test records
- <i>laboratory needs assessment</i>	Identified testing needs consistent with MAF disease surveillance & control plans	MAF management agree on diagnostic testing priorities	Needs assessment report MAF strategic plan Discussion with MAF management
- <i>procurement of materials</i>	Laboratory has the materials and supplies required for its operations	Evaluation of equipment and supplies for suitability and adequacy Meeting planned procurement	Laboratory visit for inspection Purchasing records
<i>3. Improved capacity of personnel</i>			
- <i>in-lab training of personnel</i>	All staff have the appropriate skills for their work	Staff have received training Staff have appropriate knowledge and skills	Records an reports of training Personal interviews with staff
- <i>laboratory SOPs</i>	SOPs available for all testing undertaken	copies of SOPs in the laboratory SOP's are properly documented	Inspection of SOP's; quality of preparation and documentation of maintenance
<i>4. Strengthened surveillance capacity</i>			
- <i>administration of Indonesian lab training</i>	Training was undertaken as planned	Number of staff trained Timeliness of training schedule(s)	Project records of training arrangements
- <i>conduct of training</i>	Staff have the skills required to undertake their work	Technical knowledge of trainees Quality of testing performed in lab.	Project records Personnel interviews with trainees
- <i>additional training</i>	Staff have higher level skills	One MSc graduate trained Staff trained for TADinfo database Staff trained in epidemiological methods	Project records; interviews with staff
<i>5. Surveillance & response</i>			

Evaluation of Timor-Leste Biosecurity Strengthening Project

Evaluation questions	Assessment Criteria	Means of verification	Sources of verification
- <i>HPAI preparedness</i>	Approved National Plan in place Capacity to implement Plan	National Plan documented Responsible personnel have knowledge of Plan Required supplies available	Assessment of documented Plan Interviews with personnel PPE equipment inspected
- <i>prevention of HPAI incursion</i>	Effective quarantine & biosecurity measures in place	Border crossing(s) properly monitored Adequate measures at air & sea ports	Visit(s) to key facilities Inspection of SOP's Discussions with personnel
- <i>response arrangements for HPAI control/eradication</i>	Personnel capabilities & equipment supplies adequate	Outcomes of simulation exercises	Inspection of simulation exercise reports & assessment of staff preparedness
- <i>preparation of training materials</i>	Documentation available for training of personnel	Documented training manuals	Inspection of manuals
- <i>conduct of training</i>	Personnel able to respond to HPAI outbreaks	Personnel capabilities are adequate	Personnel interviews
- <i>network of VLWs trained</i>	Identification of VLWs	Presence and knowledge of VLWs	Personal interviews
6. Mapping of animal diseases			
- <i>priorisation of diseases</i>	Top five disease priorities clearly identified.	Documentation of surveillance and control plans Consensus on priority diseases	Examination of plans Interviews with MAF management
- <i>collection of samples and data</i>	Collection undertaken by scheduled activities	Samples & data collected according to appropriate sampling frame	Project reports Laboratory accession system
- <i>laboratory analysis & interpretation</i>	Results of samples testing permit decisions on disease prevention & control actions.	Laboratory tests completed Lab results available to decision makers Disease database established	Laboratory records Epidemiological reports
7. Passive surveillance implemented			
- <i>support to passive disease reporting system</i>	Extension training conducted Routine village reports provide disease intelligence	Village personnel understand disease signs/reporting criteria Percentage of villages reporting regularly	Interviews with village personnel Documented responses to reported disease incidents
- <i>progress workshops</i>	Workshops conducted	HPAI awareness improved	Results of KAP/FGD surveys
- <i>refresher training extension workers</i>	Training conducted & trainees have appropriate knowledge	Interviews with village personnel Examination of records	Village visits Project reports
8. UNTL student teaching			
- <i>needs assessment</i>	Needs identified	Documented needs	Interviews with trainers & UNTL staff
- <i>practical demonstrations</i>	Programme for demonstrations Effective transfer of knowledge	Students have good knowledge of HPAI	Training documents Interviews with trainees & UNTL staff Project records
9. Poultry & pig production improved			

Evaluation of Timor-Leste Biosecurity Strengthening Project

Evaluation questions	Assessment Criteria	Means of verification	Sources of verification
- <i>control of pig & poultry diseases</i>	Reduced mortality in poultry and pigs Improved productivity of village poultry and pigs	Good preventive practices (vaccination, biosecurity) put in place ND & CSF vaccination manuals produced CSF vaccination strategy determined	Reports of vaccination activities Results of KAP and FGD surveys Visits to villages
- <i>preparation of IEC materials</i>	IEC material produced and radio spots conducted	Examination of IEC materials	Project reports
- <i>dissemination of IEC materials</i>	Villagers have improved knowledge of Livestock production & health issues - esp. HPAI and other EIDs	Interviews with village people & collaborating partners Project records	Village visits Consultant reports
<i>10. Animal health legislation drafted</i>	Draft legislation available & consensus achieved	Revised legislation drafted and approved by PCC Workshop conducted to obtain consensus	Draft legislation Consultant reports
<i>11. Conduct research & development</i>	Documentation of research on disease surveillance systems and ND diagnosis and control	Review undertaken of passive and active disease surveillance systems Recommendations for improved ND diagnosis and control	Review documents
Government support	Response from Government personnel	Interviews with key Government personnel	Personal interviews
Project management	Effective use of project resources Timeliness of implementation Completeness of implementation	Examination of Project reports Interviews with Project personnel and stakeholders	Project progress reports Personal interviews
Technical & operational backstopping	Regular backstopping undertaken Implementation problems identified & corrected	Examination of Project reports Interviews with Project and RAP personnel	BTORs and Project progress reports Personal interviews
Assessment of Project outcomes			
Impact of activities			
- <i>laboratory establishment & function</i> - <i>building laboratory staff capacity</i> - <i>strengthening surveillance capacity</i>	Ability to support field surveillance and disease control initiatives	Results coming from TL laboratory compared with those results coming from international support labs	Project records Personal interviews
- <i>building surveillance & response</i> - <i>mapping animal diseases</i> - <i>establishing passive surveillance</i>	Ability to identify diseases & their epidemiology and respond with control measures as appropriate	Outcomes of disease investigation and response activities Analysis of disease situation in TL for the five priority diseases	Epidemiological reports Personal interviews
- <i>UNTL student training</i>	Reduced dependence on external training assistance	Assessment of capacity of trained students	Personal interviews with students Interviews with supervisory staff
- <i>producer knowledge & awareness</i>	Improved livestock production	KAP and FGD outcomes at different stages of Project	Project reports incl. Consultant reports Personal interviews

Evaluation of Timor-Leste Biosecurity Strengthening Project

Evaluation questions	Assessment Criteria	Means of verification	Sources of verification
		Passive & active surveillance results	
<i>- sustainability of MAF Project-related activities</i>	Activities expected to continue after project completion Government commitment to forward budgeting for livestock disease surveillance & response	MAF strategic plans and budgeting for 2012 and onwards – plans for continuing Project activities	MAF documentation and discussion with MAF management
Environmental impacts	Project activities do not have detrimental environmental impact Improved national capacity reduces environmental cost of international freight and personnel movements	Power source for laboratory operation Waste management from laboratory Comparison of international servicing of disease surveillance before and after project implementation	Observation of laboratory and discussion with laboratory management
Gender equity (Impact)	Women are facilitated to engage in Project activities Womens' roles in livestock husbandry considered	Project personnel structure Engagement of women in Project implementation Involvement of women in KAP and FGD exercises Benefits for women from Project	Personal interviews and observation Interviews with women on their roles in the Project Project reports, KAP & FGD documentation

Annex 7. Donor's contribution to the Project

**BIOSECURITY STRENGTHENING PROGRAM (BSP) - TIMOR-LESTE
OSRO/TIM/701/AUL**

FINANCIAL REPORT at 30 APRIL 2010 - SUMMARY

	US\$	AU\$	Expenditure rate	Exchange rate (US\$/AU\$)	Notes
Contribution Received - First Tranche (09/2007)	1,786,800	2,118,317		1.1855	(1)
Contribution Received - Second Tranche (03/2009)	867,276	1,348,167		1.5545	(2)
Contribution Received - Third Tranche (12/2009)	1,175,058	1,283,515		1.0923	(3)
Total Contribution Received	3,829,134	4,750,000		1.2405	(4)
Total Expenses as at 30 April 2010	3,435,113	4,261,221	90%	1.2405	(4) (5)
Balance on Contribution Received as at 30 April 2010	394,021	488,779		1.2405	(4)
Budget Extension - Fourth Tranche (Jul 2010 - Dec 2011)	850,372	915,000		1.0760	(6)
Total Interests accrued as at 30 April 2010	33,652	39,371		1.1699	(7)
TOTAL INCLUDING INTERESTS AT 30 APR 2010	4,713,158	5,704,371			

- (1) Exchange rate of the FIRST tranche
 (2) Exchange rate of the SECOND tranche
 (3) Exchange rate of the THIRD tranche
 (4) Average exchange rate of first, second and third tranches
 (5) Expenses includes commitments which are subject to minor changes when converted into payments
 (6) UN official exchange rate at 1 May 2010
 (7) Average exchange rate of interest accrued


 Pasquale Rispoli
 Senior Executive Officer, TCEO

Date: 21/05/2010