



Technical Assistance Report

Project Number: 39068
December 2005

Proposed Technical Assistance Strengthening Epidemiological Surveillance and Response for Communicable Diseases in Indonesia, Malaysia, and Philippines

Asian Development Bank

ABBREVIATIONS

ADB	–	Asian Development Bank
ASEAN	–	Association of Southeast Asian Nations
EID	–	emerging infectious disease
ESR	–	epidemiological surveillance and response
FAO	–	Food and Agriculture Organization of the United Nations
IT	–	information technology
MDG	–	Millennium Development Goal
NGO	–	nongovernment organization
RCSP	–	Regional Cooperation Strategy and Program
SARS	–	severe acute respiratory syndrome
SERD	–	Southeast Asia Department
TA	–	technical assistance
UNAIDS	–	Joint United Nations Programme on HIV/AIDS
WHO	–	World Health Organization

TECHNICAL ASSISTANCE CLASSIFICATION

Targeting Classification	–	General intervention
Sector	–	Health, nutrition, and social protection
Subsector	–	Health systems
Themes	–	Regional cooperation, inclusive social development, capacity development
Subthemes	–	Human development, organizations development

NOTE

In this report, "\$" refers to US dollars.

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I. INTRODUCTION

1. The recent outbreaks of severe emerging infectious diseases (EIDs), particularly severe acute respiratory syndrome (SARS) and more recently H5N1 avian influenza, have focused attention on the weakness of epidemiological surveillance and response (ESR) systems in developing countries and the heightened vulnerability of people living in Asia. The Asian Development Bank (ADB) plays a crucial role in responding to regional needs, in close coordination with its development partners, by using its financial and technical resources to help address immediate needs and strengthen preparedness. Communicable disease prevention is a regional public good and forms one pillar of the draft Regional Cooperation Strategy and Program (RCSP) for Southeast Asia. In the context of the potential impact of EIDs in Indonesia, Malaysia, and Philippines, the proposed regional technical assistance (TA) is intended to support interventions to reduce vulnerability through improvements to ESR systems in each country and to evaluate the benefits of possible collective measures in the three countries. Although the Project will cover only the three countries, it will support activities, dialogue, and pilot initiatives that will contribute to broader interaction with regional bodies such as the Association of Southeast Asian Nations (ASEAN) and ASEAN+3.¹

II. ISSUES

2. Avian influenza caused by the influenza A type H5N1 virus is now endemic among birds in several Asian countries, including Indonesia, and the number of human infections is growing. The World Health Organization (WHO) warns that the avian influenza virus could evolve into a human influenza virus leading to a global pandemic. The SARS virus could make a return to Asia in the northern hemisphere winter of 2005. All three countries are vulnerable to outbreaks of avian influenza and SARS and any one of them could form the epicenter of a pandemic.

3. HIV/AIDS is spreading in the three countries. Indonesia has reached a concentrated epidemic stage² in certain geographic areas, while in Malaysia there are concentrated epidemics among intravenous drug users and commercial sex workers. High-risk groups, women, and adolescents remain highly vulnerable in all three countries. Most HIV/AIDS prevention and control activities are undertaken at national and community levels, but there is a need for selected regional initiatives as well. More inter-country trade and mobility of people make preventing and controlling HIV/AIDS more difficult. Commercial sex workers, trafficked women and children, construction workers, seafarers, truck drivers, and other mobile groups move across different parts of the three countries. Members of these groups are often beyond the reach of health service providers for detection and treatment. The Philippines, despite its relatively low HIV/AIDS prevalence, is vulnerable in the medium term. With increasing mobility of the population, regional cooperation is necessary to halt these potential transmission sources.

4. Because of their potential for pandemic, EIDs are receiving increased international attention and substantial international support has been mobilized to address HIV/AIDS. However, measles, poliomyelitis, tuberculosis, malaria, infectious diarrhea, typhoid, cholera, water- and food-borne diseases, dengue, and parasitic diseases also cause significant morbidity and mortality. The incidence of hepatitis C and dengue hemorrhagic fever is approaching epidemic proportions in the three countries, while poliomyelitis recently re-emerged in Indonesia. These neglected endemic diseases are often concentrated in impoverished populations living in marginalized areas or urban slums. They disproportionately affect children and affect school

¹ Includes the People's Republic of China, Japan, and Republic of Korea.

² Above 5% prevalence among any high-risk group.

attendance, cognitive development, physical growth, and productivity. Included in these neglected endemic diseases are worm infestations such as helminthiasis, filariasis, and schistosomiasis, the control of which would result in major health and education benefits to children. Cost-effective interventions are available to manage most common infections, but budget shortfalls and structural problems have not allowed them to be used to their maximum potential.

5. Indonesia, Malaysia, and Philippines are all committed to achieving the Millennium Development Goals (MDGs) by 2015. Four out of the eight MDGs relate directly to health and nutrition: reducing child and maternal mortality and malnutrition, and containing and beginning to reverse the trend of HIV/AIDS and other communicable diseases. If communicable diseases are not controlled, progress towards reducing child and maternal mortality is unlikely. Communicable diseases also have a profound effect on learning and productivity. Thus, if the MDGs are to be achieved, a major reduction in the high levels of communicable diseases in the three countries is required. An effective ESR system must produce accurate and timely reporting, verification, assessment, and response, including strategic forecasting and preventive measures. Each country has had various degrees of success, often isolated to specific disease programs. However, the ESR systems need strengthening in both technical capability and in coverage to achieve any major impact on the levels of communicable diseases.

6. Avian influenza is already endemic in poultry in Indonesia. Malaysia successfully contained and eradicated an avian influenza outbreak in poultry in 2004, but, like the Philippines, remains at risk from migratory birds and outbreaks in neighboring countries. Current ESR systems in the three countries, including hospital preparedness, are not sufficient to cope with a major EID outbreak. High-risk groups in all three countries are increasingly vulnerable to HIV/AIDS because of social changes and greater mobility. ESR systems are already under strain because of population growth, changing demographics,³ increased commerce, and more social interaction. Their weaknesses have been demonstrated by (i) the reemergence of poliomyelitis in Indonesia, despite its reported eradication; (ii) a measles outbreak that reached epidemic levels in the Philippines; and (iii) the fact that filariasis is endemic in Indonesia and Philippines, despite being easily preventable. Although there have been significant government efforts and support from development partners, health surveillance and preventive care cannot address the existing burden of disease, let alone new more complex EIDs.

7. So far, outbreaks of SARS and avian influenza have had little impact on population health in the three countries,⁴ but they have the potential to cause catastrophic damage. The outbreaks have already had major economic consequences amounting to millions of dollars in direct losses and billions in indirect losses through declining tourism, reduced flows of foreign investment, and export restrictions on livestock and animal products. HIV/AIDS, SARS, and avian influenza have reinforced the need for regional cooperation for communicable disease control and Indonesia, Malaysia, and Philippines are already working together closely and through regional organizations. Rapid identification of disease outbreaks and a coordinated regional response will help to limit the impacts of outbreaks by containing them, monitoring the spread and genotype of the virus, identifying potential hosts, preparing for subsequent outbreaks with vaccinations or other preventive measures, and treating cases. Early and accurate detection is vital to prevent the spread of other re-emerging diseases such as measles,

³ For example, rapid urbanization and urban sprawl. Recent outbreaks of dengue and malaria have occurred mainly in densely-packed urban slums.

⁴ The case fatality rate for SARS is around 10% and human avian influenza, despite its high fatality rate of about 50%, is not easily transmitted from human to human.

Japanese encephalitis, poliomyelitis, dengue, typhoid, and cholera. To enhance national economic and health security, epidemics must be contained at their source.

8. Programs for prevention and control of communicable disease are regional public goods: there are greater benefits to be obtained through regional cooperation than would be possible through the independent actions of each country. First, communicable diseases are transmitted by people, pests, parasites, livestock, food, and other common vectors and environments throughout a particular geographic region, regardless of national borders. Avian influenza has demonstrated how a virus may be transmitted across borders by air through migratory birds, to swine and humans following contact with infected birds, and by consumption of infected raw poultry products. Second, regional cooperation will enable participating countries to exchange best practices on health policies, system design, specific disease interventions, and other key lessons. This will facilitate greater frequency, consistency, and clarity in information exchange. It will also engender trust and transparency surveillance, response, and reporting, an essential component of communicable disease control in the three countries.

9. Coordination with other stakeholders will be essential to optimize the impact of the TA. The World Health Organization (WHO) is the lead development partner in the health sector, particularly for ESR. ADB will partner with the WHO regional and country offices in the three countries to help implement the TA by providing specialist advice and technical inputs. A wide range of development partners and donors support communicable disease control programs in all three countries.⁵ Most externally financed programs have tended to be disease-specific. This is often quite a successful and valid approach, given that diseases often have different causes and treatments. However, countries cannot afford to set up new ESR systems in response to each outbreak or health emergency. An ESR system is not a unified set of procedures, but rather an aggregate of heterogeneous but similar subsystems. It is important to optimize the synergies in these subsystems. The TA is intended to provide an assessment of the ESR system as a whole for each country. From this, potential subregional operations will be derived that would help mitigate disease vulnerabilities and add value to national systems. Assessments, tests, pilots, and protocols will further be developed for the three countries.

III. THE PROPOSED TECHNICAL ASSISTANCE

A. Impact and Outcome

10. The goal of the proposed TA is to help support the three countries to reduce mortality and morbidity due to communicable diseases⁶ and to achieve the related MDGs. The impact of the Project will include an improved and integrated national disease surveillance and preparedness system in each of the three countries; a comprehensive system for investigation, case management, and mitigation at local, national and subregional levels; an improved information and communication mechanism; and supportive national policies for communicable disease control. The TA's purposes are to (i) strengthen disease surveillance systems for early diseases detection and response, (ii) help develop national capacity to respond to an outbreak, and (iii) harmonize national efforts to promote a subregional collaboration mechanism for communicable disease control and the monitoring, containment, and prevention of outbreaks. ADB will work closely with the three governments, WHO, and other stakeholders, in particular other development partners and nongovernment organizations (NGOs), to identify where

⁵ Includes other United Nations agencies, multilateral banks, bilateral aid agencies, as well as international and local NGOs, charitable organizations, and corporate foundations.

⁶ The TA is targeted on ESR for communicable and infectious diseases, not on all health surveillance systems (for example, chronic, lifestyle, and hereditary diseases such as diabetes, obesity, and cancers.)

resources are deployed, where there are gaps in coverage, and to take action to mobilize appropriate resources.

B. Methodology, Approach, and Key Activities

11. The TA is divided into three main components. The first two will be conducted in sequence and will provide the overall structure for activities under component C.

- (i) **Component A: Country and Subregional Epidemiological Profiles.** National epidemiological profiles for Indonesia, Malaysia, and Philippines will be drawn up using a standard data and mapping template that can accommodate data generated by the existing health information systems of each country and that describes each major disease, including EIDs. These findings will be consolidated to create a web-enabled subregional epidemiological profile, including potential cross-border transmission vectors and vulnerable areas.
- (ii) **Component B: Outbreak Simulation and Testing to Assess ESR Systems.** Drawing on information and assessments generated by component A, the ESR system in each country and selected subsystems will be tested through real time simulated field exercises or analysis of process documentation and data from current cases.⁷ An integral part of the exercise will be an inter-country secondment program. Subregional collaboration, networking and information sharing will be promoted through joint research and workshops.
- (iii) **Component C: Innovative Measures to Enhance ESR Systems.** This component will consist of specific activities to address weaknesses in the surveillance system (or subsystem) or elsewhere in the health system that emerge from activities under components A and B. These will be relatively small-scale interventions, such as research and case studies, local pilot operations, training to strengthen reporting from decentralized units, or NGO-led community HIV/AIDS initiatives, among others. Support could also be provided to prepare preliminary designs for longer-term or large-scale projects beyond the financing envelope or time horizon of the TA.

C. Cost and Financing

12. The total cost of the TA is estimated at \$1.7 million equivalent. ADB will finance \$1.2 million on a grant basis by ADB's TA funding program. The balance of \$0.5 million equivalent will be provided in-kind by the participating countries.⁸ The cost estimates and financing plan are in Appendix 2. ADB and its partners will also actively seek additional external grant cofinancing.

D. Implementation Arrangements

13. ADB (Southeast Asia Department [SERD]) will be the executing agency for the TA. SERD will work in close cooperation with the Regional Sustainable Development Department to ensure the TA complements other ongoing ADB-wide activities, particularly operations to

⁷ The testing method will vary depending upon the structure of the surveillance subsystem and typology of the disease, e.g., serological testing for poliomyelitis vaccination as opposed to 'outbreak' scenarios for dengue or avian influenza.

⁸ In the form of office space, local travel, remuneration of counterpart and supporting staff, office facilities and utilities, and in-country workshop support as well as in the conduct of monitoring and evaluation activities.

address avian influenza in the region. A memorandum of understanding will be entered into between ADB and WHO outlining a cooperation framework for TA implementation. Local WHO offices will collaborate and provide technical support at the national level, while activities will be coordinated through the two WHO regional offices.⁹ Each participating country will designate an institutional focal point, and a project coordinator to interact with other government agencies, and with the consultants engaged under the TA. Counterpart personnel will provide direction and technical inputs and will participate in the facilitation and conduct of field simulations and evaluation. ADB will provide international travel, accommodation, and per diem for staff seconded under the exchange program and for official participants, including experts, at subregional workshops and the international conference.

14. A project management consulting firm will be engaged by ADB. Approximately 12 person-months of international and 60 person-months of domestic consultant services will be required in (i) project management and implementation, (ii) ESR system, (iii) health systems management, and (iv) systems integration and geographic information system database and website development. Outline terms of reference are in Appendix 3. The firm will procure through competitive bidding the services of an information technology (IT) firm to develop a portal for the subregional epidemiological profile. In addition to the provision of consultants, the firm will undertake arrangements for training, testing and simulation exercises, and a conference. With ADB approval, the firm will procure or subcontract services, equipment, and activities proposed under component C that are within cost ceiling parameters. The consulting firm will be engaged in accordance with ADB's *Guidelines on the Use of Consultants* and other arrangements satisfactory to ADB for the engagement of domestic consultants using the simplified technical proposal procedure.

15. Outcomes from components A and B will help identify concrete activities for component C. Proposals are expected to be developed by the implementing agencies with the assistance of the consultant team and WHO. Activities under component C costing less than \$100,000 will be contracted or procured through the consulting firm. Activities estimated to exceed this ceiling will be procured by ADB. Implementation arrangements, particularly for component C, will be flexible and will allow adjustment in the terms of reference of consultants, duration, and schedule of expert inputs. Procurement of other consulting services, if required under component C, will follow ADB's procedures with reasonable flexibility. Procurement of most small equipment, facilities, services, and supplies will be outsourced through the consultants using international shopping, direct purchase, or other arrangements acceptable to ADB.

16. The project will begin in March 2006 and be implemented over 18 months (August 2007). Within 2 months from start-up, an inception report will be submitted outlining the detailed activities and implementation schedule for components A and B of the Project. National epidemiological profiles are expected to be completed by June 2006 and the web-enabled subregional epidemiological profile operational by August 2006.

IV. THE PRESIDENT'S RECOMMENDATION

17. The President recommends that the Board approve the provision of technical assistance not exceeding the equivalent of \$1,200,000 on a grant basis for Strengthening Epidemiological Surveillance and Response for Communicable Diseases in Indonesia, Malaysia, and Philippines.

⁹ Within the WHO organization, Philippines and Malaysia are under the Western Pacific Regional Office and Indonesia is under the Southeast Asia Regional Office.

DESIGN AND MONITORING FRAMEWORK

Design Summary	Performance Targets/Indicators	Data Sources/Reporting Mechanisms	Assumptions and Risks
<p>Impact Reduced burden of endemic communicable diseases, and reduced risk of emerging diseases in Indonesia, Malaysia, and Philippines leading to attainment of the countries' health-related MDGs</p>	<p>All countries</p> <ul style="list-style-type: none"> • Decrease burden of communicable diseases [1-2 disease(s) to be selected as indicator after incidence baseline established in components A and B] 	<ul style="list-style-type: none"> • Annual health statistics reports • Statistical surveys and qualitative surveys • National demographic and health surveys • Communicable diseases surveillance systems • MDG update reports • UNAIDS surveys 	<p>Assumptions</p> <ul style="list-style-type: none"> • No major social or economic disruptions to allow time to set up and test the system • Disease control interventions are effective <p>Risk</p> <ul style="list-style-type: none"> • Sudden emergence of avian influenza as a pandemic overwhelms health systems
<p>Outcomes</p> <p>Timely and adequate identification and containment of epidemics</p> <p>Improved capacity for communicable disease control</p>	<ul style="list-style-type: none"> • Proportion of targeted districts that provided timely reporting and appropriate response to disease outbreaks • Spread of communicable diseases, slowed or controlled by reduction in delay between incidence-reporting-response times 	<ul style="list-style-type: none"> • ESR systems, including WHO monitoring reports, disease outbreak reports, and informal sources 	<p>Assumptions</p> <ul style="list-style-type: none"> • Surveillance system is capable of identifying diseases in a timely manner. • Funding for surveillance and response system is adequate. • Necessary work can be carried out in border and isolated areas <p>Risk</p> <ul style="list-style-type: none"> • Lack of commitment and capacity of government agencies prevents effective use of resources
<p>Improved prevention and care of communicable diseases in vulnerable populations, particularly along borders</p>	<ul style="list-style-type: none"> • Proportion of targeted groups, particularly in border areas, that received proper prevention and care 	<ul style="list-style-type: none"> • Community health surveys • Hospital and clinic records 	<p>Assumptions</p> <ul style="list-style-type: none"> • Current funding for communicable disease control and health services is sustained • Staff are available to expand services <p>Risk</p> <ul style="list-style-type: none"> • Resistance of local authorities prevents effective capacity development
<p>Improved expertise, policy initiatives, and coordination of countries to improve ESR</p>	<ul style="list-style-type: none"> • Policy reforms carried out to improve communicable disease control, including improved ESR, cross-border and bilateral coordination, and other health system improvements • Access of migrants and mobile people to health services 	<ul style="list-style-type: none"> • Reports on cross-border ESR functioning and cross-border vectors • Reports on health services for migrants and mobile people 	<p>Assumptions</p> <ul style="list-style-type: none"> • Policies are appropriate and effectively implemented. • Access of migrants and mobile people is measured <p>Risk</p> <ul style="list-style-type: none"> • Resistance by local authorities to effective trans-border cooperation reduces impact

Design Summary	Performance Targets/Indicators	Data Sources/Reporting Mechanisms	Assumptions and Risks
<p>Outputs</p> <p>1. Strengthened national ESR systems, including institutional structures, community, staff, and hospital preparedness, and laboratory services.</p>	<ul style="list-style-type: none"> • Preparedness plans formulated and implemented • Improved capability of hospital and preventive staff in organizing outbreak response • Greater coordination of sectors 	<ul style="list-style-type: none"> • Project reports • Government reports • Evaluation of the plans and training 	<p>Assumptions</p> <ul style="list-style-type: none"> • Institutional structures and systems support • Strong collaboration of governments, WHO, and other stakeholders in implementing ESR <p>Risk</p> <ul style="list-style-type: none"> • Technical issues may be beyond capacity of government agencies to effectively deal with
<p>2. Expanded and integrated ESR sub-systems in high priority areas (e.g., avian influenza in wetlands and corridors, and mainstreaming of HIV/AIDS control in high-risk groups)</p>	<ul style="list-style-type: none"> • Reporting and response time reduced 	<ul style="list-style-type: none"> • Surveys of target groups • Government health statistics 	<p>Assumption</p> <ul style="list-style-type: none"> • Vulnerable groups have social, financial, and physical access to these services <p>Risk</p> <ul style="list-style-type: none"> • Outcomes of technical analysis not acceptable to counterpart agencies
<p>3. Enhanced regional cooperation for communicable disease control and health system development</p> <ul style="list-style-type: none"> • Standardized procedures for screening ESR and cross-border travelers • Ownership of three countries in regional coordination activities • Consolidated assessments and other emerging ESR knowledge across Three countries for effective sharing of good practices • Exchange of information, knowledge and ideas, and lessons learned • Self-initiated outreach to counterparts in other countries at national, provincial, and district levels • Policy studies for communicable disease control and HIV/AIDS • National policy development and standard setting for improving communicable disease 	<ul style="list-style-type: none"> • Government's performance in regional coordination and outreach to counterparts in other countries at various levels • Cross-border screening procedures synchronized and/or harmonized across the three countries • Policy lessons identified • Adjustments made to the policy formulation process and legislation • Recognized gaps/weaknesses closed • Strategies to increase/strengthen women's participation and access • Transfer and translation of research, communicable disease control information, case studies, lessons learned, and curricula • Interactive website in place 	<ul style="list-style-type: none"> • Project reports • Government reports • WHO reports • Publications • Website 	<p>Assumptions</p> <ul style="list-style-type: none"> • Policymakers are receptive to inter-country policy dialogue and make meaningful information exchanges. • Legislation/policies are passed. <p>Risk</p> <ul style="list-style-type: none"> • Capacity for and resistance to change may not correspond to need to quickly adopt institutional changes and coordinate assistance

Design Summary	Performance Targets/Indicators	Data Sources/Reporting Mechanisms	Assumptions and Risks
control and health systems			
Activities with Milestones <ol style="list-style-type: none"> 1. Develop standardized epidemiological profiles for Indonesia, Malaysia, and Philippines (May 2006) 2. Develop subregional epidemiological profile (June 2006) 3. Establish web-enabled reporting and updating of subregional epidemiological profile. (August 2006) 4. Prepare reference manuals/guidelines, equipment, and training to implement ESR systems. (July–October 2006) 5. Assess and test outbreak simulations of national ESR systems (April–October 2006) 6. Secondment exercises, workshops, joint research to support information exchange and subregional collaboration (May 2006–August 2007) 7. Identify gaps in national ESR, particularly for cross-border vectors (June–October 2006) 8. International conference to exchange findings and best practices (March 2007) 9. Small-scale and project preparatory activities to fill gaps, provide training, and improve national and subregional ESR (component C) (May 2006–August 2007) 			Inputs <ul style="list-style-type: none"> • ADB = \$1.2 million • Governments = \$0.5 million Total: \$1.7 million

ADB = Asian Development Bank, EID = emerging infectious disease, ESR = epidemiological surveillance and response, GIS = geographic information system, HIV/AIDS = human immunodeficiency virus/acquired immunodeficiency syndrome, MDG = Millennium Development Goal, UNAIDS = Joint United Nations Programme on HIV/AIDS, WHO = World Health Organization.

COST ESTIMATES AND FINANCING PLAN
(\$'000)

Item	Foreign Exchange	Local Currency	Total
Asian Development Bank Financing^a			
1. Consultants			
a. International	250.0	0.0	250.0
b. Local	0.0	200.0	200.0
c. International and Local Travel	15.0	10.0	25.0
2. Secondment and Exchange Program ^b	60.0	0.0	60.0
3. Simulations and Testing	0.0	30.0	30.0
4. Website Development, Software, and Portal	20.0	0.0	20.0
5. Conference and Workshops ^c	40.0	15.0	55.0
6. Translation, Printing, and Supplies	15.0	5.0	20.0
7. Component C ^d	500.0	0.0	500.0
8. Contingencies	25.0	15.0	40.0
Subtotal (A)	925.0	275.0	1,200.0
Government Financing			
1. Office Space	0.0	150.0	150.0
2. Local Transportation	0.0	100.0	100.0
3. Counterpart Staff ^e	0.0	250.0	250.0
Subtotal (B)	0.0	500.0	500.0
Total	925.0	775.0	1,700.0

^a Financed by the Asian Development Bank technical assistance funding program.

^b Includes travel, accommodation, and per diem for official participants.

^c Includes travel, accommodation, per diem for official participants, and honoraria for resource speakers and/or facilitators.

^d Includes activities, equipment, case studies, research, and training materials.

^e Including salaries and benefits of staff during secondments.

Source: Asian Development Bank estimates.

OUTLINE TERMS OF REFERENCE FOR CONSULTANTS

A. Scope of Work

1. A project management and consulting firm will be engaged by the Asian Development Bank (ADB). Approximately 12 person-months of international and 60 person-months of domestic consultant services will be required in the fields of (i) project management and implementation, (ii) epidemiological surveillance and response (ESR) systems, (iii) health systems management, and (iv) information technology (IT) systems integration and geographic information system (GIS) database and website development. The consulting firm will procure through competitive bidding the services of an IT firm to develop a portal for the subregional epidemiological profile and purchase and installation of software and training materials. In addition to the provision of consultants, the firm will undertake logistical arrangements for training, testing and simulation exercises, workshops, secondment programs, and the conference.¹ The firm will designate a project administration coordinator based at one of its offices, preferably in one of the three countries, to coordinate with the respective implementing agencies and other government agencies and local World Health Organization (WHO) offices in each country. Proposals for component C are expected to be developed by the implementing agencies with the assistance of the consultant team and WHO.² Proposals, terms of reference, costings, and implementation arrangements will be submitted for ADB approval prior to commencement of activities. Activities costing less than \$100,000 will be contracted or procured through the consulting firm. Activities estimated to exceed this ceiling will be procured by ADB. The project will begin in March 2006 and be implemented over 18 months (August 2007).

B. Consulting Services

1. International Consultants

2. **Epidemiological Surveillance Specialist and Team Leader** (8 person-months). An international consultant will be engaged for 8 person-months intermittently over 18 months to oversee the overall work program, develop templates for epidemiological profiles and ensure consistency of reports, simulation results, and conduct assessment of the respective ESR systems. The consultant will work closely with WHO regional and country offices, and maintain dialogue with other stakeholders to seek out engagement, cooperation, and possible cofinancing. The consultant will work closely with the IT firm to ensure the integrity of content, data sources, and dynamic updating of the subregional epidemiological profile. The international consultant will plan the exchange program so that staff from the three countries can assist with the assessment, share comparative experiences, and participate in the simulation exercises of the host country. In-country or subregional workshops on specific issues will be conducted as needed. Support will be provided to government representatives who will present papers,

¹ Including (i) venue, transportation, per diem, and accommodation; (ii) engagement and honoraria for experts; and (iii) related communications. ADB will provide international travel, accommodation, and per diem for staff seconded under the exchange program and for official participants, including experts.

² Selected activities to address surveillance system weaknesses or other shortfalls either already identified or emerging from the assessments. These are expected to fall under the following broad categories: (i) strengthen national and regional surveillance systems and preparedness on communicable diseases; (ii) strengthen technical and managerial capacity for investigation, case management, and mitigation; (iii) improve policies and legislation related to prevention and control of communicable diseases, including quarantine; (iv) promote regional collaboration to improve strategic information management, quality control, and standards for medicines, services and human resources; and (v) possible preliminary design for longer-term or larger-scale projects beyond the financing envelope or time horizon of the TA.

findings, and results from the field exercises at the international conference. The consultants and other experts may also deliver topical papers as agreed with ADB. The team leader will oversee the development of a national epidemiological profile³ for Indonesia, Malaysia, and Philippines, using a standard data and mapping template that takes account of the existing health information system of the respective countries. The expert will carry out the following tasks.

- (i) Outline the burden of disease, including emerging infectious diseases (EIDs); discuss possible cost and benefits of addressing these diseases; identify priority communicable diseases based on the profiled information, trends, economic and epidemiological risks.
- (ii) Review the existing surveillance and response system, institutional structure, integration in the health system, and capability assessment in terms of priority risk and response in the context of each priority disease for each country.
- (iii) Consolidate the findings to create a subregional epidemiological profile, including an assessment of potential cross-border transmission vectors and vulnerabilities.
- (iv) Test those systems through real time field simulation or analysis of process documentation and data from actual cases.
- (v) Assess, from a subregional perspective, priority diseases where a regional approach may provide a cost-effective way of reducing risk and vulnerability through both prevention and response mechanisms (e.g., regional testing facilities, border controls, quarantine, regional communication and information sharing, etc.).
- (vi) Develop a web-based interactive subregional epidemiological profile as a “mock-up” hosted on the ADB portal, based on the information listed above. The profile should be capable of being regularly updated through standard reporting drawn from existing systems in each country, and capable of being migrated to a permanent facility, if appropriate.
- (vii) For each country, provide a summary assessment of the existing institutional structure, status and performance of communicable disease control programs, surveillance and response systems, integration in the health system, and capability assessment in terms of priority risk and response.
- (viii) For each country, review government policy and plans for communicable disease control in terms of priorities, strategies, and mainstreaming of communicable disease control to health systems.
- (ix) For each country, summarize government financing, private and external assistance, and planned assistance in addressing priority diseases and identifies funding gaps.
- (x) Evaluate existing cross-border communication mechanisms and subregional collaboration.
- (xi) Promote regional networking and information sharing through joint research, an inter-country secondment program, and subregional workshops.
- (xii) Conduct an international conference to share and compare the findings to promote networking and mutual support activities.

³ Including for example, brief description of situation, population at risk, assessment of vulnerability, cases and deaths (reported or estimates) over the past 5 years/maps showing distribution of cases and/or deaths, if any, current surveillance and control programs including both prevention and response (including responsible agency [local government, central government agency] as well as costs and partners).

- (xiii) Assist the IT specialist to coordinate with government agencies, WHO, and other expert parties and to provide his or her own expert input into the development of the database, geographic information system (GIS), and website, noting the main features needed for software selection, surveillance, reporting, and management.
- (xiv) Review and improve as necessary the training program, modules and “help systems” for the new software and IT systems.
- (xv) Create a listing of identified key experts in communicable disease control or on specific diseases for each country as well as a list of recommended experts on communicable disease control that may serve as resource persons for subregional workshops and international conferences.

3. **IT Specialist: Database, GIS, Web Page Design** (1 person-month): The IT specialist will be familiar with management information systems (MIS), website and platform architecture, IT systems and software and will have extensive knowledge of the advantages and limitations of available database and GIS software in the market. In close coordination with the team leader and other government experts, WHO, and ADB among others, the IT specialist will do the following:

- (i) Review and make recommendations on the purchase of database and GIS software that can be interfaced with the existing platform and architecture of the national ESR systems. Make recommendations on a cost-effective and pragmatic architecture, taking account of data integrity, data migration, and data security needs.
- (ii) Review systems meeting these criteria that may be available through bilateral or multilateral assistance programs both for the regional system and for possible applications to improve national ESR systems.
- (iii) Develop bid specifications for engagement of an IT firm to establish the website, install the software and programming, and provide guidance on the initial operation of the software and links to the website and MIS. Install standard training software and help develop and customize a training program and on-line “help” function for user staff.
- (iv) Provide advice on user-friendly and reader-friendly web design. Guide the web development firm to create a user-friendly, textually and graphically driven home page and interactive system

4. **Project Management and Implementation** (3 person-months): Approximately 3 person-months equivalent of consulting services will be provided by one or more experts of the project management and consulting firm (and its associated firms) to undertake all project management, implementation, contracting, purchasing, back-office, and related activities. This would include contracting for the main IT services, software and equipment, and the procurement or subcontracting of services, equipment, case studies, materials, and other activities under component C. Proposals, cost estimates, and procurement mode will be submitted to ADB for prior approval. The qualifications and capability of the firm (and its associated firms) to perform sustained contract management support for a number of varied activities in each of the three countries for the duration of the TA will be a key determinant for consultants shortlisting and selection.

2. Domestic Consultants (60 person-months)

5. Domestic consultants will be engaged depending upon needs and country capacities. They will assist in field exercises and help client agencies develop epidemiological profiles, refine and submit proposals, and prepare assessment reports. It is expected that domestic consultants will have backgrounds in health systems management, ESR systems, clinical systems, or related fields. Each domestic consultant's biodata, terms of reference, costing, and implementation arrangements will be submitted for ADB approval prior to engagement or commencement of activities.

C. Deliverables and Timeframe

6. The expected implementation timeline and deliverables will be carried out as follows below:

- (i) Within 2 months, an inception report will be submitted, outlining the detailed activities and implementation schedule for components A and B of the Project (April 2006). Given the need for flexibility, periodic reviews will assess implementation arrangements and adjustments will be made as appropriate.
- (ii) Standardized national epidemiological profiles for Indonesia, Malaysia, and Philippines (May 2006).
- (iii) Subregional epidemiological profile (June 2006).
- (iv) Web-enabled reporting and updating of subregional epidemiological profile (August 2006).
- (v) Reference manuals and guidelines, equipment, and training to operationalize subregional ESR systems reporting (July–October 2006).
- (vi) National ESR systems assessed and tested through outbreak simulations (April–October 2006).
- (vii) Gaps in national ESR identified, particularly for cross-border vectors (June–October 2006).
- (viii) Secondment exercises, workshops, and/or joint research to support information exchange and subregional collaboration (May 2006–August 2007).
- (ix) International conference to exchange findings and best practices (March 2007)
- (x) Small-scale and project preparatory activities to fill gaps, provide training, and improve national and subregional ESR, under component C (May 2006–August 2007).