

# **Avian Influenza Control and Eradication**

## **FAO's Proposal for a Global Programme**

**January 2006**

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## **Foreword**

*This document presents FAO's vision of the global needs for control of the current panzootic of highly pathogenic avian influenza. It addresses the livestock component of a complex issue, which is closely linked to human health and welfare concerns. This Proposal was developed following extensive discussion between FAO, OIE and World Bank partners all of whom are playing a substantial global role in support to the livestock sector. It is an elaboration of a plan presented at a stakeholders' conference in Geneva in November 2005 and will ultimately be presented to a donors' pledging conference in Beijing in January 2006. That plan presented the projected budgets of recipient countries and the two international agencies involved in the animal health sector, FAO and OIE. This document elaborates on those budgets and indicates estimated costs for FAO to fulfil its role. It is important to note that estimates of the cost of the global programme included in this proposal are valid now but they may change according to the evolution of the avian influenza situation. This document will therefore be periodically updated, in the light of changes in the global situation which will be presented in regular news bulletins and on the FAO website.*

## Executive summary

Since highly pathogenic avian influenza was first reported in Vietnam in December 2003, it has been identified in several countries in the region. It is still defying attempts to control and eradicate it in PR China, Thailand, Vietnam and Indonesia. The occurrence of human cases of infection with the H5N1 virus responsible for this panzootic and evidence that it has spread with migrating wild birds as far as Eastern Europe, has caused global alarm. A meeting in Geneva in November 2005 confirmed the determination of national authorities and international donors and agencies to bring the disease under control.

FAO has been active in providing support to disease control efforts in infected countries and in assisting non-infected countries to prepare for a rapid and effective response, should the disease become introduced. Together with the Office International des Epizooties (OIE), FAO has responsibility for coordinating the international effort from the livestock perspective. The UN System Coordinator for Avian Influenza has taken responsibility for ensuring a harmonised approach to address the concerns for human health and those relating to poultry production and the livelihoods of producers, especially those in developing countries.

This proposal presents FAO's perspective for a Global Programme for avian influenza control and eradication. It identifies the need to address global and regional coordination of the programme, support to infected countries in their efforts to control the disease, assistance to countries at risk of introduction of the disease and finally, provision for immediate support for any newly infected country to ensure a quick and effective control programme. These four components to the Programme are presented with a brief description of their goals, objectives, activities, proposed projects, expected impact and budget estimations. Annexes to the document describe each sub-component in more detail. The projected budget is summarised as follows:

Component	Year 1		Year 2	Year 3	Total
	1 <sup>st</sup> 6 m	Full Year			
1. Coordination	9,833,861	18,493,660	15,883,514	15,328,184	<b>49,705,359</b>
2. Infected countries	22,220,264	56,129,573	24,637,000	23,652,000	<b>104,418,573</b>
3. Countries at risk	16,196,725	21,006,638	29,123,080	27,492,026	<b>77,621,743</b>
4. Newly infected countries	16,100,000	44,000,000	62,700,000	137,500,000	<b>244,200,000</b>
<b>Total</b>	<b>64,350,850</b>	<b>139,629,871</b>	<b>132,343,594</b>	<b>203,972,210</b>	<b>475,945,675</b>

This budget is a revision of the budget developed jointly by FAO, OIE and the World Bank, in preparation for the Geneva Conference, at which time emergency funds of \$60 million were sought for the first six months and a projected estimate of needs for a three-year programme were \$494 million (see Page 8).

Within the document is presented FAO's proposed role in participating in the Programme (see Page 23). It proposes that FAO will assume a major part of the responsibility for the global and regional coordination described in this Programme. OIE has a complementary role in strengthening veterinary services for mid- to long-term capacity to improve prevention and control of transboundary diseases. This specific OIE role was identified within the budget prepared for the Geneva Conference and not included in this current proposal. FAO anticipates an involvement in implementing 25% of donor-assisted projects in infected countries and 50% of assistance to non-infected countries in preparedness for outbreaks. Full responsibility is proposed for managing a contingency mechanism for a rapid response to

introduction of disease into a new country, with only funds for the first 6-months be sought at this stage. The proposed budget is as follows:

Component	Year 1		Year 2	Year 3	Total
	1st 6 m	Full Year			
1. Coordination	9,833,861	18,493,660	15,883,514	15,328,184	<b>49,705,359</b>
2. Infected countries	5,555,066	14,032,393	6,159,250	5,913,000	<b>26,104,643</b>
3. Countries at risk	8,098,363	10,503,319	14,561,540	13,746,013	<b>38,810,872</b>
4. Newly infected countries	16,100,000	16,100,000	-	-	<b>16,100,000</b>
<b>Total</b>	<b>39,587,290</b>	<b>59,129,372</b>	<b>36,604,304</b>	<b>34,987,197</b>	<b>130,720,874</b>

FAO is seeking donor support for implementation of this Programme. Contributions will be welcomed on the basis of:

- development of projects to match specific donor funding interests and
- by contributing to a multi-donor Special Fund for Emergency and Rehabilitation Response (SFERA), established and operational at FAO since 2003.

Contributions to the SFERA are preferred because they maximise the efficiency of allocating funds to priorities which will change over time.

**NOTE:**

At this stage the annexes 2.1 to 4.1 referred to in the document, which describe the specific country plans for control, preparedness and response to HPAI, are not included because they are still under discussion with the respective countries.

## Background

This document represents FAO's proposal for the global control and eradication of the H5N1 highly-pathogenic avian influenza (HPAI) that is currently panzootic in several countries in Asia and presents FAO's role in that programme. The United Nations has accepted an overall coordinating role for the human health and animal health needs to combat the disease in poultry and the consequences of human infection with the avian influenza virus, or a derivative of it. This coordination is implemented through the UN Coordinator for Avian Influenza, attached to UN Headquarters. FAO recognises its mandate for coordinating the Animal Health Component of this response, together with OIE, in line with the FAO/OIE/WHO Global Strategy for the Prevention and Control of HPAI, developed in early 2005.

The panzootic has developed after HPAI outbreaks were first identified in rapid succession in six Asian countries in December 2003 and early 2004. The countries affected were Vietnam, Thailand, PR China, Lao PDR, Cambodia and Indonesia. Since then only one country, Lao PDR, has apparently become free of the disease. It is reported infrequently in Cambodia. In China and Vietnam the disease has become endemic and widespread and has persisted despite concerted control efforts. Both countries are currently launching mass vaccination campaigns, having failed to contain the disease by stamping out and/or targeted vaccination. In Thailand, the disease has been well controlled within the large commercial sector but has persisted in the backyard poultry sector, where disease surveillance and stamping out is still being applied. In Indonesia, attempted control by relying mainly on vaccination and partial stamping out has not been successful. With greater donor support, national authorities have now recognised the disease as a priority and a more concerted national control campaign is now foreseen.

Other avian influenza outbreaks have also occurred in recent years, most notably in Pakistan where endemic infection with a different strain of virus (H7N9) has been present since 1995. However, two factors have caused increasing international concern over the disease caused by the H5N1 virus in Asia. Firstly, since late 2003, cases of human infection with the avian influenza virus have been identified in several affected countries where to date more than 60 fatalities have occurred. Secondly, spread of the virus by migrating birds has caused outbreaks of disease in wild birds and/or poultry in several provinces of PR China, and in Russia, Kazakhstan, Mongolia, Croatia, Turkey and Romania. Although these outbreaks have been contained, the threat of further spread is clear. Spread could also occur from the legal or illegal movement of poultry or poultry products.

In November 2005, a conference in Geneva confirmed the need for a concerted and coordinated donor response to combat the disease on a global basis. This proposal for a global programme is a development of an outline of FAO's vision and costing estimates presented for that conference, with details developed to document the goals, objectives, activities and projected budgets for the components of the programme.

FAO's vision of its role in combating HPAI is the facilitation of direct technical and resource assistance to the efforts of national governments and provision of global leadership to the channel assistance provided by donor and other implementing agencies. FAO will develop the appropriate responses at the global and regional level in collaboration with OIE and with other agencies and assist regional and national authorities in developing appropriate HPAI

prevention and control plans and strategies. FAO will also implement technical support activities and coordinate and integrate the inputs of participating implementing agencies.

This is a programme that is already being implemented with substantial donor support. However, it needs massive scaling up to address the expanding threat of avian influenza. Because of the nature of the panzootic, needs will change over time and it is difficult to predict such change and the logistics and the budget requirements to meet them. This document is presented to provide the best current estimate of these needs, for the next three years.

The programme will be implemented following the concepts, approaches and general organisation of the FAO-OIE Global Framework for the Progressive Control of Transboundary Animal Diseases (GF-TADs). It is also directly developed from the FAO-OIE Global Strategy for the Progressive Control of Highly Pathogenic Avian Influenza (HPAI), prepared in June 2005 and revised in October, 2005.

This proposal includes budget estimates for needs for donor support. This includes emergency needs for the first 6 months and first year and additional needs for a following two years. The estimation of emergency needs take into account the budgets which are already committed or pledged by several donors as well as resources met by individual government budgets, such as those of Vietnam and Indonesia. Cambodia and Lao PDR have their emergency needs already met by existing donor support.

For additional information on the current status of avian influenza, refer to the following key documents, available from the websites indicated:

1. A global strategy for progressive control of highly pathogenic avian influenza (HPAI). FAO/OIE, November 2005.

<http://www.fao.org/ag/againfo/subjects/documents/ai/HPAIGlobalStrategy31Oct05.pdf>

2. FAO recommendations on the Prevention, Control and Eradication of Highly Pathogenic Avian Influenza (HPAI) in Asia. September, 2004.

<http://www.fao.org/docs/eims/upload/165186/FAOrecommendationsonHPAI.pdf>

3. Guiding principles for highly pathogenic avian influenza surveillance and diagnostic networks in Asia. FAO Expert Meeting on surveillance and diagnosis of avian influenza in Asia. Bangkok 21-23 July, 2004.

<http://www.fao.org/ag/againfo/subjects/en/health/diseases-cards/Guiding%20principles.pdf>

4. FAO/OIE Global framework for the progressive control of transboundary animal diseases (GF-TADs)

<http://www.fao.org/ag/againfo/subjects/en/health/diseases-cards/cd/documents/GF-TADs24May2004.pdf>

## Geneva Cost Estimates

The following table summarises the estimates of costs for the livestock component of a Global Programme for Avian Influenza control, developed jointly by OIE, FAO and the World Bank for presentation at the Geneva Conference, 5-7 November, 2005. It includes costs estimated by both OIE and FAO for their roles in implementation of the Programme.

Component	Year 1		Years 2 & 3	Total
	1st 6 m	Full Year		
<b>International</b>				
1. Support to Global Animal Health Fund		2,000,000	2,500,000	<b>4,500,000</b>
2. Support to OFFLU Network		430,000	300,000	<b>730,000</b>
3. Support for GLEWS		1,000,000	2,000,000	<b>3,000,000</b>
4. Epidemiological investigations		3,000,000	2,500,000	<b>5,500,000</b>
<b>Sub-total, International</b>		<b>6,430,000</b>	<b>7,300,000</b>	<b>13,730,000</b>
<b>Regional</b>				
1. OIE-FAO Regional Quality Centres		16,000,000	26,000,000	42,000,000
2. Support to Regional Networks		6,500,000	10,000,000	16,500,000
<b>Sub-total, Regional</b>		<b>22,500,000</b>	<b>36,000,000</b>	<b>58,500,000</b>
<b>Sub-total, International and Regional</b>	<b>15,000,000</b>	<b>28,930,000</b>	<b>43,300,000</b>	<b>72,230,000</b>
<b>National</b>				
1. Infected countries	14,000,000	40,050,000	85,000,000	125,050,000
2. Countries at risk	16,000,000	37,500,000	34,500,000	72,000,000
3. Support for Newly infected countries	15,000,000	75,000,000	150,000,000	225,000,000
<b>Sub-total, National</b>	<b>45,000,000</b>	<b>152,550,000</b>	<b>269,500,000</b>	<b>422,050,000</b>
<b>TOTAL</b>	<b>60,000,000</b>	<b>181,480,000</b>	<b>312,800,000</b>	<b>494,280,000</b>

### Notes:

1. Budget for Global Animal Health Fund includes \$1,500,000 for OIE
2. Budget for OIE-FAO Regional Quality Centres includes \$21,000,000 for OIE

## **Components of the Programme**

### **Overall Goal**

*FAO's goal is to coordinate and manage, in collaboration with OIE, the international effort in assisting countries to control and ultimately eradicate avian influenza from the poultry producing sectors and to prepare non-infected countries for a rapid detection of, and response to, incursions of the disease.*

There are four components to the Programme which are elaborated in this document.

### ***1. Coordinate and manage the international response, at the global and regional level.***

From the start of the panzootic of HPAI, FAO has implemented 29 projects, of which 19 under its Technical Cooperation Programme, to support efforts at the global and regional level, particularly for the establishment of regional networks of laboratories and epidemiological surveillance teams. FAO has established an Emergency Centre for Transboundary Animal Disease (ECTAD) Unit in FAO Headquarters, to coordinate the response at the global level. The Plan is to substantially strengthen this. A Regional Support Unit has been established in the Regional Office for Asia and the Pacific in Bangkok to coordinate the response in Asia, where the major control efforts are currently taking place. The plan is to strengthen this Unit and establish others to support disease control efforts in infected countries and preparedness activities in other parts of the world that are considered particularly at risk.

FAO is seeking support to strengthen the already established networks of national laboratories and surveillance teams in Asia and to establish such networks in other regions of the world considered to be at particular risk of disease incursion. Capacity for social, economic and policy studies will also be developed to assist countries in their efforts to rehabilitate affected poultry sectors and improve biosecurity.

FAO proposes to assume a major role in coordinating, together with OIE, global support given to control efforts. It will host a Global Early Warning and Response System to facilitate the critical need to rapidly identify new outbreaks of HPAI and assist national authorities to effectively respond to them. It will support a network of reference laboratories and centres of expertise to provide the best diagnostic support and technical advice available throughout the world.

### ***2. Provide support to infected countries in their efforts to control and eradicate the disease.***

FAO technical and operations staff have been stationed in all of the currently affected countries to assist authorities in the implementation of their control activities. Support has been provided through several projects of FAO's Technical Cooperation Programme as well as donor-funded projects. In Vietnam, a Joint UN Task Force of WHO, FAO, UNDP and UNICEF has been established to coordinate the human health and livestock sector needs with government, multilateral development institutions and the donor community, which could serve as a model for other countries. Thailand and PR China are largely able to meet their resource needs without additional external funding. Project activity is being supported by FAO, and additional support is proposed, in Vietnam and Indonesia. FAO is also supporting disease control, eradication and prevention activities in Cambodia and Lao PDR, for which countries donor commitments are sufficient to meet their emergency needs, although additional needs are identified for the longer term.

***3. Assist unaffected countries in their efforts to be prepared to face an incursion of the disease.***

FAO has mobilised its own resources to launch five regional projects to assist countries in preparing for outbreaks of HPAI, in Africa (3 projects), the Middle East, and in Eastern Europe and the Caucasus. A regional project for support to countries affected and at risk in South Asia has already been implemented. In all of these regions, these projects should have a catalytic effect to encourage the additional support that is required to ensure that countries are properly prepared for an incursion of HPAI.

***4. Provide resources to enable support for a rapid response, should new countries become infected.***

For currently non-infected countries, the main focus of the programme will be on preparedness for outbreaks of HPAI. Nevertheless, anticipating the possibility that outbreaks of HPAI will occur in presently unaffected countries, there is a need for a strong and effective capacity for immediate response from the international community. It is necessary to plan for this, requiring an effective approach to contingency funding. FAO has a Special Fund for Emergency and Rehabilitation Activity (SFERA) which has been established for such investment and has been used successfully in the recent past for funding emergency plague locust control and recovery from tsunami damage. This is proposed as an effective mechanism for managing contingency funds for avian influenza control.

## **1. Global and regional coordination**

FAO and OIE have responsibilities at the global, regional and national levels to respond to the HPAI epidemic with effective collaboration, coordination, communication, provision of technical advice, and assistance with identifying and mobilising resources to combat the disease. The focal point of the FAO response is the Emergency Centre for Transboundary Animal Diseases (ECTAD). This comprises the Animal Health Service, Animal Production Service and Livestock Policy Branch of the Animal Health and Production Division together with Emergency Operations expertise, under the direction of FAO's Chief Veterinary Officer. Partners include OIE, WHO, regional organisations, national governments, donors and international research centres. The response to the HPAI panzootic follows the WHO/FAO/OIE Global Strategy and the overall coordinating mechanism of the Global Framework for the Progressive Control of Transboundary Diseases (FAO/OIE GF-TADs).

The Global and regional needs for the livestock sector of HPAI control have been estimated and presented at the Geneva Conference (7-9 November 2005) and are shown in the Table on Page 8. This proposal presents, *inter alia*, the specific projected role of FAO but in the context of an evaluation of the global needs for the recipient countries and the other lead agency, OIE, that is involved in the prevention and control of HPAI in livestock.

### **Overall Goal**

***To provide leadership, in close collaboration with OIE, in the coordination of donors and agencies, collaboration and communication with all stakeholders and technical and resource support to regions and countries undertaking HPAI control.***

### **Objectives**

1. To coordinate and collaborate with donors, international and regional organisations, other agencies and national governments, and provide technical advice, to ensure an effective and efficient response to the HPAI epidemic.
2. To facilitate information exchange between donors, agencies, regional organisations, national governments and the international community.
3. To provide technical advice to national governments and regional organisations to enable them to plan for early warning, efficient detection and early response to avian influenza and to implement their national plans.
4. To promote and support applied research on global questions and issues to improve the quality of technical tools, methods and strategies available to decision makers for combating HPAI and rehabilitating poultry industries.

### **Activities**

- harmonise technical approaches to HPAI control between lead agencies and countries and advocate for donor support for identified needs
- coordinate, collaborate, backstop, provide technical advice and develop information and communication strategies at global and regional levels (FAO and OIE headquarters and OIE-FAO Regional Quality Centres)
- develop the capacity for early detection of HPAI outbreaks and effective international response through the Global Early Warning and Response System (GLEWS) , which is one component of the GF-TAD's initiative, to be implemented jointly by FAO, OIE and WHO
- establish and strengthen regional networks of national diagnostic laboratories and epidemiological surveillance teams

- 3 sub-regional networks for South, South-East and South Asia
- networks in Middle East, Africa (2), Eastern Europe and the Caucasus and in the Americas
- establish centres of expertise within these regional networks, for studies on socio-economic and policy issues, industry rehabilitation and structural change.
- strengthen the OIE/FAO Networks of Expertise on Avian Influenza (OFFLU)
- development of Regional Support Units for coordination and harmonization of prevention and control strategies<sup>1</sup>
- strengthen regional capabilities for economic and policy analysis related to HPAI control
- assist with the process of national planning and responses
- undertake studies on HPAI epidemiology and disease control issues, socio-economic policy, industry restructuring and rehabilitation
  - investigations into the role of migratory birds in disseminating HPAI virus to new regions
  - applied research and field trials or pilot projects in the field of vaccination, diagnostic tests and epidemiology studies
  - animal husbandry studies to improve biosecurity including development of training tools and public awareness strategies
- participate with in UN System Coordinator for Avian Influenza in establishing preparedness for appropriate public health needs in response to a human pandemic of influenza.

### **Projects**

1. Emergency Centre for Transboundary Animal Diseases (ECTAD) (Annex 1.1)
2. Establishment of the Global Early Warning and Response System for Major Animal Diseases, including Zoonoses (Annex 1.2)
3. Support to a regional network of national diagnosis laboratories and epidemio-surveillance teams for the control and prevention of HPAI (Annex 1.3)
4. Support the OFFLU network of research and specialist expertise (Annex 1.4)
5. A regional network of centres of excellence in social, economic and policy analysis of avian influenza and its control (Annex 1.5)
6. Investigations into the role of wild birds in the spread of HPAI (Annex 1.6)

### **Expected impact**

Improved coordination and collaboration will increase the efficiency of the global response and thus increase the likelihood of a successful outcome to control efforts. It will ensure that donors understand current and planned implementation activities so that their contributions will be complementary.

Improved communication and awareness will ensure that national governments, regional organisations, donors and agencies are well informed of the current HPAI situation. The global community will be exposed to factual and unbiased information that will ensure a balanced public attitude to the impact of HPAI in poultry and the threat of it escalating into a human pandemic. Individual countries will understand the immediate threat of HPAI

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<sup>1</sup> Regional Support Units will provide technical support in the areas of epidemio-surveillance, awareness and response to outbreaks. These technical support units will be based in the OIE-FAO Regional Quality Centres, the FAO Regional Representations or in Regional Organisations according to their ability to accommodate them at the time of implementation of the projects.

incursions and consumers and other stakeholders will better appreciate their role in containing the spread of disease.

An improved capacity to respond to needs will ensure that countries under threat of infection will have the best opportunity to plan appropriately and so minimise the impact of an incursion. Infected countries will have access to advice and assistance available to them to plan and implement technically appropriate and effective responses.

Broader knowledge of wild bird spread of disease is essential for improved prediction of risk of disease incursion.

Restructuring of poultry sectors will be an important part of long term prevention and research is required to determine economically feasible options. Successful restructuring will play a critical role improving biosecurity to prevent spread during the current epidemic and reduce risk of outbreaks as a long-term measure.

### **Budget**

The Table below indicates the projected budget. It has been elaborated in strong collaboration with OIE and World Bank and presented at the Geneva Conference in November, 2005. OIE projected budget is presented separately by OIE and is included in the Global Budget which was presented in Geneva, summarised in the table on Page 8.

Project	Year 1		Year 2	Year 3	Total
	1st 6 m	Full Year			
<b>1. Global component</b>					
Support for Global coordination	812,557	1,608,614	2,010,114	2,010,114	<b>5,628,841</b>
Establishment of GLEWS	499,275	999,649	999,649	999,649	<b>2,998,948</b>
Support for OFFLU network	300,025	429,990	150,150	149,820	<b>729,960</b>
Global wild bird surveillance	2,500,000	3,999,999	1,000,000	500,000	<b>5,499,999</b>
<b>Sub-total, Global component</b>	<b>4,111,856</b>	<b>7,038,252</b>	<b>4,159,913</b>	<b>3,659,583</b>	<b>14,857,747</b>
<b>2. Regional component</b>					
Support for Regional coordination	3,094,949	6,227,298	6,079,898	6,024,898	<b>18,332,094</b>
Regional Networks diagnosis & epidemiol.	2,213,158	4,398,816	4,803,410	4,803,410	<b>14,005,636</b>
Regional Networks social & economic	413,897	829,294	840,294	840,294	<b>2,509,882</b>
<b>Sub-total, Regional component</b>	<b>5,722,004</b>	<b>11,455,408</b>	<b>11,723,602</b>	<b>11,668,602</b>	<b>34,847,612</b>
<b>Total</b>	<b>9,833,861</b>	<b>18,493,660</b>	<b>15,883,514</b>	<b>15,328,184</b>	<b>49,705,359</b>

## **2. Infected countries**

### ***Introduction***

The current panzootic of highly pathogenic avian influenza was first reported from Vietnam in December, 2003. The disease was probably present there and in neighbouring countries prior to that time, without being recognised or reported. Over the following months, the disease was reported in Thailand, PR China, Indonesia, Cambodia and Lao PDR. Some other countries have suffered outbreaks but the disease has been successfully eradicated.

Although some assistance is currently being provided to China, it can essentially support its own disease control efforts, as does Thailand. Assistance is being provided to Vietnam, Indonesia, Cambodia and Lao PDR. This proposal outlines donor requirements for those four countries.

It should be noted that Pakistan also has endemic avian influenza, which has defied control efforts for several years. The disease is caused by a different virus than the panzootic strain and no associated human illness has been described. To maintain consistency in focussing on the current panzootic, Pakistan has therefore been excluded from consideration as an infected country. It is however included in the Central Asia cluster for consideration of assistance as a country at risk of infection with the panzootic H5N1 virus.

### ***Overall Goal***

To assist disease control authorities in infected countries to develop and implement strategies to control avian influenza.

### ***Objectives***

1. To assess the current disease situation and its epidemiology in each country and assist in the development of appropriate control strategies.
2. To assist government in identifying needs for improved disease control, including resource requirements, veterinary infrastructure and capacity, legal powers and political support.
3. To assist in implementing programmes to control, eradicate and prevent re-introduction of the disease.

### ***Activities***

1. Emergency preparedness
  - assist in the development of functional disease control plans and in simulation exercises
  - advocate for political and legislative support and veterinary service strengthening
  - promote engagement of private enterprise in disease control endeavours
  - assist in development of contingency plans for the prospect of a human pandemic of influenza of avian origin.
2. Active surveillance and monitoring
  - assistance with planning and implementing surveillance activities
  - provide technical guidance to monitoring progress of disease control
3. Disease control
  - provide inputs, including equipment, vaccine and other consumables
  - assist government authorities in the implementation of disease control
4. Communication and public awareness

- provide expert advice for the development of effective public awareness and behaviour change campaigns
  - develop and provide publicity materials
5. Laboratory support
- provide essential equipment and consumables, including specific diagnostic reagents
  - assist with the implementation and standardization of diagnostic procedures
  - provide reference laboratory support for confirmatory and advanced diagnostic applications.
6. Analysis and studies
- assist with the analysis of surveillance and monitoring data to map the course of the epidemic and disease control progress.
  - undertake targeted studies to improve technical knowledge of particular issues, including those relating to the pathogen and the disease, vaccine efficacy studies, wild bird studies and socio-economic studies of the poultry industries
7. Capacity building, training and education
- identify training needs and assist authorities in undertaking training initiatives
  - private specialist training, including that for laboratory staff
  - assess the needs and provide support for longer term strengthening of veterinary services, to combat transboundary animal diseases and meet other regulatory requirements
8. Poultry industry restructuring
- identify the opportunities and determine the potential for re-structuring poultry industries to reduce their vulnerability to avian influenza
  - assist in the rehabilitation of poultry production, slaughtering, processing and marketing to enable stakeholders to recover from losses associated with avian influenza
9. Coordination and technical support
- identify needs for donor support
  - advise donors on priorities for support
  - advocate the needs of national authorities to the donor community
  - assist government in coordinating the inputs of all donors and agencies

### **Projects**

1. Support to the control of avian influenza in Vietnam (Annex 2.1)
2. Support to the control of avian influenza in Indonesia (Annex 2.2)
3. Support to eradication of avian influenza from Cambodia (Annex 2.3)
4. Support to confirming and maintaining freedom from avian influenza in Lao PDR (Annex 2.4)

### **Expected Impact**

It is expected that within the next three years, avian influenza control will significantly improve in affected countries in the commercial poultry sectors. The expectation is that Lao PDR and Cambodia will be free of the disease. In Vietnam, the prevalence of the disease will be greatly reduced, with most of the larger commercial enterprises free from avian influenza. In Indonesia, a well-structured national control campaign will have had a major impact in reducing virus load and limiting spread. The reduction in incidence of avian influenza and increased public awareness will have greatly reduced the incidence of human infection occurring from contact with birds.

### **Budget – Country Needs**

These estimates are those projected for donor support to infected countries. FAO may, or may not, be requested to assist with support to which such funds may be directed. It should be noted that for Vietnam, estimates presented at the Geneva Conference were significantly higher. What is now presented has been subjected to careful scrutiny and is believed to be the best estimate at this time.

<b>Country</b>	<b>Year 1</b>		<b>Year 2</b>	<b>Year 3</b>	<b>Total</b>
	<b>1st 6 m</b>	<b>Full Year</b>			
Indonesia	15,000,000	35,250,000	20,000,000	20,000,000	<b>75,250,000</b>
Vietnam	4,690,000	15,860,000	2,080,000	2,470,000	<b>20,410,000</b>
Lao PDR	1,199,787	2,399,573	1,250,000	453,000	<b>4,102,573</b>
Cambodia	1,330,477	2,620,000	1,307,000	729,000	<b>4,656,000</b>
<b>Total</b>	<b>22,220,264</b>	<b>56,129,573</b>	<b>24,637,000</b>	<b>23,652,000</b>	<b>104,418,573</b>

### **Current FAO-implemented projects**

1. FAO/USAID Trust Fund project - Immediate assistance for strengthening community-based early warning and early reaction to avian influenza outbreaks in Cambodia, Indonesia, Lao PDR, PR China and Vietnam. \$6 million, to September 2006.
2. FAO/Germany Trust Fund project - Building capacity at the grass-roots level to control avian influenza. Lao PDR \$2,910,990, 3-year project 2005-2008
3. FAO/Germany Trust Fund project - Building capacity at the grass-roots level to control avian influenza. Cambodia \$3,141,510, 3-year project 2005-2008

### **3. Countries at risk of infection**

#### ***Introduction***

Since December 2003 and early 2004, five countries in Asia have become endemically affected by avian influenza. These countries are defying control efforts to date and it is becoming accepted that it will take several years to either eradicate the disease or achieve a more satisfactory means of living with it. The continuation of human infections and fatalities with avian influenza virus, albeit relatively small in number, is of increasing concern. The reporting of cases of avian influenza in central and northern China, in Russia, Kazakhstan, Croatia, Turkey and Romania indicates that the virus has spread with migrating wild birds and there is concern that the disease will establish elsewhere throughout the world.

The risk of avian influenza spreading across national borders with the legal or illegal importation of live birds or poultry products remains a classical and disturbing possibility. Most countries have banned the importation of poultry products from infected countries. However, the case of avian influenza in wild birds in quarantine in the United Kingdom, demonstrates that this is a real risk. Generally, countries in Africa, Eastern Europe, the Middle East and Central Europe are at greatest risk of importation through migrating wild birds. The Americas, particularly Latin America, is increasingly concerned with HPAI entry and the latter is equally in need of assistance. Countries in South and South East Asia have been at risk from importation of the disease for some time, especially those with borders contiguous with infected countries. In each region the programme will be implemented in partnership with other agencies presently working in the region to ensure appropriate coordination between countries and complementarity to other animal health programmes such as Association of Southeast Asian Nations (ASEAN) and the Pan-African Control of Epizootics (PACE) programme of African Unity – InterAfrican Bureau for Animal Resources (AU-IBAR).

Many of these countries are poorly prepared and equipped for an incursion of avian influenza. Support is required to assist with surveillance for the disease, planning disease control measures and improvement of veterinary services in order to be able to mount a rapid and effective control programme should the disease be introduced.

It should be noted that this component is directed toward support to surveillance for avian influenza and preparing countries to combat outbreaks of the disease. Should outbreaks occur, a requirement for substantial additional support is anticipated. This is addressed by Component 4 – Newly infected countries.

#### ***Overall Goal***

***The overall goal is to minimise extension of the current avian influenza panzootic, by ensuring that countries at risk have the capacity to rapidly detect and control outbreaks of the disease.***

#### ***Objective***

To assist countries at risk in improving their early detection and early response capacity to highly pathogenic avian influenza.

#### ***Activities***

1. Project management

2. Risk assessment
3. Surveillance
4. National disease preparedness plans
5. Laboratory support
6. Provision of disease control equipment and supplies
7. Public awareness and technical information
8. Capacity building – upgrading of veterinary services
9. Research

### **Projects**

1. Assistance to African Countries at Risk, in Preparedness and Surveillance for Avian Influenza (Annex 3.1)
2. Assistance to Countries at Risk, in Eastern Europe, Central Asia, the Middle East and Arabian Peninsula, in Preparedness and Surveillance for Avian Influenza
3. Assistance to Countries at Risk, in South and East Asia, in Preparedness and Surveillance for Avian Influenza
4. Assistance to Countries at Risk, in the Americas, in Preparedness and Surveillance for Avian Influenza

### **Expected impact**

A strengthened early detection and response capacity will enable countries to be better prepared for an incursion of avian influenza. This will increase their capacity to detect and eliminate the disease in the earliest possible time, thereby minimising production losses and jeopardy to human safety.

### **Budget**

The budget presented here are those costs projected to assist countries in preparing for outbreaks of avian influenza and undertaking surveillance to detect the disease. It should be noted that in the event of an outbreak, provision is made under Component 4, for additional support.

<b>Project</b>	<b>Year 1</b>		<b>Year 2</b>	<b>Year 3</b>	<b>Total</b>
1. Africa	6,478,690	8,402,655	11,649,232	10,996,810	<b>31,048,698</b>
2. E. Europe, C. Asia, M. East, A. Peninsula	3,239,345	4,201,328	5,824,616	5,498,405	<b>15,524,349</b>
3. S. Asia, E. Asia	3,239,345	4,201,328	5,824,616	5,498,405	<b>15,524,349</b>
4. Americas	3,239,345	4,201,328	5,824,616	5,498,405	<b>15,524,349</b>
<b>Total</b>	<b>16,196,725</b>	<b>21,006,638</b>	<b>29,123,080</b>	<b>27,492,026</b>	<b>77,621,744</b>

### **Current FAO-implemented projects**

5 TCP's in Africa, Europe & Caucasus and Middle East  
 FAO regular programme budget - \$2.0 million over one year.

## **4. Newly infected countries**

### **Goal**

*To limit the global spread of avian influenza by assisting with rapid and effective control of disease incursions into new countries*

### **Objectives**

1. To ensure that resources are available for immediate provision of emergency assistance to newly infected countries.
2. To mobilise technical and operational support in the event of outbreaks of avian influenza in new countries.

### **Introduction**

Since the current panzootic in poultry was first identified in late 2003 and early 2004, five countries have remained persistently infected with avian influenza (HPAI) (China, Thailand, Vietnam, Cambodia and Indonesia). One country, Lao PDR, had outbreaks that were eradicated, although there is some concern that there may still be some disease, or circulating virus that is remaining undetected.

There is a risk of spread from currently infected countries to other countries, by legal or illegal importation of live poultry or of poultry products and/or through transmission by wild birds. This was the case in late 2005, when HPAI due to the Asian strain, H5N1, was reported in wild birds and/or in poultry in isolated regions of China, in Mongolia, Russia, Kazakhstan, Croatia, Turkey and Romania. A case in wild birds in quarantine in the United Kingdom, demonstrates the potential for spread by the movement of live birds.

There is concern that other countries could become infected. Most countries have imposed bans on the importation of poultry products from infected countries. This does not obviate the risk of importation by illegal means or through migratory activity of wild birds, which is currently a major concern for the entire international community.

### **Considerations**

1. Birds migrating out of infected countries could be carrying highly pathogenic strains of H5N1 virus, transmitted to them from infected poultry. They can disseminate on their migratory routes and co-locate with other wild birds which subsequently disperse to other locations. The potential for spread through this complex network of migratory pathways is enormous (see Map). The virus could spread by this means to almost any location in the world into which wild birds migrate.
2. There is evidence that during the course of the current panzootic, highly pathogenic H5N1 has been transmitted from domestic poultry to wild birds. Wild birds are commonly carriers of non-pathogenic or low-pathogenicity (for poultry) strains of influenza virus that can become pathogenic for poultry by mutation or re-assortment of genes between different viruses. However, in the current situation the viruses already highly pathogenic for poultry are being transported by wild birds so the risk of highly pathogenic avian influenza in poultry due to contact with wild birds is substantially increased.
3. Many developing countries have a poor capacity to undertake livestock disease surveillance to rapidly detect and incursion of avian influenza. Even if they do, they lack the capacity and resources to mount a quick and effective response. Currently, support is being given to countries, including those in Eastern Europe, the Middle East and Africa, to improve their preparedness. However, the need must be anticipated for the international

community to provide immediate support to many developing countries in which an outbreak of avian influenza occurs.

4. It is difficult to predict the likelihood of outbreaks occurring in non-infected countries at risk. On the one hand, this has not yet occurred, or at least not been identified, despite the fact that the pandemic has been occurring for almost two years (as of mid-November 2005). Although a small number of outbreaks have occurred in previously unaffected countries, the impact has been relatively low because the countries involved had the technical and financial capacity to detect outbreaks quickly and respond immediately before significant spread could occur. On the other hand it is clear that the risk is real and we may suddenly be faced with a situation in which outbreaks are identified in several countries in rapid succession and where the capacity to respond is inadequate.
5. It is also difficult to predict the extent of spread of any outbreaks, should they occur. Those that have occurred to date have been relatively small and were contained by prompt action. Only a few countries in Asia would be at risk of experiencing epizootics anywhere like the extent that has occurred in China, Vietnam, Thailand and Indonesia. Consequently, one must be careful not to overstate either the risk of outbreaks occurring nor the expected extent of outbreaks. Notwithstanding, if avian influenza established in other countries, such as in Africa, without prompt action being taken to contain it, it could prove extremely difficult to contain and eradicate it. Given the possibility of human infection, which has been demonstrated with this virus, it is wise to be well prepared.

### **Activities**

1. Establish means of holding and acquitting funds in trust account
  - FAO has a mechanism for this through the Special Fund for Emergency and Rehabilitation Activity (SFERA) which has been an effective mechanism utilised in other emergency situations (locust plague control; tsunami recovery and rehabilitation).
2. Negotiate with vaccine producer(s) means of obtaining vaccine at short notice
3. Establish a robust means for providing emergency assistance
  - technical assistance for rapid assessment and advice on emergency control actions
  - rapid mobilisation of resources to enable mounting of effective disease surveillance, control and eradication.

### **Expected impact**

The support should greatly improve the speed of response and the capacity to control and eradicate outbreaks before the disease becomes established and increases exposure of humans.

### **Project**

Contingency funding for countries newly infected with avian influenza (Annex 4.1)

## **Budget**

In supporting documentation (Annex 4.1) a rationale is presented for developing cost estimates to make a reasonable provision for the possibility of countries becoming infected, that require emergency donor and agency assistance to combat the disease.

These estimates have been further developed from those presented at the Geneva Conference. Costs incurred for outbreaks occurring late in the three-year cycle will not all be realised within the three-year period. For this reason, project costs are lower than those previously presented.

Note that costs indicated in Year 3 are aggregated projected costs for all outbreaks occurring in the three-year budget period, including costs that would be incurred in Years 4 and 5.

### ***Indicative estimates only***

Year 1		Year 2	Year 3	Total
1 <sup>st</sup> 6 m	Full Year			
16,100,000	44,000,000	62,700,000	137,500,000	244,200,000

\$16.1 million emergency funding in the first 6 months.

### ***Current projects***

None

## Summary of Global Programme Funding Needs

The following is a summary of the funding needs for implementation of the Programme. Note that it does not include the OIE programme, which will complement the Programme as described in this proposal.

### *Indicative estimates only*

Component	Year 1		Year 2	Year 3	Total
	1 <sup>st</sup> 6 m	Full Year			
1. Coordination	9,837,817	18,500,134	15,891,820	15,336,820	<b>49,710,775</b>
2. Infected countries	22,220,264	56,129,573	24,637,000	23,652,000	<b>104,418,573</b>
3. Countries at risk	16,196,725	21,006,638	29,123,080	27,492,026	<b>77,621,743</b>
4. Newly infected countries	16,100,000	44,000,000	62,700,000	137,500,000	<b>244,200,000</b>
<b>Total</b>	<b>64,354,806</b>	<b>139,636,345</b>	<b>132,351,900</b>	<b>203,980,846</b>	<b>475,969,091</b>

**1. Coordination** Budget estimates prepared for the Geneva Conference (see Table on Page 8) provided for \$72,230,000 for this component. Adjusted for exclusion of the OIE-assigned amount, this would be \$49,730,000, so the current projection is consistent with this. It was proposed that \$15,000,000 would be required for this component in the first 6 months of emergency funding. The current projection of \$9,837,817 is consistent, with provision for OIE funding in addition to that.

**2. Infected countries** Provision was previously made for \$125,050,000 over three years, with 6-month emergency funding indicated as \$15,000,000. It will be noted in the Table above that the current 3-year projection is somewhat lower, and the 6-month budget higher. It should be recognised that these are only current estimates. They depend on the success of national control programmes and, in the case of Indonesia, on an intensive planning and costing exercise to be undertaken in December, 2005.

**3. Countries at risk** The estimates foreshadowed in Geneva of \$16,000,000 for 6-months emergency funding and \$72,000,000 over three years, are now estimated as slightly higher but are subjected to further project development and costing.

**4. Newly infected countries** Estimates provided in Geneva were for \$15,000,000 in 6-month emergency funding and \$225,000,000 over 3-years. The estimates are speculative and the current budget has been carefully developed to provide a budget which is logical but is based on many unknown factors. Projected funding required for outbreaks occurring over the 3-year period would extend for an estimated additional two years. The additional two year funding has been included in the Year 3 budget, explaining the high figure for that year. The estimate for 6 months is \$1,000,000 higher than projected in Geneva and for 3 years, approximately \$20 million higher. Under the funding provisions proposed, a call on funds would be made for the first six months only, with further calls dependent on what actually transpires in terms of outbreaks in new countries.

## FAO's Role in the Programme

Within the Programme presented in this proposal, FAO anticipates a major role in its implementation. FAO has a mandate, in collaboration with OIE, to coordinate the international control effort at the global and regional levels. The budget for OIE needs has not been presented in this proposal and it is proposed that the total activities described for Component 1 should be implemented by FAO with the budget indicated.

There is a substantial amount of bilateral support going to countries that are currently infected and it is expected that this support will be maintained. FAO's implementing role in projects supporting the disease control efforts in these countries currently represents about 25% of donor investment and it is proposed that this proportion should be projected for the three years considered in this proposal.

FAO has commenced implementation of preparedness planning for countries considered to be at risk of infection. It is expected that FAO will continue to play a major part in these activities, because of its expertise and involvement over more than a decade in assisting countries with preparedness planning for transboundary diseases. It is projected that FAO will implement 50% of programmes required to support currently non-infected countries in preparing for outbreaks of avian influenza.

FAO is proposing a mechanism for ensuring funding and technical expertise are available to enable a rapid response to country requests for emergency assistance, in the event of outbreaks of disease in currently non-infected countries. The mechanism will involve special provision for contingency funding. It is proposed that FAO should take full responsibility for implementing this component of the Programme. However, a call for funds would only be made for the first 6-months emergency phase, for \$16.1 million. Further calls on funds would be based on periodic reviews of the perceived risk of non-infected countries becoming infected, based on actual occurrences of outbreaks and progress with control of HPAI in currently infected countries.

### ***Projected budget requirements for FAO to implement its proposed activities***

Component	Year 1		Year 2	Year 3	Total
	1st 6 m	Full Year			
1. Coordination	9,837,817	18,500,134	15,891,820	15,336,820	<b>49,710,775</b>
2. Infected countries	5,555,066	14,032,393	6,159,250	5,913,000	<b>26,104,643</b>
3. Countries at risk	8,098,363	10,503,319	14,561,540	13,746,013	<b>38,810,872</b>
4. Newly infected countries	16,100,000	16,100,000	-	-	<b>16,100,000</b>
<b>Total</b>	<b>39,591,245</b>	<b>59,135,846</b>	<b>36,612,610</b>	<b>34,995,833</b>	<b>130,726,290</b>

## COMPONENT 1 - GLOBAL AND REGIONAL COORDINATION

### Annex 1.1 Emergency Centre for Transboundary Animal Diseases (ECTAD)

#### *- ECTAD Headquarters and ECTAD Regional Support Units -*

##### **Summary**

This sub-component describes the elements of FAO's coordination of the avian influenza control programme. It is structured as a task force at FAO Headquarters, the Emergency Centre for Transboundary Animal Diseases (ECTAD) and as ECTAD Regional Support Units, staffed to meet requirements, with the main one being in the FAO Regional Office in Bangkok. It is a multidisciplinary team with animal health, livestock production, economic analysis and emergency operations expertise. With growing concern over the challenges faced to control the disease and the threat of global extension, there is an urgent need to extend the capacity of both the Headquarters and the Regional Units.

##### **Background**

FAO and OIE have responsibilities at the global, regional and national levels to respond to the HPAI epidemic with effective collaboration, coordination, communication, provision of technical advice, and assistance with identifying and mobilising resources to combat the disease. The focal point of the FAO response is the Emergency Centre for Transboundary Animal Diseases (ECTAD). This comprises the Animal Health Service, Animal Production Service and Livestock Policy Branch of the Animal Health and Production Division together with Emergency Operations expertise and is under the direction of FAO's Chief Veterinary Officer. Partners include OIE, WHO, regional organisations, national governments, donors and international research centres.

The response to the HPAI panzootic follows the FAO/OIE Global Strategy and the overall coordinating mechanism of the Global Framework for the Progressive Control of Transboundary Diseases (FAO/OIE GF-TADs). The main ECTAD task force is at FAO Headquarters. There is an established ECTAD Regional Support Unit in the FAO Regional Office in Bangkok and it is planned to have additional units in other locations to support the implementation of projects for disease preparedness in non-infected countries and for a rapid response capability, should further spread of HPAI occur.

FAO's plan is to further expand the core staff with additional personnel totally dedicated to avian influenza control. These will be staff appointed on a medium-term basis (one to three years) and are urgently required to address a growing demand for support at both Headquarters and Regional levels.

##### **Overall Goal**

***To provide leadership in coordination of donors and agencies, collaboration and communication with all stakeholders and technical and resource support to regions and countries undertaking HPAI control.***

##### **Objective**

1. To coordinate and collaborate with donors, international and regional organisations, other agencies and national governments, and provide technical advice, to ensure an effective and efficient response to the HPAI epidemic.

2. To facilitate information exchange between donors, agencies, regional organisations, national governments and the international community.
3. To provide technical advice to national governments and regional organisations to enable them to plan for early warning, efficient detection and early response to avian influenza and to implement their national plans.

### **Activities**

The main *Headquarters ECTAD* activities are:

- Coordination of HPAI disease control efforts between countries, donors and agencies, planning implementation of FAO projects and harmonising the approach to control, in collaboration with OIE
- Development of control strategies and assistance to countries with design of control plans and preparedness plans
- Identification of emergency and longer term needs to address disease control, veterinary public health and industry rehabilitation issues, development of projects and mobilising resources in collaboration with donors
- Project support, including personnel services and procurement
- Backstopping projects and provision of technical advice to global, regional and national initiatives for avian influenza prevention, detection, preparedness and control
- Provision of policy advice on animal health standards, disease control, veterinary public health, poultry industry regulation and rehabilitation and socio-economic aspects of HPAI control and long-term prevention options
- Providing advice and information to countries, donors and implementing agencies and disease situation advice to the global media
- Dissemination of technical information to the scientific and stakeholder community, including AIDE News, websites and technical bulletins

The responsibilities of the *ECTAD Regional Support Units* are similar, with the main emphasis on:

- Coordination of donor and agency activities at the regional level
- Liaison with regional organisations and agencies, including ASEAN, SAARC, AU-IBAR, SADC and others
- Project implementation, management, procurement, backstopping and monitoring
- Analysis of disease situation reports and transmission to Headquarters
- Undertaking and supervising specialist studies including epidemiological investigations, vaccine studies agro-ecological and poultry husbandry issues.

### **Global and Regional Arrangements**

Global issues are managed from FAO Headquarters, in Rome. Regional issues directed toward assistance to infected countries in the Asian Region and managed from the Regional Office for Asia and the Pacific, in Bangkok. Issues in other regions are managed by the Regional Support Units based in the FAO Regional or Sub-Regional Offices, OIE-FAO Regional Quality Centres or in Regional Organisations as appropriate and according to the context at the time of implementation of the projects. The plan is to substantially strengthen the Regional Office in Bangkok above the capacity already in place and to also provide additional capacity in other regions.

### **Expected impact**

Improved coordination and collaboration will increase the efficiency of the global response and thus increase the likelihood of a successful outcome to control efforts. Improved communication and awareness will ensure that national governments, regional organisations, donors and agencies are well informed of the current HPAI situation.

### **Budget**

#### **1. ECTAD Headquarters**

<b>ECTAD Headquarters</b>	<b>Year 1</b>		<b>Year 2</b>	<b>Year 3</b>	<b>Total</b>
	<b>1st 6 m</b>	<b>Full Year</b>			
Staff	503,688	1,007,376	1,007,376	1,007,376	<b>3,022,128</b>
Short term consultants	60,000	120,000	180,000	180,000	<b>480,000</b>
Contracts	10,000	20,000	50,000	50,000	<b>120,000</b>
Overtime	-	-	-	-	-
Travel	80,000	170,000	300,000	300,000	<b>770,000</b>
Training	10,000	20,000	60,000	65,000	<b>145,000</b>
Expendable Equipment	-	-	-	-	-
Non Expendable Equipment	20,000	30,000	55,000	60,000	<b>145,000</b>
Technical support services	10,000	30,000	65,000	55,000	<b>150,000</b>
General Operating Expenses	45,000	65,000	110,000	110,000	<b>285,000</b>
Support Cost	73,869	146,238	182,738	182,738	<b>511,713</b>
<b>Total, Global component</b>	<b>812,557</b>	<b>1,608,614</b>	<b>2,010,114</b>	<b>2,010,114</b>	<b>5,628,841</b>

#### **2. ECTAD Regional Support Units**

<b>Item</b>	<b>Year 1</b>		<b>Year 2</b>	<b>Year 3</b>	<b>Total</b>
	<b>1st 6 m</b>	<b>Full Year</b>			
<b>Staff</b>	1,665,090	3,330,180	3,330,180	3,330,180	9,990,540
Short term consultants	290,000	580,000	570,000	540,000	1,690,000
Contracts	95,000	230,000	160,000	160,000	550,000
Overtime	0	0	0	0	0
Travel	310,000	620,000	620,000	620,000	1,860,000
Training	120,000	240,000	240,000	240,000	720,000
Non Expendable Equipment	92,500	190,000	190,000	172,000	552,000
Technical support services	123,000	235,000	235,000	235,000	705,000
General Operating Expenses	118,000	236,000	182,000	180,000	598,000
Support Cost	281,359	566,118	552,718	547,718	1,666,554
<b>Total</b>	<b>3,094,949</b>	<b>6,227,298</b>	<b>6,079,898</b>	<b>6,024,898</b>	<b>18,332,094</b>

## COMPONENT 1 – GLOBAL AND REGIONAL COORDINATION

### Annex 1.2 Establishment of the Global Early Warning and Response System for Major Animal Diseases, including Zoonoses (GLEWS)

#### **Summary**

The Global Early Warning and Response System for Major Animal Diseases including Zoonoses (GLEWS) is a joint FAO, OIE and WHO initiative which combines the strengths of the three organizations to achieve common objectives. Through sharing of information on animal disease outbreaks and epidemiological analysis the GLEWS initiative aims at improving global early warning as well as transparency among countries. This initiative is a part of the FAO-OIE Global Framework for Transboundary Animal Diseases (GF-TAD's).

The response component of the GLEWS will be complementing the existing response systems of FAO, OIE and WHO in order to deliver rapid coordinated international response to animal disease emergencies. Jointly, the three organizations will be able to respond to a larger number and cover a wider range of outbreaks or exceptional epidemiological events with the provision of a wider range of expertise.

Funding for establishing the network is being sought under the Global Avian Influenza Control Programme in order to provide a robust system for monitoring and responding to new outbreaks of the disease.

#### **Background**

Early warning of disease outbreaks and the capacity for prediction of spread to new areas is an essential pre-requisite for the effective containment and control of epidemic animal diseases, including zoonoses. Weaknesses of disease surveillance systems and the inability to control major diseases at source have contributed to the spread across geographical borders of diseases confined to livestock, such as foot-and-mouth disease, as well as diseases with a zoonotic potential, e.g. BSE and avian influenza.

Early Warning and Early Response are based on the concept that dealing with a disease epidemic in its early stages is easier and more economical. From a public health perspective, early warning of outbreaks with a known zoonotic potential, such as avian influenza, will enable control measures that can prevent human morbidity and mortality.

Several early warning initiatives, at national and regional levels have already been developed. At the international level, FAO, OIE and WHO have each developed Early Warning and Response Systems that systematically collect, verify, analyse and respond to information from a variety of sources, including unofficial media reports and informal networks.

The Global Early Warning and Response System for major animal diseases (GLEWS), builds on the added value of combining the alert and response mechanisms of the different organizations. This enhances the Early Warning and Response capacity for the benefit of the international community. Unjustified duplication of efforts will be avoided and the verification processes of the three organizations will be combined and better coordinated. For zoonotic events, alerts of animal outbreaks can provide direct early warning so that human surveillance can be enhanced and preventive action taken. Similarly, there may be cases where human surveillance is more sensitive and alerts of human cases precede known animal occurrence of disease. Sharing assessments of ongoing outbreaks will enable joint and

comprehensive analysis and their possible consequences. Joint dissemination will furthermore allow harmonized communication by the three organizations regarding disease control strategies.

The broad range of expertise in three organizations will enable synergism of responses to exceptional epidemiological events, thereby improving international preparedness for epidemics and provide rapid, efficient and coordinated assistance to countries experiencing them. GLEWS is based on the notion that infection does not recognize geographical nor species borders. For its zoonotic component it provides a collaborative approach from the involvement of animal health and public health expertise.

GLEWS is a component of the FAO-OIE Global Framework for the Progressive Control of Transboundary Animal Diseases (GF-TAD's)<sup>2</sup>. A significant aspect of this particular component is that it also involves collaboration with WHO.

### **Objectives**

*The overall goal of GLEWS is to provide an integrated, internationally oriented early warning and rapid response mechanism<sup>3</sup>, coordinated by WHO, FAO and OIE, to epidemiological events of epizootic or zoonotic significance, thereby enhancing international preparedness for epidemics and provide rapid, efficient and coordinated assistance to affected countries.*

#### **Objectives:**

1. Allow member countries to better prepare themselves to prevent incursion of animal diseases/infection and enable their rapid containment
2. Improve the detection of exceptional epidemiological events at the country level
3. Increase timelines and sensitivity of alerts
4. Improve transparency among countries and compliance with reporting to OIE
5. Improve field animal health information quality in near real time
6. Improve national surveillance and monitoring systems and strengthen networks that include public health, medical and veterinary laboratories working with zoonotic pathogens.
7. Improve international preparedness for animal and zoonotic epidemics and provide rapid, efficient and coordinated assistance to countries experiencing them.
8. Improve the capacity of the three organizations for early detection of new emerging disease threats, including zoonoses
9. Provide technical support to regions/nations on issues at the animal/human interface of outbreak control
10. Improve integration of human and animal surveillance allowing for simultaneous recognition of disease occurrence across species.

### **Outputs**

1. Early warning of potential disease threats, through risk assessment and disease modelling.
2. Development of coordinated responses to animal health emergencies.

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<sup>2</sup> Information on this is available from the website <http://www.fao.org/ag/againfo/subjects/en/health/diseases-cards/cd/documents/GF-TADs24May2004.pdf>

<sup>3</sup> Within this Avian Influenza Control Programme, the focus of GLEWS is for early detection and dissemination of information regarding new outbreaks and spread of the disease

## **Activities**

- disease tracking and validation
  - validation of reported events as an unusual event, emerging disease, high morbidity/mortality, potential for transboundary spread, potential to interfere with trade
  - verification to confirm accuracy of reports
- risk analysis
  - use of a common information platform for different organisations to contribute to epidemiological assessments
- prediction and modelling
  - in the context of avian influenza use of epidemiological information to anticipate the possibility of outbreaks and the potential for spread
- information dissemination
  - through joint website application and electronic distribution
- response to emergencies
  - for avian influenza, this relates to providing information to FAO, ECTAD, to OIE, regional organisations and national authorities for an appropriate response to be undertaken

## **Expected impact**

The System will result in a greatly improved capacity to rapidly receive, collate and analyse disease information to allow its dissemination to concern authorities. This should enable countries to be prepared to respond in a more timely manner to disease emergencies and threats. In the context of HPAI, it has the potential to enable outbreaks in new countries to be rapidly detected, thus allowing containment with minimal impact.

## **Budget**

<b>GLEWS</b>	<b>Year 1</b>		<b>Year 2</b>	<b>Year 3</b>	<b>Total</b>
Item	<b>1st 6 m</b>	<b>Full Year</b>			
Staff	218,886	437,772	437,772	437,772	<b>1,313,316</b>
Consultants	50,000	100,000	100,000	104,000	<b>304,000</b>
Software Development/Integration	85,000	170,000	170,000	165,000	<b>505,000</b>
Travel	35,000	70,000	70,000	70,000	<b>210,000</b>
Training	10,000	20,000	20,000	20,000	<b>60,000</b>
Expendable Equipment	15,000	15,000	15,000	15,000	<b>45,000</b>
Technical support services	20,000	56,000	56,000	57,000	<b>169,000</b>
General Operating Expenses	20,000	40,000	40,000	40,000	<b>120,000</b>
Support Cost	45,389	90,877	90,877	90,877	<b>272,632</b>
<b>Total</b>	<b>499,275</b>	<b>999,649</b>	<b>999,649</b>	<b>999,649</b>	<b>2,998,948</b>

## COMPONENT 1 – GLOBAL AND REGIONAL COORDINATION

### **Annex 1.3 Support to a regional network of national diagnosis laboratories and epidemio-surveillance teams for the control and prevention of HPAI**

#### ***Summary***

As part of its response to the highly pathogenic avian influenza (HPAI) epidemic in Asia in early 2004, FAO committed US\$1.2 million to set up three regional networks of national diagnostic laboratories and teams undertaking surveillance activities, to support infected countries in Southeast, East and South Asia. With persistence of the disease in Asia and growing evidence that HPAI is being carried over long distances along the migratory bird flyways to previously unaffected regions beyond Asia, FAO is seeking support to strengthen and support such networks.

To sustain these regional works, support is sought for eight networks for \$13.85 million over 2 years. Of this amount, the three networks in Asia would be supported at \$2.3 million per region for a total of \$6.9 million, and the five other networks at \$1.39 million per region for a total of \$6.95 million. The higher per-region funding for the three Asian networks is necessary because of more intensive disease control and diagnostic support required for countries already infected. While in the five other regions, support is mainly preventive in nature.

#### ***Background***

The seasonal resurgence HPAI outbreaks in countries in South East Asia, indicates that the HPAI virus continues to circulate in the region, threatening the poultry industry and public health, and jeopardizing other regions that come in contact with infected birds through trade or migratory flyways. A multi-faceted approach to avian influenza prevention and management is being proposed to counter this spread. Among the set of principles of such approach, timely early warning and disease intelligence, based on consistent and transparent information sharing, are central to detecting and reporting outbreaks before they become widespread, and tracking potentially dangerous changes in the virus. This requires networking at many levels including field and central/national level, veterinary diagnostic laboratories and epidemiology teams.

The regional networks are designed to improve the quality of surveillance and diagnosis by providing technical support to national staff engaged in this work in each country. Through regular meetings they share information and knowledge and identify strengths and weaknesses in their national systems. This enables support to be focused on areas of need and solutions to problems to be provided, based on shared experience. An outcome is that outbreak reporting and transparency of information will be improved. One national laboratory and one surveillance team will be chosen to lead the regional group. This approach has proved to be successful in other circumstances, such as the rinderpest eradication campaigns in Asia and Africa.

It is essential to operate these networks through specific regional programmes in order to ensure continuity of the activity and harmonization of the approach with the guidance of the regional coordinator.

These regional networks are dedicated address two types of intervention: (a) controlling or preventing the disease in already infected regions in Asia, and (b) preparing regions at new

risk of the disease as it spreads beyond Asia. The networks support coordination of early warning, disease surveillance and disease diagnosis at sub-regional levels. They assist governments by putting in place harmonized and effective surveillance and diagnostic tools and methodologies by means of exchange/analysis of data and experience, of proficiency testing and of capacity building activities through training and technical assistance. Support to these networks needs to be continued over the longer term, beyond the termination of the current assistance which ended in August-September 2005. Support to these networks is an FAO priority, and considered the most cost-effective way to combat and control HPAI in these regions.

FAO has been active in providing support to disease control efforts in infected countries and in assisting non-infected countries to prepare for a rapid and effective response, should the disease become introduced. Together with the World Organisation for Animal Health (OIE), FAO has a mandate for coordinating the international effort from the livestock perspective. The UN System Coordinator for Avian Influenza has taken responsibility for ensuring a harmonised approach to address the concerns for human health and those relating to poultry production and the livelihoods of producers, especially those in developing countries.

The panzootic has developed after HPAI outbreaks were first identified in rapid succession in six Asian countries in December 2003 and early 2004. The countries affected were Vietnam, Thailand, PR China, Lao PDR, Cambodia and Indonesia. Since then it is reported infrequently in Cambodia and Lao PDR could have become free of the disease. In China and Vietnam the disease has become endemic and widespread and has persisted despite concerted control efforts. Both countries are currently running vaccination campaigns, having failed to contain the disease by stamping out and/or targeted vaccination. In Thailand, the disease has been well controlled within the large commercial sector but has persisted in the backyard poultry sector, where disease surveillance and stamping out is still being applied. In Indonesia, attempted control by relying mainly on vaccination and partial stamping out has not been successful. With greater donor support, national authorities have now recognised the disease as a priority and a more concerted national control campaign is now foreseen.

Countries beyond Asia are also at risk through trade or by exposure to infected carrier birds, moving seasonally along migratory flyways to other regions. These countries are newly at risk and need to develop emergency preparedness, national containment strategies and disease information networking to protect human safety and the welfare of commercial and non-commercial poultry sector stakeholders.

### **Objectives**

***The overall goal is to improve control of HPAI in infected countries, rapid detection of the disease in countries at risk with support to diagnostic and surveillance activities and through a better understanding of the epidemiology of the disease.***

#### ***The objectives are:***

1. To promote and coordinate harmonised regional approaches to achieve early detection and reporting through regional coordination centres.
2. To develop and implement a proficiency testing system for national veterinary laboratories with the support of the OIE FAO International Reference Laboratories and Collaborating Centres for Avian Influenza (OFFLU).

3. To establish sustainable networks, bringing together veterinary officials and experts from the national diagnostic laboratories and epidemio-surveillance teams and build their capacity to support the above.
4. To develop data analysis and disease intelligence capacity in order to better understand the epidemiology of the disease and prepare risk maps to allow implementation of targeted surveillance and control programmes.
5. To apply improved epidemiological capacity to revise strategies and improve the effectiveness of disease control activities.

### **Outputs**

1. Enhanced disease monitoring and disease control programs.
2. Improved disease monitoring through training in surveillance, early reporting, rapid field and laboratory diagnosis, long-term monitoring and the generation of sound epidemiological information.
3. Improved understanding of the regional dimension of the epidemic
4. Effective control and recovery strategies for the poultry sectors, especially for smallholders and other vulnerable stakeholders.
5. Improved disease control and prevention capacity through effective disease surveillance.
6. Effective responses to other transboundary and newly emerging diseases other than HPAI, which might potentially threaten public health.

### **Activities**

- select a lead regional laboratory and epidemiology team and implement specific support for their activities
- develop linkages with Regional Organizations (e.g. ASEAN Sectoral Working Group on Livestock (ASWGL); SAARC, African Union, others), as well as national and international animal health organisations involved in HPAI control.
- conduct strategic and technical meetings
- provide training tools and training
- procure equipment (laboratory equipment and consumables, and data processing) and logistic support to the poorest countries
- collect disease information data collection, analyse and disseminate
- create mechanisms and develop tools to enhance and perpetuate the process of exchanging information and experience on HPAI control including surveillance and diagnosis
- define specific tools, methods and strategies for HPAI control including surveillance and diagnosis, appropriate to each particular context (farming systems, market organization, geographical areas). Laboratory tools are described in the OIE Manual of Diagnostic Tests and Vaccines for Terrestrial Animals (2004)
- provision of technical expertise to support the planning processes for national HPAI control and emergency preparedness, national surveillance design, definition of policies and methodologies.
- Communicate epidemiological analyses to support the effective implementation of HPAI control programs, focusing on strengthening early detection and response and biosecurity.

### **Expected impact**

1. Enhanced capacity in HPAI control in the region.
2. Progressive reduction of HPAI incidence in Asia, and prevention in other Regions.
3. Reduced risk of human pandemic of HPAI.
4. Greater food and stakeholder security

5. Increased local, regional and international trade in safe poultry products.
6. Enhanced livelihoods of low-income livestock farmers.

## **Budgets**

### **1. Three Regional Networks in South, East and South-East Asia**

Item	Year 1		Year 2	Year 3	Total
	1st 6 m	Full Year			
Staff	519,102	1,038,204	1,406,016	1,406,016	<b>3,850,236</b>
Short term consultants	90,000	180,000	180,000	180,000	<b>540,000</b>
Contracts	30,000	60,000	60,000	60,000	<b>180,000</b>
Overtime	-	-	-	-	-
Travel	60,000	120,000	120,000	120,000	<b>360,000</b>
Training	60,000	120,000	120,000	120,000	<b>360,000</b>
Expendable Equipment	45,000	90,000	90,000	90,000	<b>270,000</b>
Non Expendable Equipment	37,500	75,000	75,000	75,000	<b>225,000</b>
Technical support services	75,000	150,000	150,000	150,000	<b>450,000</b>
General Operating Expenses	30,000	60,000	60,000	60,000	<b>180,000</b>
Support Cost	94,660	189,320	226,102	226,102	<b>641,524</b>
<b>Total per network</b>	<b>1,041,262</b>	<b>2,082,524</b>	<b>2,487,118</b>	<b>2,487,118</b>	<b>7,056,760</b>

### **2. Five Regional Networks in Middle East, Eastern Europe, Africa (2) and the Americas**

Item	Year 1		Year 2	Year 3	Total
	1st 6 m	Full Year			
Staff	690,360	1,380,720	1,380,720	1,380,720	<b>4,142,160</b>
Short term consultants	75,000	150,000	150,000	150,000	<b>450,000</b>
Contracts	25,000	50,000	50,000	50,000	<b>150,000</b>
Overtime	-	-	-	-	-
Travel	50,000	100,000	100,000	100,000	<b>300,000</b>
Training	50,000	100,000	100,000	100,000	<b>300,000</b>
Expendable Equipment	25,000	50,000	50,000	50,000	<b>150,000</b>
Non Expendable Equipment	50,000	100,000	100,000	100,000	<b>300,000</b>
Technical support services	75,000	125,000	125,000	125,000	<b>375,000</b>
General Operating Expenses	25,000	50,000	50,000	50,000	<b>150,000</b>
Support Cost	106,536	210,572	210,572	210,572	<b>631,716</b>
<b>Total, 5 Other networks</b>	<b>1,171,896</b>	<b>2,316,292</b>	<b>2,316,292</b>	<b>2,316,292</b>	<b>6,948,876</b>

## COMPONENT 1 – GLOBAL AND REGIONAL COORDINATION

### Annex 1.4 Support the OFFLU network of research and specialist expertise

#### **Summary**

OFFLU is the acronym of a joint OIE and FAO network of International OIE and FAO Reference Laboratories, Collaborating Centres and expertise groups in influenza virus to increase information sharing as to the viruses molecular and biological characteristics, viral ecology and disease epidemiology, and aspects of diagnosis, vaccine development, and research. The network of institutions and specialists have been invaluable in aspects of specialised diagnostic training, diagnostic reagent production, vaccine studies, and through FAO and OIE projects, availability to undertake country missions to assist member governments in aspects of epidemiology, virus detection, and options for disease management. A website was recently established in late 2005 and is yet to fully completed ([www.offlu.net](http://www.offlu.net)).

The network needs to be enhanced from the largely advisory role that it currently performs to a fully functional network, for which funding is required.

#### **Background**

In April 2005, the World Organisation for Animal Health (OIE) and FAO established OFFLU as a joint network of expertise on avian influenza for the benefit of member countries. The veterinary network is to interface with the long established Global Influenza Programme of WHO and their widespread national laboratory network which primarily undertakes analysis of viruses from around the globe for seasonal and pandemic human candidate vaccine strains. OFFLU's *Steering Committee* is currently presided over by the Chair of the OIE Biological Standards Commission, a representative each from FAO Headquarters and the OIE Central Bureau, and a member of FAO/OIE Collaborating Centre on epidemiology of the USDA in Fort Collins, Colorado. Presently the *Scientific Committee* is composed of 13 members with an expertise in molecular methods, veterinary diagnostics, vaccine development, laboratory quality control and biosafety issues, epidemiology, wildlife, and infectious diseases and poultry management. Experts wishing to join the OFFLU network (and appear on the website or contacted to undertake consultations) can do so after submission of a detailed application which is reviewed by the Scientific Committee and approved by the steering Committee.

#### **Objectives**

*The overall goal is to support veterinary services in the control of avian influenza.*

*The objectives are:*

1. To collaborate with the WHO human influenza network on issues relating to the animal-human interface, including exchange of virus strains for early preparation of human vaccines.
2. To develop the research on avian influenza
3. To offer veterinary expertise and new skills to Member Countries to assist in the control and eradication of avian influenza

#### **Outputs**

1. Improved diagnostic capability of national veterinary laboratories.
2. Increased knowledge of the epidemiology of avian influenza and its global distribution.
3. Improved early warning of the spread of avian influenza to new regions.

4. Advanced knowledge of changes in virus strains that may presage adaptation to humans.

### **Activities**

- molecular epidemiological studies on virus isolates from infected countries
- testing of specimens from wild birds from non-infected countries with limited capacity for in-country testing
- participation in training of laboratory personnel from national laboratories
- assistance with training field staff for epidemiological surveillance and specimen collection
- provision of epidemiological advice to national authorities to plan surveillance and disease control activities
- research, including collaboration with national authorities in undertaking vaccination studies
- provide reference reagents and advice for laboratory testing quality assurance
- provide advise to human health professionals on avian influenza virus distribution, strain characterisation and progress of the panzootic.

### **Expected impact**

Strengthening the network will greatly improve the ability to monitor the course of the avian influenza panzootic and ensure that the plans for disease control in infected countries and for surveillance and preparedness in non-infected countries are based on sound scientific knowledge.

### **Budget**

Item	Year 1		Year 2	Year 3	Total
	1 <sup>st</sup> 6 m	Full Year			
Staff	-	-	-	-	-
Short term consultants	40,000	50,000	25,000	25,000	100,000
Contracts	15,000	30,000	5,000	5,000	40,000
Overtime	-	-	-	-	-
Travel	65,000	100,000	50,000	50,000	200,000
Training	50,000	75,000	25,000	25,000	125,000
Expendable equipment	75,000	100,000	10,000	10,000	120,000
Non-exp. Equipment	-	-	-	-	-
General operating expenses	22,750	25,900	11,500	11,200	48,600
Technical support services	5,000	10,000	10,000	10,000	30,000
Support cost	27,275	39,090	13,650	13,620	66,360
<b>Total</b>	<b>300,025</b>	<b>429,990</b>	<b>150,150</b>	<b>149,820</b>	<b>729,960</b>

## COMPONENT 1 – GLOBAL AND REGIONAL COORDINATION

### **Annex 1.5 A regional network of centres of excellence in social, economic and policy analysis of avian influenza and its control**

#### ***Background***

The cost of a single outbreak of HPAI has been estimated at between \$65 million and over \$400 million, with particularly severe localized effect on small scale producers and poor consumers. The disease has the potential to cause long term market disruption and change the pattern of international trade. No estimates have yet been made of the long term costs of control.

At the Second FAO/OIE regional meeting on Avian Influenza Control in Asia, held in Ho Chi Minh City, representatives of Asian countries, donors and private companies concluded that more information is required on the indirect costs of control measures, the implications of measures that may require restructuring of the poultry industry and the implications of AI and its control for the wider economy. They also identified that AI control requires an efficient and transparent financing process and that a wide support system is needed that not only helps farmers to recover from immediate losses from outbreaks but also assists them in re-establishing their operations and improving animal husbandry.

With one or two notable exceptions, the economic analysis to date has been conducted by, or with considerable assistance from, international agencies. If the Ho Chi Minh City recommendations are to be taken seriously, the capacity to provide the necessary analysis and support to policymakers must be developed locally. FAO is well equipped to work with the most capable institutes and individuals, to build up the capacity of all. A network is proposed that links centres in different countries, facilitating them to share information on methods and results, work jointly on projects of regional interest, and develop a critical mass of experienced and well qualified economic and policy analysts. The skills and knowledge acquired would also be relevant to other poultry sector analyses and other transboundary diseases.

This proposal is to establish a sub-regional network for East Asia (Cambodia, Lao PDR, Vietnam, Thailand, Myanmar, Indonesia, Malaysia, Philippines, PR China, Taiwan Province of China, PDR Korea, Mongolia).

#### ***Objectives***

***The overall goal is to assess the social, economic and policy issues affecting successful control of HPAI at the national and regional level and communicate findings effectively to regional and national policymakers.***

#### ***The objectives are:***

1. To establish a capacity for undertaking social, economic and policy assessment at national and regional levels.
2. To review methodologies for social, economic and policy assessment of HPAI in the light of available data and research conducted.
3. Ensure institute staff within the network have the capacity to undertake the required assessment studies.
4. To support strategic studies within the region.

5. To participate in development of HPAI control strategies, providing economic, social and policy perspectives.

### **Outputs**

1. A network established with four appropriate institutions in the sub-region, with wide geographical coverage.
2. A review of methodologies for social, economic and policy assessment of HPAI in the light of available data conducted.
3. Each institute within the network will receive training as appropriate in methodologies for HPAI assessment
4. Strategic studies conducted by the institutes in the network, and the results shared nationally and regionally
5. HPAI control strategies in the sub-regions will include information provided by the network

### **Activities**

Activities will include: workshops, international institution building; methodological review, training, studies, provision of advice to ASEAN and APHCA, provision of advice on survey design and methodology to national bodies, sharing of information with international agencies.

The Regional Support Unit for East Asia will co-ordinate activities and ensure that an appropriate level of technical assistance is provided.

Areas for study may include but not be confined to:

- trade impacts of outbreaks in the region
- structure of poultry markets
- livelihoods, poverty and gender impacts of control measures adopted, taking special account of sectors 3 and 4
- direct costs of control measures adopted
- assumptions underlying control strategies, including perceptions of risk and veterinary services capacity
- potential benefits over time from control measures

Institutes involved in networks will be drawn from government agriculture and planning ministries, universities and independent research agencies.

### **Expected impact**

The impact will be the adoption of HPAI control strategies that are sustainable and socially equitable and are realistically budgeted.

## **Budget**

<b>Component</b>	<b>Year 1</b>		<b>Year 2</b>	<b>Year 3</b>	<b>Total</b>
	<b>1st 6 m</b>	<b>Full Year</b>			
Staff	181,770	363,540	363,540	363,540	<b>1,090,620</b>
Travel	100,000	200,000	200,000	200,000	<b>600,000</b>
Training	65,000	130,000	140,000	140,000	<b>410,000</b>
Non Expendable Equipment	5,000	10,000	10,000	10,000	<b>30,000</b>
General Operating Expenses	14,500	25,000	25,000	25,000	<b>75,000</b>
Technical support services	10,000	25,000	25,000	25,000	<b>75,000</b>
Support Cost	37,627	75,754	76,754	76,754	<b>229,262</b>
<b>Total</b>	<b>413,897</b>	<b>829,294</b>	<b>840,294</b>	<b>840,294</b>	<b>2,509,882</b>

## **COMPONENT 1 – GLOBAL AND REGIONAL COORDINATION**

### **Annex 1.6 Investigations into the role of wild birds in the spread of HPAI**

#### ***Summary***

The movement of highly pathogenic avian influenza from East and South-East Asia to other regions of the world has caused great concern because of the risk of extension of the panzootic and also the potential to increase the risk of human exposure to the virus.

This project will, over a 3-year time span, assist the recipient countries to develop the capacity to implement wild bird surveillance programs, mount emergency preparedness for the possible entry of Highly Pathogenic Avian Influenza (HPAI), and develop management strategies for preventing HPAI and low-pathogenic avian influenza (LPAI) from becoming established in wild bird populations. The project will do so by strengthening national capacity through regional networking, related to the following activities: (a) wild bird surveillance, to ascertain the full range of AI subtypes, (b) early warning of the presence of HPAI virus into new areas, (c) a determination of their potential risk to domestic poultry and other wildlife species and (d) establishing a database of known avian influenza strains linked with geographic information systems.

The level of activities will vary among regions, based on other ongoing, complementary projects, on the presence of HPAI, or on the current risk level to the region. In strengthening national, regional and global capacity, linkages will be formed with the established disease information sharing networks, GLEWS, the international reference laboratory network, OFFLU, and other organizations and networks active in wild bird monitoring and surveillance programs. Strengthening disease surveillance, monitoring and diagnostic laboratory support dedicated to HPAI and other avian influenza viruses will be implemented through training at regional workshops and implementation of field surveillance projects.

#### ***Background***

With the spread of highly pathogenic avian influenza (HPAI) from Asia to Central Asia, Eastern Europe and the Caucasus, other countries in previously unaffected regions have become at risk. There is increasing evidence that migratory birds could carry the virus along flyways over long distances to distant regions. These include the Near East, North, Eastern and West Africa, and Eastern Europe and the Caucasus. FAO is implementing a series of projects for new regions at risk to support participating governments in development preparedness to deal with the possible entry of HPAI. There are proposals within the Global Control Programme for additional support – Section Component 3. Surveillance of wild and migratory birds and their habitats, and their interactions with domestic poultry, requires special skills and resources not always available to countries at risk. It has long been known that wild birds are a reservoir host for avian influenza viruses worldwide. Outbreaks of HPAI originating from low pathogenic avian influenza (LPAI) viruses transmitted by wild birds to domestic poultry have occurred relatively frequently in past years but during the last 40 years, spontaneous HPAI outbreaks have not been reported in wild birds. However, recent surveillance studies in Europe have isolated several H5 and H7 influenza A viruses from dead wild birds and illegally imported live wild birds illustrating the potential, and HPAI H5N1 virus has been isolated from wild bird die-offs in Mongolia and China.

There is growing evidence that the highly pathogenic avian influenza virus which has been responsible for serious disease outbreaks in poultry in several Asian countries since 2003 is

spread through a number of sources, including direct contact due to poor biosecurity at poultry farms, movement of poultry and poultry products and live-market trade, as well as the illegal and legal trade in wild birds. Growing evidence suggests that the virus could possibly be carried over long distances along the migratory bird flyways to regions previously unaffected (Table 1) and this is a cause of serious concern for the world. Avian influenza subtype H5N1 could be transported along these routes to densely populated areas in the south Asian subcontinent and to the Middle East, Africa and Europe, transmitted between wild bird populations during breeding seasons in the Arctic and spread to the western hemisphere. Until recently, outbreaks have been restricted primarily to the Southeast and East Asian countries of Indonesia, Viet Nam, Thailand, Lao PDR, Korea, Japan, Malaysia, Cambodia and China, but since early 2004, HPAI H5N1 has been diagnosed in a variety of captive and wild bird species, progressing in north-westerly direction from Hong Kong (January 2004) via Japan, Korea, China, Mongolia to Kazakhstan and Russia (August 2005), to Turkey and Romania (October 2005) and to Croatia and Ukraine (December 2005).

The risk of spillback from undetected infections in domestic flocks to migratory and resident wild water birds is also a continual threat. Improved wild bird surveillance, including free-ranging migratory birds as well as traded wild birds and exotic poultry, can serve to increase the understanding of the epidemiology of avian influenza and most importantly, provide early warning of the risk of outbreaks of the disease in new regions and countries, allowing veterinary authorities to increase preparedness and control.

### **Objectives**

*The overall goal* of the project is to improve knowledge of carriage and transmission of avian influenza viruses by wild migratory birds and apply the knowledge to improve early warning of the risk of incursions of the disease.

#### *The objectives are:*

1. To strengthen the capacity for wild bird disease surveillance, implement surveillance programs and integrate the information and skills in to rational and consistent preparedness planning and disease management.
2. To generate an improved understanding of global migratory bird movements and the potential for their contact with domestic poultry and establish information and technology network linkages around the world through GLEWS, OFFLU and in the global system for HPAI surveillance.

### **Outputs**

- Baseline data developed on resident, migratory birds and domestic poultry, mapped for use in targeted surveillance and HPAI control
- Disease surveillance and monitoring for HPAI in wild resident and migratory birds implemented or strengthened
- Standardized guidelines for wild bird surveillance and outbreak response developed and distributed to participating countries, made available electronically to interested parties.
- Documentation available on the wild bird trade and other movements of wild bird species
- Laboratory capacity strengthened to support HPAI diagnosis in wild bird species.

- Timely disease information exchange in place within and between regions, as well as globally, resulting in improved early warning disease intervention, technical information and technology transfer.
- Linkages established between veterinary services and natural resource managers to enhance collaboration and share information.
- Wild bird HPAI information integrated in to National Action Plans forming the framework for national HPAI control plans and a continental strategy in line with the FAO/OIE/WHO Global Strategy for the progressive control of HPAI.

### **Activities**

Activities are targeted to three groups of Regions:

1. High risk regions where this project will supplement activities by contributing to additional wild bird surveillance work:

- North Africa
- East and Southern Africa
- West Africa
- Middle East
- Southern Europe
- Central Asia

2. Regions with established HPAI presence needing wild bird surveillance programs

- Southeast Asia
- East Asia
- South Asia

Low Risk Regions where initial baseline data collection, technical training, and preparedness planning is needed.

- Central America and the Caribbean
- Northern South America
- Brazil, Surinam and the Guyana's
- Central South America
- Southern Cone, S.A.

**Tentative Workplan**, to be adjusted to the needs and priorities emerging from the interaction between national counterparts in participating countries, FAO staff and project stakeholders.

#### **Months 1-2:**

- Recruitment of the International Project Coordinator (stationed at FAO/AGAH in Rome), Regional Project Coordinators (at appropriate regional centres) and a GIS expert.
- Set up National Steering Committees and establish regional networking, with liaison with OFFLU (see Annex 1.4) and with GLEWS (see Annex 1.2).
- Letters of agreement with 3 specialized institutions
- Finalizing the list of project inputs
- Start of commissioned studies relating to water bird migrations including determination of migratory patterns, timing and important locations, as well as the trade and human movement of wild species of birds, risk assessment of migratory

bird-domestic poultry and human interactions. Baseline data collection on migratory bird patterns and prevalence, together with the domestic poultry infrastructure, will be mapped to produce for each country a clear oversight of locations and potential risk areas for targeted surveillance and intervention.

**Months 3 to 6:**

- Conduct Launching Workshops organized by the Regional Project Coordinators
- Conducting 5 day workshops for technical staff from Wildlife/Natural Resources institutions and epidemiology services in the recipient countries
- Conducting a one week laboratory training on HPAI diagnostic techniques for selected laboratory staff from participating countries.
- Procurement and delivery of project equipment and supplies.
- Laboratory testing of specimens and characterisation of isolated viruses.
- First backstopping mission.

**Month 7 to 30:**

- Continue targeted disease surveillance and wildlife field investigations as appropriate.
- Participation of representatives from recipient countries to an annual international meeting on wildlife and the role of migratory birds in transmission of HPAI
- Second and third backstopping missions (months 12-16, and 24-26)
- Ongoing analysis of results available from the above investigations and consolidation of findings by contracted institutions

**Month 31-36**

- Final analysis of results available from the above investigations and consolidation of findings by contracted institutions
- Assessment for purposes of continued funding for wild bird surveillance programs.
- Final technical report and terminal statement writing.

***Expected impact***

Project impact will be fourfold:

- the role of wild birds in the epidemiology of avian influenza will be better understood
- improved global disease information exchange and strengthened HPAI early warning and control measures
- national strengthening of the public sector involved in livestock agriculture, natural resources and tourism, to address potential HPAI outbreaks
- locally increased health security and food safety for consumers, and production security for commercial and non-commercial poultry producers.

## **Budget**

<b>Item</b>	<b>Year 1</b>		<b>Year 2</b>	<b>Year 3</b>	<b>Total</b>
	<b>1st 6 m</b>	<b>Full Year</b>			
Staff	825,222	1,320,356	367,874	267,212	<b>1,955,442</b>
Contracts	943,036	1,508,857	361,463	56,768	<b>1,927,088</b>
Travel	67,496	107,994	0	0	<b>107,994</b>
Expendable equipment	385,693	617,109	171,938	124,889	<b>913,936</b>
Non-exp. Equipment	33,748	53,997	0	0	<b>53,997</b>
Technical support services	8,766	14,025	3,908	2,838	<b>20,771</b>
General operating expenses	8,766	14,025	3,908	2,838	<b>20,771</b>
Support costs	227,273	363,636	90,909	45,455	<b>500,000</b>
<b>Total</b>	<b>2,500,000</b>	<b>3,999,999</b>	<b>1,000,000</b>	<b>500,000</b>	<b>5,499,999</b>