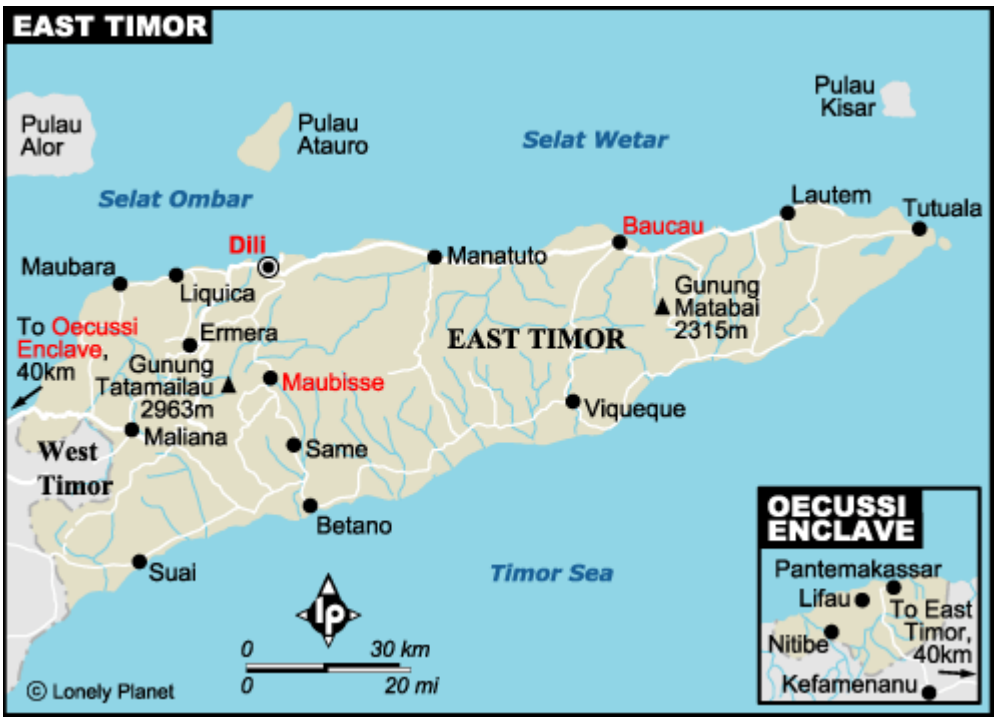
ROYAL AUSTRALASIAN COLLEGE OF SURGEONS

AUSTRALIA EAST TIMOR SPECIALIST SERVICES PROJECT

PROJECT DESIGN DOCUMENT

May 2002

Map of East Timor



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1. Glossary

AMC	Australian Managing Contractor
AusAID	Australian Agency for International Development
ENT	Ear, nose and throat
ETPA	East Timor Public Administration
HND	Hospital Nacional Dili
FSM	Fiji School of Medicine
HRD	Human Resource Development
INGOs	International non-government organisations
LTA	Long Term Adviser
MOH	Ministry of Health
NGO	Non-government organisation
PCC	Project Coordinating Committee
PDD	Project Design document
PICs	Pacific Island Countries
PIP	Pacific Islands Project
PMS	Project Management Secretariat
RACS	Royal Australasian College of Surgeons
TA	Technical Advisor
TB	Tuberculosis
TFET	Trust Fund for East Timor
UNTAET	United Nations Transitional Administration in East Timor
UPNG	University of Papua New Guinea
WHO	World Health Organisation
WID	Women in Development

2. Executive Summary

Project Origin and Design Preparation

In April 1999, the Royal Australasian College of Surgeons (RACS) presented a proposal to AusAID to assist with the delivery of surgical services to East Timor. However, due to the political conditions in East Timor at that time, the proposed activity did not proceed.

Following the vote for independence for East Timor on 30 August 1999, civil unrest led to the displacement of up to 75% of the 850,000 residents of East Timor. Hundreds of people were killed and a large proportion of private and public buildings was destroyed including the health facilities. In addition to the physical destruction, the emigration from East Timor of doctors and core health professionals caused the collapse of the health system.

With the introduction of a peacekeeping force, by 25 October 1999 the United Nations established a United Nations Transitional Administration in East Timor (UNTAET), with responsibility for the administration of all legislative and executive authority. At the same time, WHO and many international non-government organisations (INGOs) active in the health area arrived to support the urgent humanitarian and health needs.

In March 2000, Australia participated in a World Bank led design and appraisal mission that agreed to a sector wide approach to the rehabilitation and redevelopment of the health care system. In May 2000, RACS visited Dili and assessed the hospital and medical services available and the prevalent diseases not addressed by the health care services.

The East Timor Division of Health Services (now the Ministry of Health, MOH) subsequently requested AusAID's assistance with the provision of specialist services. An AusAID team that was part of the second Joint Donor Supervision Mission of Health Sector Rehabilitation and Development in November 2000 recommended that RACS be asked to look further at the situation. In January 2001, RACS was asked to undertake a scoping study for the provision of specialist services.

A RACS team visited East Timor from 6 to 13 February 2001, to work with MOH to identify and assess East Timor's need for support for specialist medical services from Australia. The RACS report, 'The Need for Specialist Medical Services in East Timor', dated March 2001, provided more detailed background on the conditions then prevailing. RACS was subsequently asked to prepare an implementation and project design document.

The Project Design Document (PDD) has been prepared taking account of the findings of the scoping study, subsequent discussions with AusAID and the MOH, and the experiences gained from RACS involvement in the interim surgical support project since July 2001.

The Project has been designed for implementation by the RACS.

Problem Analysis and Strategies Chosen

Development Context

East Timor lies about 500 km north-west of the Australian mainland and 1000 km east of Java. The total area of East Timor is almost 19,000 km, and comprises the eastern half of the island, as well as the enclave of Ocussi-Ambeno, and the islands of Ataúro (or Pulo-Cambing) and Jaco. East Timor shares a land border with West Timor, which is part of Indonesia. The population is about 800,000, mainly Timorese. Approximately 20% are of Indonesian origin and 2% Chinese. Most East Timorese are Catholic, with a small number of Muslims. East Timor is a low-income developing country reliant on agriculture as its main economic activity, and with an underdeveloped and war damaged infrastructure. It is receiving aid from a number of international donors.

East Timor is a fledgling nation working out what is an appropriate health system within the financial constraints of their small budget.

Policy and Programme Context

The MOH is part of the East Timor Public Administration (ETPA), the provisional government of East Timor.

With the assistance of a number of donors, the MOH has developed a sector wide approach to health care development in the country. The MOH has embarked upon the contracting of selected INGOs for the provision of basic health services at district levels and a programme of reconstruction of health facilities, including five hospitals. Cordaid, an INGO, manages the main hospital, HND (Hospital Nacional Dili). Medical services are supplemented by specialist medical teams of the International Peace Keeping Forces and visiting volunteer teams of specialists. The MOH has requested support from Australia to build health services capacity and to provide specialist services to address the basic medical needs.

Australia is strongly committed to East Timor's reconstruction and longer-term development, with Australian assistance in the four years from 2000-01 to 2003-04 estimated to total A$150 million, including A$40 million in the 2000-01 financial year. In line with the sector-wide approach, Australia's bilateral health sector assistance will focus on technical assistance in community health, small grants schemes, training and specialised program support.

Problem Analysis

There are a number of major problems facing the East Timor health system.

Firstly, the health status in East Timor was poor by world standards even before the crisis of September 1999. WHO estimates infant mortality rates of 70 – 95 per 1,000 live births and maternal mortality at 890 per 100,000 live births. Malaria and a number of other serious communicable diseases are endemic in the country.

Secondly, available financial and human resources are over-stretched. In general terms there is an urgent need to rebuild and restore the East Timor health system. In

the medium to longer term, solutions to these problems will require changes to organisational structures and management systems, and substantial capacity building in institutions and individuals. It is likely the main emphasis will be on implementation of improvements in primary health care in such areas as sanitation, water supply, vaccination and women's and children's health and in related areas (such as the education of girls) and of rural development. Such developments are beyond the scope of this project. However implementation of this project will take full account of linkages with all activities in these areas, including donor-funded activity.

Thirdly, there is an acute shortage of doctors in the country, and virtually no local specialists. In addition, there is limited capacity to administer anaesthetics effectively and safely (anaesthetics are administered by a nurse in East Timor). This problem is exacerbated by the long lead-time to train a local specialist (three to eight years).

The problem is even more serious in a developing country where medically trained personnel are likely to be utilised in a number of other functions (including public health, administration and management) which reduces the number available for specialist training.

Therefore, unless specialist services are provided from overseas, there will be very little availability of the four core specialties (general surgery, obstetrics and gynaecology, paediatrics and internal medicine), plus anaesthetics, over the next few years and virtually no availability of sub-specialist services. This has serious implications for the possible treatment of a large number of East Timorese women, men and children who currently or will have life threatening or seriously debilitating illness or affliction, which could otherwise be treated.

Responses to the Problem

Strategy Selection

Given the poor health status of the East Timor population, the limited resources available should be allocated in the most cost effective manner in order to reduce morbidity and mortality, particularly in the rural areas where the majority of East Timorese live. Of key significance will be the primary and secondary health programs, which is also the focus of AusAID health policy. Improvements in water supply and sanitation, diet and nutrition and in women's and children's health will be important, as will related programmes in agriculture, education and community development. Donor-funded programs are already being implemented in these fields. Their effects will be felt in the medium to longer term.

However the treatment of some conditions requires more than basic treatment. These include genetic conditions (e.g. cleft palate), injury (e.g. orthopaedic conditions resulting from the past conflict in East Timor), and injuries from accidents (e.g. burns, road accidents). If left untreated these conditions will deteriorate and place additional burdens on individuals, families and communities. Treatment will also improve the quality of life of individuals who have previously been excluded from the community or workforce.

East Timor already has a basic surgical capability, although services and staffing were adversely affected by civil strife. The HND and the Baucau Hospital have operating theatres and basic equipment. Both are accessible by road from most areas of the country. An expectation already exists that there will be surgical services as part of the emerging nation state.

As primary and secondary health programmes become more effective the role of tertiary health care (including surgical services) will become relatively more significant over time. Development of this capability is nevertheless a long-term process measurable in decades.

In the case of some specialities it is unlikely that East Timor will ever have enough patients to justify the training and full-time employment of a surgical specialist. However it is important to commence a process of incremental improvement from the current base. Provision of basic surgical services and appropriate training in areas where the actual and opportunity cost to East Timor is acceptable to the nation, and where the level of services can be sustained in the medium to longer term needs to be provided. This process must be well planned, incremental, realistic and commensurate with East Timor's own national health plan as it is developed. Over time the five regional health districts will progressively develop surgical capacity and require increasing levels of training and education of medical and other health professionals. This training will also bring improvements in such areas as infection control and post-operative services bringing benefits to the wider population.

Given that the provision of a range of local surgical specialists and related high-level health professionals is difficult, what is a country such as East Timor to do in the short term? It has four options to treat patients:

1. Patients sent overseas for treatment. This is an expensive option, and would present a huge drain on the limited resources of a developing country such as East Timor. Only a limited number of patients would benefit.

2. Patients treated locally by visiting specialist teams. This is the option covered in a component of this proposal. This is a well-proven option, which works in many Pacific Island Countries (PICs) of a similar or smaller size to East Timor. As indicated in the Financial and Economic feasibility section, it is also very cost effective (the short term visiting specialists are donating their time and skills; the project will cover only airfare, accommodation costs and reasonable per diem). This very low cost is coupled with very high standards of practice by fully qualified specialists and support staff, who are able to pass on techniques to local doctors and nurses. As a recent RACS report noted with reference to the provision of similar services in Papua New Guinea, "A conservative estimate of the value of the 262 surgical and anaesthetic volunteers and 190 nursing volunteers' services contributed by teams for a total of approximately 726 person weeks is over A$ 2.5 million". A similar, conservative estimate of the voluntary services which will be provided by the specialist teams over the next three years in East Timor, would be about A$0.5 million.

3. Patients treated by specialists staying for longer periods in-country. This option would rely upon specialists being in-country for one to two years and working with local staff as part of the medical staffing. For the core specialities, this option is feasible. For the sub-specialties this option is virtually impossible, due to the lack of availability of sub-specialists for longer-term work and secondly, there may not be the constant flow of work over a one to two year period which could justify staying full time.

4. A mixture of Option 2 for the more difficult to obtain sub-specialties and where the workload does not justify a full time in-country presence, **and Option 3** for the general surgeon and anaesthetist where skills transfer is much more feasible to local non-specialists, the workload justifies an in-country presence and where it is relatively more possible to obtain such specialists from Australia and New Zealand.

5. In the longer term, and when a moderate level of skills has been developed in East Timor, the **progressive introduction of the use of electronic linkages to assist clinical diagnoses or procedures, or with educational activity**, is possible. Telemedicine or telehealth links have been developed with some success in the Pacific Islands and in rural Australia.

Option 4 is the strategy chosen for the project, because it provides a comprehensive range of specialist services, allows for considerable medical skills transfer and capacity building in the most needed specialties (general surgery and anaesthetics) and has flexibility over the project period in terms of inputs. It is extremely cost effective and is a coordinated, managed approach in providing specialist services.

Project Description

This project design is based on the model of an AusAID project managed by RACS that has been used successfully in Pacific Island countries (PICs) over the past seven years. The Pacific Islands Project (PIP) for the Provision of a Range of Tertiary Health Services recognises that although the populations of the PICs are generally too low to ensure a regular throughput of clinical cases to justify full time specialists in some of the specialised tertiary services, there is nonetheless an economic and humanitarian need to supply some of these.

This can be done by sending in small teams comprising specialists and supporting personnel, on a regular but short term basis. The short term visiting specialists are donating their time and skills. This has proven to be a very cost effective approach for many PICS, which could otherwise not afford to send patients overseas for treatment or have not and will not in the immediate future have the capacity to provide such specialised services themselves. A similar approach is proposed for East Timor.

An essential feature of the project will be the provision of a Long Term Adviser (LTA) Surgeon and a LTA Anaesthetist to be based in Dili for three years of the project. This will ensure that there is a sufficient level of specialist staffing in the HND to provide a full-time surgical service and to allow staff time to identify cases and benefit from visiting teams. An important aspect of the work of these two long-term advisers will be the mentoring of local doctors who are interested in becoming surgeons and nurses who wish to be trained as nurse anaesthetists. This will provide a basis for future development of a cohort of local staff that will be the first step to sustainability of the most essential specialist services in East Timor.

The Goal of the project is:

> ***Improved health status of East Timorese requiring general and specialist surgical treatment.***

The purpose of the project is:

> ***To overcome the shortage of trained and skilled people in a range of medical specialisations, which inhibits East Timor from delivering essential secondary and tertiary health care to its people.***

The Project comprises five components that address the priority needs for tertiary services in East Timor.

Component 1: General Surgical Services (over 3 years)

In order for HND to run at a reasonable level, provide a 24-hour, 7-day per week service, and to support the activities of visiting specialist teams, a second hospital surgeon and anaesthetist will be supplied by this project. Component 1 is therefore a total of seventy-two (72) person months of long-term personnel. This will allow for the provision of a full-time LTA Surgeon and LTA Anaesthetist over three years - in addition to the long-term appointment of a surgeon and anaesthetist by MOH/Cordaid. The RACS is aware that MOH's attempt to recruit the second anaesthetist has proved difficult with the consequence that the anaesthetist with the interim project has been on 24-hour call until a second anaesthetist was appointed recently. Accordingly, if this situation were to recur, it would be necessary for there to be arrangements made for relief – possibly with an anaesthetist from Darwin providing a few day's respite every three to four weeks or so.

Component 2: Specialist Clinical Services (over 3 years)

Component 2 provides for a range of visiting specialist services to East Timor over a 3-year period, with approximately thirteen (ten surgical visits and 3 single-person physician visits per year). For each visit there will be a team of specialists and support staff and equipment and necessary medical supplies, with the HND providing the operating theatre, inpatient accommodation and back up pathology and x-ray services, as required. The specialist services to be provided include plastic and reconstructive surgery, eye surgery, ear, nose and throat surgery, orthopaedic surgery, paediatric surgery, urology surgery and specialist medical services, comprising a mix of services including an infectious diseases specialist, a diabetologist and a paediatrician. The extent of provision of these services will depend on the emerging levels of patient demand for specific procedures and treatments. The ongoing monitoring of this demand will be the joint responsibility of the MOH and the RACS. Through the experience of deploying a surgeon and an anaesthetist in-country since July 2001 the RACS has a good sense of the resources available and the demand for specific specialist visits. Already RACS has a lists of cases, built up over the past six months that are appropriate for specialist visits. RACS will also provide limited biomedical support to the Project through the services of a visiting biomedical engineer/technician.

Component 3: Other Priority Needs (over 3 years)

Component 3 is a pool of funds set aside to be allocated as needs arise that cannot be addressed by the teams under Component 2. Specialties identified as areas of need include neurosurgery and cardiac surgery, and others may emerge. However, further investigation will be required before these needs are properly assessed, and the capacity of the HND (especially for cardiac surgery) will also need to be reviewed before decisions are made on the use of these funds. This component will be addressed for implementation after two years of the project have been successfully implemented, and there has been close consideration of the resource implications of specialities proposed for inclusion.

Component 4: Training and Workforce Development (over 4 years)

Component 4 provides on-the-job training to improve the skills of local East Timorese medical and administrative staff to enable them to become more self-reliant in the provision of surgical and anaesthetic services, the care of patients and the

maintenance of medical records. The LTA Surgeon will supervise a small number of local doctors in a program of surgical training. This training will consist of an apprenticeship-type skills training program supplemented by attendance at short courses or short-term placements overseas. The LTA Anaesthetist and nurse educator will be involved in the training of selected nurse practitioners to provide basic anaesthetic services and support to the full-time anaesthetic specialist. Training will also be provided to nurses in operating room procedures and post-operative care. The LTA Surgeon will also work with MOH staff to develop and establish appropriate case finding, referral and record keeping systems that are consistent with MOH's long-term needs.

Component 5: Project Management (over 4 years)

The RACS shall ensure effective and collaborative implementation of the Project with the MOH and other key stakeholders. Project management shall be consistent with AusAID requirements as well as the requirements of the MOH. As far as possible, the management activities should be integrated with MOH health service management to minimise duplication and excessive reporting requirements. At the same time, conditions in East Timor are constantly changing as it establishes itself as an independent nation, so the RACS will need to adequately monitor changing circumstances that may affect the Project. The RACS will continue to manage the delivery of Component 4 in the fourth year of the Project but on a reduced scale.

Benefits, Risks and Justification

Benefits arising from the project include:

- Additional general surgical services at HND for three years, providing a more comprehensive accident and emergency cover, as well as significantly increasing the output of needed elective general surgery.
- Additional anaesthetic services for three years, providing support for general surgical and other procedures at the HND.
- Training of local doctors in appropriate surgical techniques, and training of nurses in anaesthetics.
- The provision of a wide range of specialist services, which would not otherwise be available, and the training of local doctors and nurses in applicable aspects of such services. This includes aspects of the surgical sub-specialities, components of internal medicine, such as infectious diseases and diabetes, which are high priority needs in East Timor medical and clinical services.
- Limited training in pre-screening, organisation of patient referrals, medical records development and maintenance, and patient follow up and post discharge treatments. This training will be associated with the activities of Components 1-3.
- Support and supervision of local doctors undergoing a needs-based training program including short courses and/or placements overseas.

Risk Management

There are a number of risks involved with the project (see Annex 10). Some of the most significant are:

- **Inadequacy of the MOH Health Budget and Lack of Supporting Infrastructure**

- This is a big and highly probable risk, and will require constant monitoring. This project to some degree is shielded from this risk because the visiting specialist teams will bring with them the necessary surgical equipment and disposables.

- **Security Condition**
  - Given recent events in East Timor, the AMC will need to liaise constantly with AusAID and MOH over local security.

- **Lack of Adequate After Care Facilities**
  - It will take some years for after care arrangements to improve. In the meantime, improved liaison with the developing community health services will be needed, and in many circumstances, patients may require longer lengths of inpatient stay.

- **Disruption of Normal Hospital Routines by Visiting Teams**
  - It is expected that the hospital will adjust its normal workload to accommodate the increased and expanded activities with the arrival and presence of the visiting teams, and such an adjustment will have to be carefully negotiated with the MOH and Cordaid. It should be noted however, that the timing of the visits of the teams, and the procedures of the visiting teams and the LTA Surgeon have the prior agreement of the PCC and the MOH. Therefore the adjustments that may occur to the normal patient mix will generally be acceptable.

- **Possible Overlap or Duplication of Services Provided by Other Agencies**
  - There are no other general or sub-specialist surgical services available to the general public of East Timor through other agencies. There are surgical, internal medicine and anaesthetic services available at the hospital but these are not sufficient for the current caseload. There are some specialist services provided for the military and aid workers but these are generally not available to the public or the general public have limited access.

- **Failure to Gain Cooperation of Local Staff**
  - It is important that the services offered under this project are undertaken jointly as a team by staff working at the hospital and the project personnel. Long term personnels and visiting teams will be well briefed and selected for their ability to work well with people from other cultures so as to be responsive to local needs and sensitivities.

- **Failure to Identify Appropriately Qualified and Experienced Specialist Teams**
  - The RACS will tap into its wide network of volunteers to find appropriate team members who will then be checked carefully by the Project Director and specialty coordinators for their expertise, suitability and cultural sensitivity. The RACS has a large network of specialists to call on, from which it can select appropriate team members.

The Risk Management Matrix in Annex 10 assesses all risks identified by RACS and the strategies that will be adopted to manage them. The Matrix will be updated at twice yearly PCCs.

Justification

The project is justified because:

- It will provide a range of vital specialist services to East Timor, which would otherwise not be possible. This will save lives and improve the health of a large number of people.

- It is a very cost-effective approach to specialist service provision. The visiting short-term specialists are donating their time and skills.

- It will provide training over a four year period to local doctors and nurses in surgical and anaesthetic techniques, which can be utilised in the years to come, and which will contribute to improved health and reduction of avoidable mortality in East Timor.

- It will provide support to local doctors undergoing postgraduate studies, which will provide some improved sustainability in the core specialties.

3. The Project

3.1 Goal and purpose

The Goal of the project is:

> ***Improved health status of East Timorese requiring general and specialist surgical treatment***

The Purpose of the project is:

> ***To overcome the shortage of trained and skilled people in a range of medical specialisations which inhibits East Timor from delivering essential secondary and tertiary health care to its people.***

The project will provide a range of clinical services to East Timor through the secondment of a LTA Surgeon and a LTA Anaesthetist and the short-term deployment of specialist medical teams. All project personnel will be responsible for transferring clinical skills, where possible, to local counterparts and for the provision of specific teaching sessions.

3.2 Component Objectives and Outputs

The Project comprises five components that address the main priorities for tertiary services in East Timor. The Project outline, including performance indicators and major underlying assumptions, is shown in the Logical Framework Matrix at Annex 5.

A summary follows of the Project components, their expected outputs and indicative activities. Duty statements for the two long-term appointees in surgery and anaesthetics and for the local coordinator are at Annex 11.

Component 1: General Surgical Services

Component objective: To provide general surgical services and anaesthetics.

Output 1.1 Full time general surgical services provided (over three years).

After 1 July 2001, the HND was staffed with specialists provided by the international NGO Cordaid and the East Timorese Division of Health Services (now the Ministry of Health, MOH). Staffing included five specialists: one general surgeon, one anaesthetist, a paediatrician, an obstetrician and a physician. In order for HND to provide a 24-hour, 7-day week clinical service, and to support the activities of visiting specialist teams, a second surgeon is required (to be provided under this project).

MOH has requested that AusAID make provision within this project for a full-time LTA Surgeon for three years. This will allow a rotation of surgeons to offer emergency services on a 24-hour basis as well as elective lists and case-finding for visiting teams in other specialties. Most importantly, the presence of the LTA Surgeon will provide the opportunity for structured training of local medical staff as surgeons. The LTA Surgeon will also be able to monitor that all basic surgical equipment is maintained to a reasonable standard and to liaise with the visiting biomedical engineer or biomedical technician. The position will be advertised with the objective of attracting appointees able to maintain a long-term role including

familiarity with the local language. However it may be difficult to attract personnel for more than about six months at a time and it may be that the positions will continue to be filled on a rotating basis as they have been for the interim project.

Activities

- Negotiate clinical on-call duties with the MoH/HND management
- Provide surgical services for three years
- Provide mentoring to build the practical skills and confidence of the East Timorese doctors and nurses.
- Oversight collection of data on general surgical and specialist treatments for input into the clinical information system.

Output 1.2 Full-time Anaesthetic Services Provided

MOH has requested that AusAID make provision within this project for a LTA Anaesthetist for three years. This will allow a rotation of surgical teams to offer emergency services on a 24-hour basis as well as elective lists and case-finding for visiting teams in other specialties. Most importantly, the presence of the LTA Anaesthetist will provide the opportunity for structured training of local medical staff as nurse anaesthetists. The LTA Anaesthetist will also be able to monitor that all basic anaesthetic equipment is maintained to a reasonable standard and to liaise with the visiting biomedical engineer or biomedical technician. The position will be advertised with the objective of attracting appointees able to maintain a long-term role including familiarity with the local language. However it may be difficult to attract personnel for more than about six months at a time and it may be that the positions will continue to be filled on a rotating basis as they have been for the interim project.

The RACS is aware that MOH's attempts to recruit a second anaesthetist has proved difficult with the consequence that the anaesthetist in the interim project has been on 24-hour call until a second anaesthetist was appointed recently. Accordingly, it the situation should recur, it would be necessary to have arrangements made for relief – possibly with an anaesthetist from Darwin providing a few days respite every three to four weeks.

Activities

- Negotiate clinical on-call duties with MoH/HND management
- Provide anaesthetic services for three years
- Provide mentoring to build the practical skills and confidence of the East Timorese nurse anaesthetists

Component 2: Specialist Clinical Services

Component Objective: To provide specialist services in plastic and reconstructive surgery, eye surgery, ear, nose and throat surgery, orthopaedic surgery, paediatric surgery, urology and limited biomedical engineering support.

The initial plan of visits will be developed in detail at the inception of the project in consultation with MOH and HND to provide a guide to patients and staff for when visits will happen. Any change will be communicated to all relevant personnel in a timely fashion.

Long-term personnel and visiting teams will provide written reports on their visits to the RACS Project Management Team. These reports will be sent to the long term personnel in Dili and given to the next teams undertaking visits, thereby ensuring that, if a new team visits, team members are familiar with the service and training provided during the previous visit.

Output 2.1 Plastic and Reconstructive Surgery Provided

In many developing countries there is a need for plastic and reconstructive surgery services to rehabilitate the disabled to allow them to take part in normal economic and social activities. Cases requiring treatment result from untreated leprosy, poliomyelitis, burns scars, trauma and congenital defects. The needs analysis team found that despite visits to East Timor by an Australian group Asea Rehab and a German Interplast team in 2000 and early 2001, there are still a considerable number of cases of cleft palate and burns scar contractures requiring initial or follow-up treatment. A list at one local clinic included forty-one (41) untreated cleft cases and it is expected that there are many more who have not yet been identified. RACS will work with Interplast Australia and Asea Rehab to ensure that the work already done by Asea Rehab is followed up and consolidated to provide appropriate services.

Activities

- Develop a plan for visits by a reconstructive surgeon and support team in close consultation with MoH and HND and ensure any changes are communicated to all relevant parties in a timely fashion.
- Provide clinical services by a reconstructive surgeon and support team.
- Ensure appropriate aftercare arrangements are provided.
- Follow-up at the appropriate time to assess the success of treatment.

Output 2.2 Eye Care Services Provided

Uncorrected refractive errors and unoperated cataracts are the most common cause of curable blindness in developing countries. Dr Nitin Verma, formerly of the University of Papua New Guinea and now working in Hobart, has visited East Timor several times in the past two years. His team operated on eighty-seven (87) patients in July 2000. Fifteen (15) of these were totally blind and have now regained their sight and independence. A waiting list of two hundred fifty (250) patients was booked for the next visit by the team. Dr Verma has already started a programme to establish an eye care service in East Timor that involves both long-term training of local personnel and immediate provision of ophthalmic services. His team of ten staff, comprising optometrists, ophthalmologists and nurses, spends two weeks in East Timor, first assessing patients (up to 5000 can be assessed in one week) and dispensing spectacles, then operating on patients who are transported to Dili by the INGOs/MOH in their districts. Ninety per cent of the cases operated on per visit are cataracts. Dr Verma has tapped into various sources of funding for his work, and has received donations of equipment and consumables but still needs support for his team's airfares and living costs and additional supplies of consumables such as intraocular lenses.

In order to assist Dr Verma to continue his work and to retain the flexibility he needs to mobilise his team, it is proposed that he be awarded a grant under the project rather than the RACS organising each visit. Funds will be paid to him biannually and acquitted as part of the relevant Quarterly Progress Report. It is expected that his team will make at least 2 visits per year and that he will continue to obtain other

support to make additional visits.

Activities

- Develop a plan for visits by an eye surgeon and support team in close consultation with MoH and HND and ensure any changes are communicated to all relevant personnel in a timely fashion.
- Provide two visits per year for three years by an eye surgeon and support team to provide eye care services including spectacles and surgery.
- Ensure appropriate aftercare arrangements are provided.
- Follow-up at the appropriate time to assess the success of treatment.

Output 2.3 Ear, Nose and Throat Surgery Provided

Information on ENT conditions in East Timor is sketchy, as no specialist team have visited as yet. The local clinic records list thirteen (13) cases of perforated eardrums awaiting surgery. ENT conditions are often chronic and may go unreported until there is some effort made to identify cases and a degree of confidence established in the possibility of treatment. An assessment visit will be made by an ENT surgeon. The assessment will include evaluation of the supporting infrastructure and follow-up services that can be provided by local physicians. Based on experience in other developing countries, it is very likely that there is a large, unmet and unreported need particularly in children, which, if left untreated, may cause deafness and adversely affect educational outcomes. A total of five visits over the term of the project are proposed but this should be subject to confirmation based on the findings of the initial assessment visit.

Activities

- Assess the need for ENT treatment in East Timor and the suitability of supporting infrastructure and follow-up services.
- Develop a plan for visits by an ENT Team in close consultation with MoH and HND and ensure any changes are communicated to all relevant personnel in a timely fashion.
- Provide clinical services by a three-person team, comprising an audiologist, a surgeon, an anaesthetist or a theatre nurse.
- Ensure appropriate aftercare arrangements are provided.
- Follow-up at the appropriate time to assess the success of treatment.

Output 2.4 Orthopaedic surgery services provided

Emergency treatment of many trauma victims has been carried out at the HND but management of orthopaedic trauma has been limited to manipulation, traction and plastering, and the use of external fixtures. Thus many deformed and disabled cases remain. They would benefit from specialist orthopaedic treatment. Some physiotherapy services essential to proper rehabilitation after surgery are available at HND. Given the backlog of cases seen in the hospital, a visit by an orthopaedic team is considered a high priority and should take place in the first quarter of the project, to be followed by four more visits (making a total of five visits over the term of the project). Visiting teams will include physiotherapists as and when appropriate to help with upskilling of local health professionals.

Activities

- Develop a plan for visits by an orthopaedic team in close consultation with MoH and HND and ensure any changes are communicated to all relevant personnel in a timely fashion.
- Provide clinical services by a three -person team, comprising a surgeon, an anaesthetist, a physiotherapist or a theatre nurse as appropriate.
- Ensure appropriate aftercare arrangements are provided.
- Follow-up at the appropriate time to assess the success of treatment.

Output 2.5 Paediatric surgery services provided

High birth rates in developing countries such as East Timor mean that there are large numbers of children with congenital problems, such as anorectal anomalies. Baucau Hospital records include four such children born in 2000 of whom only one survived and records from a Dili clinic list fourteen cases of children with imperforate anus awaiting definitive surgery. In Australia, most such children can be saved by early surgery. In East Timor many will die but some can be saved by emergency surgery (colostomy) that then needs to be followed-up to repair the defective organ and allow the child to live a normal life. There is anecdotal evidence of children in rural East Timor as old as seven or eight years who are still waiting for definitive surgery to free them from living permanently with a colostomy bag. Given the backlog of cases already reported, a visit by a paediatric surgeon should take place in the first half-year of the project. Surgery will only be undertaken where surgeons are confident that local resources can support post-operative care. Two additional visits in later years are envisioned, to provide follow-up care and treat new cases that may be identified.

Activities

- Develop a plan for visits by an paediatric team in close consultation with MoH and HND and ensure any changes are communicated to all relevant personnel in a timely fashion.
- Provide clinical services by a paediatric surgeon and support team
- Ensure appropriate aftercare arrangements are provided.
- Follow-up at the appropriate time to assess the success of treatment.

Output 2.6 Urology surgery services provided

In developing countries renal, bladder and prostate problems are common. Although there is great advantage in providing an endoscopic, minimally invasive specialist urology service as in Australia, in East Timor urological services will need to be provided almost exclusively by general surgeons. This will mean that open prostatectomy and open stone removal for renal and ureteric stones will be required. However, in order to preserve kidney function and improve standards of urological procedures by general surgeons an annual visit in urology is planned once cases are identified. Transurethral resection of the prostate may be performed on some cases in East Timor, however, the emphasis will be on open surgery and cystourethroscopic assessment. Paediatric surgery visits will also be providing a urological service to children and, from experience in Pacific Island countries, urological cases may comprise up to forty to fifty per cent (40-50%) of paediatric surgical work.

Activities

- Develop a plan for visits by a urology team in close consultation with MoH and HND and ensure any changes are communicated to all relevant personnel in a timely fashion.
- Provide clinical services by a urology surgeon and support team.
- Ensure appropriate aftercare arrangements are provided.
- Follow-up at the appropriate time to assess the success of treatment.

Output 2.7 Specialist medical services provided

Regular visits by specialist physicians will assist HND staff to diagnose and treat difficult cases. In particular, there is a need for assistance in cardiology and paediatrics to assess patients for treatment either medical or surgical, and in the management of infectious diseases. There may also be a need for diabetologists, which should be assessed during year one of the project. The visiting medical specialists will perform ward rounds and teaching rounds with the hospital staff, advising on policies and protocols and providing a general update in the management of common or complicated cases.

Activities

- Assess the need for specialist medical treatments in East Timor and the suitability of supporting infrastructure and follow-up services.
- Develop a plan for visits by specialist medical teams in close consultation with MoH and HND and ensure any changes are communicated to all relevant personnel in a timely fashion.
- Provide for a visit of an infectious diseases specialist or diabetologist.
- Provide for a visit of a paediatrician to support paediatric services in Dili and to assist with development of treatment protocols and educational activities.
- Provide for the visit of a paediatric cardiologist to assess cases for treatment including potentially by visiting cardiac surgeons.
- Ensure appropriate aftercare arrangements are provided.
- Follow-up at the appropriate time to assess the success of treatment.

Output 2.8 Biomedical equipment operating effectively to support surgical and clinical services.

Safe and successful surgery will depend not only on the skills of surgeons and other visiting personnel but also on the reliable and effective operation of biomedical equipment. Some equipment is in place in East Timor. This project will be supplying some equipment in association with speciality team visits. RACS has also secured a grant for the purchase of $250,000 worth of equipment from the Victorian State Government. Medical equipment is also being supplied by AusAID and other donors. Maintaining medical equipment in the medium to longer term will be essential. RACS has some experience of the problems likely to be faced and of strategies to address these through its management of the AusAID-funded Medical Equipment Management Project for the Pacific (MEMP-P). RACS will arrange an initial visit by an experienced biomedical engineer early in the implementation of the project in order to assess the situation and provide advice on the most appropriate frequency and purpose of continuing visits. The project design assumes quarterly visits but

RACS recognises that this frequency may need to be varied following the initial visit and from time to time thereafter.

Activities

- Provide for an initial visit by a biomedical engineer in order to assess maintenance needs and recommend an ongoing program of biomedical technician visits in order to enable surgical and clinical services to be maintained.
- Provide quarterly visits by a biomedical engineer/technician to ensure effective, regular maintenance of surgical equipment in HND.

Output 2.9 Program of specialist visits to regional centres provided

It will be appropriate for some specialist visits to be made to regional centres (e.g. Baucau) provided such visits are requested by the MOH and that adequate facilities are available for use by teams or specialists at hospitals. MOH staff will be required to screen patients. It will be necessary for teams to be accommodated in hotels, and additional costs of transport of personnel and equipment to be provided for.

Activities

- Provide for additional costs of visits to regional centres (e.g. Baucau, Oecussi, Maliana) by visiting specialists.

Component 3: Other Priority Needs

Component Objective: To respond effectively to priority needs for specialist treatment that may not be addressed by the scheduled teams.

Output 3.1 Additional approved priority specialist services identified and implemented

A pool of funding will be set aside to be allocated as needs arise that cannot be addressed under Component 2. Specialties already identified as areas of need include neurosurgery and cardiac surgery and others may emerge. However, further investigation will be required before these needs are properly assessed, and the capacity of the HND (especially for cardiac surgery) will also need to be reviewed before decisions are made on the use of these funds. This component will be addressed for implementation after two years of the project has been successfully implemented, and there has been close consideration of the resource implications of specialties proposed for inclusion. But, as the small number of visits by such teams would not justify major equipment expenditure, equipment will not be purchased for these teams.

Neurosurgery
Experience from working in other developing countries in the South Pacific and in PNG has shown that there will be many cases with neurosurgical problems. Many of these will be amenable to treatment by a neurosurgeon, with a considerable gain in quality of life. The beneficiaries are likely to be children rather than adults and the focus would be on treatment of congenital abnormalities. Local treatment of neurotrauma, spinal tuberculosis and other spinal problems would be improved by neurosurgical visits.

Cardiac surgery
Congenital heart disease and valvular heart disease due to the after effects of rheumatic fever are common causes of morbidity in developing countries. Forty-eight (48) cases of congenital heart disease were identified in one local clinic waiting list, which indicates a large unmet need. Further investigation by a cardiologist is required to assess the level of need and the degree to which this could be addressed by a closed cardiac surgery team, as HND surgery and intensive care facilities are not currently adequate for open-heart surgery.

Activities

- Investigate and identify the highest priority needs not addressed under Component 2, the feasibility of addressing the identified needs within the constraints of the funds available and the capacity of the HND to support such work.
- Provide the identified clinical services.
- Ensure appropriate aftercare arrangements are provided.
- Follow-up at the appropriate time to assess the success of treatment.

Component 4: Training and Workforce Development

Component Objective: To contribute to the development of long-term surgical and medical capacity.

Output 4.1 East Timorese medical doctors trained to support delivery of surgical services and treat medical patients.

RACS believes that the long-term aim of this activity will be to develop a group of specialist doctors who will provide a degree of self-sufficiency in the future. The preferred option advised by the RACS is in country apprenticeship and training programmes delivered by visiting surgeons and anaesthetists.

It will require assistance from the MOH to identify suitable trainees who will be employed for a continuous period of one to four years at the HND and be given progressive training and responsibilities in their speciality area. The MOH will select approximately six to eight doctors each year for training. The planning discussions with MoH requires that the first year is training in basic surgery. After the first year, two to three doctors will be selected for a further three years more advanced training in surgery. The other four to five doctors will be provided with a second year of training to suit their roles as doctors in a regional hospital. As they progress through the training program, in the second, third and fourth years the trainees will attend short courses in Australia in Surgical Skills training, Trauma Care and Critical Care of the Surgical Patient. At the end of a satisfactory four-year training program, the RACS will be part of an assessment group with representatives of the MOH to recognise a specialist qualification for East Timor. The specialist qualification will be in one of the specialities the RACS recognises. It would be possible for RACS to also coordinate other specialist training.

The project funded visiting surgeons and LTA Anaesthetist will provide teaching and training in surgery and anaesthesia. It will be possible to consider extending the training to other specialty areas such as Obstetrics and Gynaecology, and General Medicine though that is not provided for in the current project design.

The RACS will provide training materials in use in its Basic Training course in Australia, which are available on CD-ROM. Materials developed by the AusAID-funded and RACS-managed Fiji School of Medicine Postgraduate Training Project would also be appropriate for training of East Timorese doctors wishing to become surgeons. RACS will work with the Fiji School of Medicine to make these materials available to the project.

Activities

- Prepare a training needs analysis and skills audit for East Timorese doctors.
- Develop a needs-based apprenticeship-type program of training for selected East Timorese doctors with the aptitude and potential to train as surgeons.
- Deliver the needs-based apprenticeship-type training program over four years.
- Fund and coordinate attendance by East Timorese doctors at short courses and/or short-term placement overseas.
- Evaluate the results of the training provided through the training program and overseas short courses/placements.

Output 4.2 East Timorese nurse anaesthetists and other nurses trained to provide improved support for visiting teams including post-operative care and infection control

The Nurse Educator will work with nurses in the wards, operating theatres and outpatients. She or he will provide training and education in a broad range of sterility issues in nursing care. Of particular concern is wound care, which varies from the most complicated in burns and infected surgical wound care to the more routine, clean surgical wounds. The LTA Anaesthetist will work closely with the nurse educator in the development and implementation of training activities for the nurse anaesthetists.

The Nurse Educator will be in East Timor for three months in Year 1, two months in Year 2 and one month in Year 3. This graduated input will enable identification of training needs and of strategies to fully engage all nurses in training, and development and delivery of training in Year 1. Year 2 will see a progressive evaluation, consolidation and more advanced training. The Year 3 input will focus on evaluation and ensuring long-term changes are in place.

Activities

- Prepare a training needs analysis and skills audit for East Timorese nurses and nurse anaesthetists
- Develop a competency based program of training for East Timorese nurses and nurse anaesthetists covering relevant skills and knowledge, including post-operative care and infection control.
- Train East Timorese nurse anaesthetists and other nurses.
- Evaluate the results of the training of nurses and nurse anaesthetists.

Output 4.3 Administrative staff trained to maintain systems for case finding, referral and medical records

The LTA Surgeon will work with MOH medical and administrative staff to develop and establish appropriate case finding, referral and record keeping systems that are consistent with MOH's long-term needs. In order to ensure that outcomes data on consultations and operations are collected and analysed effectively for the benefit of MOH and this project, long-term personnel and visiting teams will be encouraged to collect and store data electronically using a format developed by RACS and where possible reflecting work being done within MOH on a national health information system. Data will be analysed regularly in Australia and reports provided to PCC meetings. This innovation has the potential to influence data quality and assist health planning in East Timor significantly. The project will not develop a parallel and entirely separate system for information collection and storage from that being developed by MOH.

Quality assessment requires review of information from patient information data. RACS will provide an audit of mortality and complications during the hospital stay. Long-term follow-up will be available on a few patients when review of their surgery is planned for subsequent visits.

Activities

- Develop a clinical information system to collect data on general surgical and specialist treatments, including an audit of mortality and complications during the hospital stay.
- Prepare a training needs analysis and skills audit for administrative staff
- Develop and document a competency based training program for administrative staff
- Train administrative staff to maintain systems for case finding, referral and medical records.
- Evaluate the results of the training of administrators.

Component 5: To Provide Effective and Efficient Project Management

Component Objective: To manage the project efficiently and effectively within the budget and time frame agreed.

Output 5.1 Effective and efficient management of the project within budget and on agreed time frame.

The Contractor is responsible for the effective implementation of the Project and will establish and maintain effective Project management systems for financial and contractual management, personnel and procurement. Financial management systems and planning activities will need to conform not only to AusAID requirements but also those of the MoH.

The Project will be managed on a day-to-day basis by the Australian Team Leader (this is a combined role with that of the General Surgeon or Anaesthetist specified in Component 1) and the Head of Specialised Services. The ATL will rely on the effective management support from the Contractor's management team in Australia.

The Contractor will provide specialty coordinators who will be responsible for monitoring the activities of teams in their specialty, providing feed-back on teams' reports to the teams themselves, making recommendations and generally guiding the Contractor's activities.

The Contractor will ensure that project reporting is done in a timely manner in accordance with AusAID requirements (refer Schedule 1, Section 5). A standard reporting format for specialist teams will be developed based on that used for the RACS Pacific Islands Project (PIP). This will include performance indicators against which the teams will assess their activities and which will subsequently be analysed in regular reporting to AusAID.

Project Coordinating Committee (PCC) meetings will be held in Dili twice a year. This will allow representatives of MoH, AusAID and RACS to monitor and discuss the programme of specialty teams and provide an opportunity for collaborative planning of visits for the next six months based on changing needs.

Activities

- Establishment and maintenance of a Project office. This should be located in the HND. It will be the responsibility of MoH to provide suitable office space with lighting and power. The RACS will provide furniture and office equipment together with Project-related consumables and other operating costs;
- Procurement of all planned items according to agreed guidelines;
- Establishment and maintenance of appropriate accounts and financial reporting systems;
- Provide secretariat services for PCC and contribute to meetings;

Output 5.2 Experienced personnel mobilised and operating effectively

The Contractor will provide both long and short-term personnel, including general surgeons, anaesthetists, a nurse educator, a biomedical engineer and other medical and surgical specialists. Either the general surgeon or the anaesthetist will be appointed as ATL. Position descriptions will be reviewed throughout the project. Pre-departure briefings will be necessary both for the short-term personnel, long-term personnel and for any family members accompanying the long-term personnel.

Personnel will include a local coordinator. The local coordinator will be responsible for liaising with MoH in the various districts to find appropriate cases for the teams and to ensure that they are brought to Dili for treatment. The coordinator will also be trained to work with MoH administrative staff to maintain records of the consultations and operations performed by the teams, including names, ages, gender and home district of patients as well as relevant medical details.

Activities

- Recruit and train a local coordinator
- Recruitment and mobilisation of LTA Surgeons and LTA Anaesthetists ensuring that there are no gaps in the services they provide
- Recruitment, coordination and mobilisation of visiting specialist teams

- Preparation and implementation of a pre-implementation briefing package for all long-term Project personnel, including sessions on participatory Project implementation, team work skills and basic skills and techniques for effective adult education and training.
- Preparation and implementation of an appropriate pre-departure briefing package for all visiting specialist.

3.3 Responsibilities for Outputs

Table 1 below outlines the major responsibilities for outputs. Based on the experience of the interim project it is recognised that the capacity of the MOH to provide some of the outputs listed below is limited. However the RACS experience has been that important improvements have already been achieved in some areas, such as equipment and the capability of support staff,. The expectation is that this capability will grow as the project develops.

Responsibility for Project Outputs				
Output	**Contractor (RACS)**	**Partner Government Agency (MOH)**	**AusAID**	**Communities and NGOs**
Output 1.1 Full time general surgical services provided.	Provision of service for three years.	Provision of support staff, facilities and infrastructure, and ancillary supplies. Assistance with patient identification and travel, admission, follow-up treatment and discharge. Provision of secure and suitable accommodation for the LTA Surgeon	Review and monitoring of relevant reports.	Assistance with patient identification as needed. Monitoring of patient condition post-discharge as needed. Assistance with relevant community based prevention if resources available.
Output 1.2 Full-time anaesthetics services provided	Provision of service for three years.	Provision of support staff, facilities and infrastructure, and ancillary supplies. Provision of secure and suitable accommodation for the LTA Anaesthetist .	Review and monitoring of relevant reports.	
Output 2.1 Plastic and reconstructive surgery provided.	Provision of visiting specialist services	Provision of support staff, facilities and infrastructure, and limited ancillary supplies. Assistance with patient identification and travel, admission, follow-up treatment and discharge. Provision of secure and suitable accommodation for the visiting specialist teams.	Review and monitoring of relevant reports.	Assistance with patient identification as needed. Monitoring of patient condition post-discharge as needed. Assistance with relevant community based prevention if resources available.
Output 2.2 Eye Care Services provided.	Provision of visiting specialists services	Provision of support staff, facilities and infrastructure, and limited ancillary supplies.	Review and monitoring of relevant reports.	Assistance with patient identification as needed. Monitoring of

Responsibility for Project Outputs				
Output	**Contractor (RACS)**	**Partner Government Agency (MOH)**	**AusAID**	**Communities and NGOs**
		Assistance with patient identification and travel, admission, follow-up treatment and discharge. Provision of secure and suitable accommodation for the visiting specialist teams.		patient condition post-discharge as needed. Assistance with relevant community based prevention if resources available.
Output 2.3 Ear, nose and throat surgery provided.	Provision of visiting specialist services	Provision of support staff, facilities and infrastructure, and limited ancillary supplies. Assistance with patient identification and travel, admission, follow-up treatment and discharge. Provision of secure and suitable accommodation for the visiting specialist teams.	Review and monitoring of relevant reports.	Assistance with patient identification as needed. Monitoring of patient condition post-discharge as needed. Assistance with relevant community based prevention if resources available.
Output 2.4 Orthopaedic surgery provided.	Provision of visiting specialists services	Provision of support staff, facilities and infrastructure, and limited ancillary supplies. Assistance with patient identification and travel, Admission, follow-up treatment and discharge. Provision of secure and suitable accommodation for the visiting specialist teams.	Review and monitoring of relevant reports.	Assistance with patient identification as needed. Monitoring of patient condition post-discharge as needed. Assistance with relevant community based prevention if resources available.
Output 2.5 Paediatric surgery provided.	Provision of visiting specialists services	Provision of support staff, facilities and infrastructure, and	Review and monitoring of relevant reports.	Assistance with patient identification as needed.

Responsibility for Project Outputs				
Output	**Contractor (RACS)**	**Partner Government Agency (MOH)**	**AusAID**	**Communities and NGOs**
		limited ancillary supplies. Assistance with patient identification and travel, admission, follow-up treatment and discharge. Provision of secure and suitable accommodation for the visiting specialist teams.		Monitoring of patient condition post-discharge as needed. Assistance with relevant community based prevention if resources available.
Output 2.6 Urology surgery provided.	Provision of visiting specialists services	Provision of support staff, facilities and infrastructure, and limited ancillary supplies. Assistance with patient identification and travel, admission, follow-up treatment and discharge. Provision of secure and suitable accommodation for the visiting specialist teams.	Review and monitoring of relevant reports.	Assistance with patient identification as needed. Monitoring of patient condition post-discharge as needed. Assistance with relevant community based prevention if resources available.
Output 2.7 Specialist medical services provided.	Provision of visiting specialist services	Provision of support staff, facilities and infrastructure, and limited ancillary supplies. Assistance with patient identification and travel, admission, follow-up treatment and discharge. Assistance with identification of appropriate mix of specialist medical support. Provision of secure and suitable	Review and monitoring of relevant reports.	Assistance with patient identification as needed. Monitoring of patient condition post-discharge as needed. Assistance with relevant community based prevention if resources available.

Responsibility for Project Outputs				
Output	**Contractor (RACS)**	**Partner Government Agency (MOH)**	**AusAID**	**Communities and NGOs**
		accommodation for the visiting specialist teams.		
Output 2.8 Biomedical equipment functioning effectively to support surgical and clinical services.	Assessment visit by biomedical engineer and subsequent planned programme of biomedical technician visits.	Supply of equipment list and information on donor equipment supply. Identification and appointment of biomedical technician to train. Budgeting for the maintenance of medical equipment and for the supply of spare parts, tools and test equipment.	Review and monitoring of relevant reports.	
Output 2.9 Program of specialist visits to regional centres provided	Programme of visits to regional centres developed in consultation with MOH.	Information on need for and appropriateness of specialist medical visits to regional hospitals. Screening of patients.	Review and monitoring of relevant reports.	Information on needs and support for identifying patients prior to screening.
Output 3.1 Additional approved priority specialist service needs identified and implemented.	Provision of visiting services as identified.	Provision of support staff, facilities and infrastructure, and limited ancillary supplies. Assistance with patient identification and travel, admission, follow-up treatment and discharge. Assistance with identification of appropriate mix of specialist support. Provision of secure and suitable accommodation for the visiting specialist teams.	Review and monitoring of relevant reports.	Assistance with patient identification as needed. Monitoring of patient condition post-discharge as needed. Assistance with relevant community based prevention if resources available.
Output 4.1	Input from LTA	Identification of	Review and	

Responsibility for Project Outputs				
Output	**Contractor (RACS)**	**Partner Government Agency (MOH)**	**AusAID**	**Communities and NGOs**
East Timorese medical doctors trained to support delivery of surgical services and treat medical patients.	Surgeon (10%) and visiting surgeons. Development and delivery of training plan.	doctor(s) willing to train as surgeons. Appropriate time and other support made available.	monitoring of relevant reports.	
Output 4.2 East Timorese nurse anaesthetists and other nurses trained to provide improved support for visiting teams including post-operative care and infection control	Inputs from LTA Anaesthetist (10%) and Nurse Educator (50%). Development and delivery of training plan.	Identification of nurses willing to train. Appropriate time and other support such as training venue made available.	Review and monitoring of relevant reports.	
Output 4.3 Administrative staff trained to maintain systems for case finding, referral and medical records.	System set up and design and assistance with initial training and maintenance.	Ongoing maintenance of system after training and initial support.	Review and monitoring of relevant reports. Facilitation of possible ongoing training.	

Responsibility for Project Outputs				
Output	**Contractor (RACS)**	**Partner Government Agency (MOH)**	**AusAID**	**Communities and NGOs**
Output 5.1 Effective and efficient management of the project within the budget and time frame agreed	In-country and Australia based planning, management, monitoring and action to ensure an effective and efficient project.	Administrative and management support for project from MOH and its agents (Cordaid) in operation of Dili Hospital. Attendance and participation in PCC meetings and actions on meeting outcomes.	Review and monitoring of relevant project reports. Participation in relevant PCC meetings. Recommend-ations from time to time to the project as needed. Monitoring and ongoing support from Post. Release of project funds as required. Mid- term and other reviews as required.	
Output 5.2 Experienced personnel mobilised and operating effectively	Recruitment and briefing of experienced personnel. Appropriate training and briefing for locally engaged personnel.	Assistance in identifying a local coordinator and facilitation and ongoing support of his/her appointment. Rapid approval of personnel nominated by RACS	Rapid approval of personnel nominated by RACS	

3.4 Resources and costs

Personnel

Personnel will comprise the major input to this project. A total of one hundred and fifteen (115) person-months inputs will be provided under the project. There are seventy-two (72) person-months of long-term personnel (36 months for each of the LTA Surgeon and LTA Anaesthetist), and forty-three (43) person-months of short-term inputs by the specialist teams, the nurse educator and biomedical engineer. The visiting specialist surgeons' time and skills will be donated.

The two long-term positions will be shared positions. Either the LTA Surgeon or the LTA Anaesthetist will hold the position of Australian Team Leader (ATL). RACS appreciates the MOH's preference to have the LTA Surgeons and LTA Anaesthetists stay for at least six months. While RACS fully appreciates the merit in recruiting the LTA Surgeon and the LTA Anaesthetist on long-term assignments, the reality is there is a real difficulty in finding first class, fully trained surgeons and anaesthetists who are able to be away from their practice in Australia on a long-term basis. It is envisioned that these 2 positions will be filled by a series of appointments. RACS will endeavour to maximise the length of deployment. It should be noted that during the interim project, it was difficult to identify the anaesthetist able to take on an assignment longer than a month.

Surgical teams will comprise one or two surgeons, an anaesthetist, and sometimes a nurse or paramedic. The inclusion of 2 surgeons in some teams is necessary to ensure that a range of services can be provided by the team. Medical specialists will visit alone and work with local doctors, assisting them with diagnosis and recommending appropriate treatment.

The LTA Surgeon and LTA Anaesthetist working closely with local doctors and nurses will carry out on-the-job and more formal training. Visiting teams will also train local staff in specific operating and nursing techniques and in-patient after care.

An important member of the in-country team will be the Local Coordinator. This is an important position, which will assist the LTA Surgeon and the RACS Project Manager based in Melbourne to ensure that all aspects of the project are administered effectively in East Timor. This person will be recruited in East Timor and will be employed for the duration of the project. The Coordinator will report on a day-to-day basis to the resident LTA Surgeon and will be located at the HND. The person may be expected to act as an interpreter on day-to-day matters but is unlikely to have the time or knowledge of medical terminology to be able to provide interpreting services during consultations or operations. Provision is made for medical interpreting services to be arranged on a needs basis principally to support visiting teams in such matters as diagnosis and consent to treatment. The Local Coordinator will also provide regular reports and data to the RACS Project Manager and will provide other information on request.

RACS will appoint an experienced project manager to oversee project matters from Melbourne, to arrange and attend PCC meetings and to prepare reports for AusAID.

Procurement

Procurement expenditure will fall into 2 categories - disposable medical supplies and essential medical equipment.

- Disposable medical supplies. Each visiting team will bring with them consumable supplies necessary for service delivery. Teams will aim to be self-sufficient in supplies and consumables so as not to strain the limited resources of the recipient hospital. A budget for disposable supplies for each specialty is given in Table 3.2. It covers the cost of items such as needles, syringes, antibiotics, sutures, prep swabs etc. The cost estimates are based on experience on the Pacific Island Project. As indicated earlier, as the project is implemented, there may be a need to adjust the number of visits in each specialty. Accordingly, the schedule of purchasing disposable materials must also remain flexible. The cost of transporting disposables is factored into the cost of each team visit. It is possible that surgery between visits will be affected by a shortage of disposable supplies. Accordingly a small provision is made for purchase of a small amount of consumable materials for this purpose (E1.4, Annex 9).

- Essential medical equipment. Each specialty must purchase a set of basic equipment, which will be stored in HND and maintained by the local coordinator under the supervision of the LTA Surgeon. A total amount of $140,500 has been budgeted for medical equipment purchase as set out in Annex 8 and a list of required items will be developed by the specialty coordinators in consultation with the LTA Surgeon during the first quarter of the project.

Training

A major aspect of the role of the long-term TAs general surgery and anaesthetics is the training of local doctors as surgeons, nurses as nurse anaesthetists and administrative staff in medical records keeping. All specialist personnel engaged under this project would be expected to carry out training during their visit. For each specialty a program of skills transfer will be developed and will be conducted during successive visits throughout the project. However, the infrequency of visits in some specialties will mean that only skills transfer training will occur in these. A feature of training programs will be a series of notes on aftercare treatment, which will be left by visiting teams. The visiting medical teams and their local counterparts will provide the key inputs to the project. The ability of the teams to demonstrate clinical procedures and transfer some skills is of critical importance in achieving the goal of the project.

Costs

The cost schedule, including a summary by component, is given at Annex 9. The total cost for each component is given in Table 1 below.

Table 1 Project Cost Summary

Code	Component	Donor Costs Amount in A$
1	Strengthening delivery of surgical & anaesthetics services	$ 875,430
2	Delivery of tertiary clinical services by visiting teams	$1,202,902
3	Priority needs fund	$ 60,000
4	Capacity building & development	$ 316,000
5	Project Management	$ 528,330
	Total	$2,982,662

Financing Arrangements

Australia - The Australian Aid Program will fund the costs identified in Table 1 according to the Scope of Services to be negotiated with RACS. Regular acquittals will be provided to AusAID in a specified format. Invoices and receipts will be retained by RACS and be available for examination by AusAID auditors.

East Timor - The MOH is expected to: (1) provide a local salary and appropriate and secure accommodation for the LTA Surgeon and LTA Anaesthetist and for the visiting specialists teams; (2) to maintain salary payments to health workers; and (3) to provide funds in their budget for the operation of the hospitals and for transport of patients from outlying areas to Dili. Funding for the above is essential to the delivery of the project and also to long-term sustainability of the health system.

RACS is aware that with the progressive arrival of new personnel at HND there is increasing pressure on accommodation at HND. However, it should be noted that due to the nature of the task and the working hours expected from the medical personnel (they can be on call at odd hours), it is important that suitable accommodation is provided within the HND compound.

Recurrent Cost Implications

Given the many pressing health problems facing the GOET and the severe limitations on its financial and human resources, it is likely to be many years before East Timor will be able to support the provision of surgical and anaesthetic services of the kind delivered by this project.

3.5 Suggested Timing

It is envisaged that the project will commence in the first semester 2002. Components One, Two and Three will operate over a period of three years (36

months); while Components Four and Five have a period of four years (48 months). Component One, the provision of general surgery and anaesthetic services, will start on or about the project commencement date. Component Two will commence soon after the project commencement date, with three specialist teams arriving within the first three months. A number of specialist teams will visit and work in East Timor over the thirty-six (36) months of the project. Care will be taken to spread these visits in such a way that the impact upon normal hospital operations is minimised as much as possible. Component Three, the provision and utilisation of a Priority Needs Fund, will occur during the third year, the nature and timing of this additional assistance to be determined during the course of the project. Component Four, the development of surgical and medical capacity, will be spread over a four-year period. Component Five, project management, will be spread over the four year Project period but with scaled down management in the fourth year involving monitoring from Australia and two visits to East Timor to assess training.

Indicative details of the timing of outputs are given in the Implementation Schedule at Annex 6.

4. Monitoring and Management Strategies

4.1 Performance indicators and benefits

Key Result Areas

The key result areas are discussed below.

Measurement of performance

Key Indicators for Measurement of Objectives and Outputs

The Component One objective (the services of a LTA Surgeon and a LTA Anaesthetist) can be measured by the presence of the LTA Surgeon and LTA Anaesthetist in East Timor for three years. Both would be expected to work full time, taking into account the need to be on call and to be available at the hospital after hours for medical emergencies. This normally means they will have some time off during the normal working week. Both will be expected to carry a normal caseload of patients and related procedural work. What is considered a normal load may be determined by the current experience for this work in East Timor, as conditions are very different to Australia and there will be constraints on efficiency and effectiveness. In addition to the workload, some monitoring of the quality of work will be needed, and this is usually gauged by feedback by local staff and other visiting medical staff. Quality assessment can only be done by medical colleagues, and there will be significant constraints on the extent to which this could occur given the under-resourced health system in East Timor. Both medical officers will be required to provide a regular feedback including the preparation of quarterly reports to RACS and subsequently to AusAID, outlining work undertaken, and recommendations for improvement of services.

In addition to the above, the RACS is developing a computerised reporting format which will allow for reporting of work quality including significant clinical treatment and discharge information. This type of reporting will be utilised by RACS in this project for reporting on objectives and outputs in Components One and Two.

At the output level, patient records will be a vital part of the reporting process in recording numbers of patients admitted for a specific procedure, the date of admission, the diagnosis of the patient, the procedure planned, the actual procedure undertaken, the success level of the procedure, the patient medical outcome, the planned follow up treatment and monitoring, date of discharge and actual treatment and monitoring to date. The HND records will be supplemented by the RACS system. It is expected that HND will benefit by an improved medical records administration.

The Component Two objective (the visiting specialist teams can also be assessed in the quarterly reports, supplemented by exit reports each team has to lodge and records of surgery at HND. The reports must indicate the number and type of procedures undertaken, their outcomes in terms of success of the procedure and condition of patient, relevant diagnostic information, treatment conducted as an inpatient and follow up treatments to the time of reporting. Local medical records and the RACS system will be used to measure outputs of this component.

The Component Three objective (priority needs) can be measured using local project records outlining the decisions made regarding priorities, and the nature of the actual work done. This will be the same reporting format as used for Components One and Two. Local medical records and the RACS system will be used to measure outputs of this component.

The Component Four objective (training of local medical and support staff) will be measured through a better skilled medical staff and effective assistance from support staff. Indication of activities undertaken under this component will be through records of attendance of local staff in training sessions, whether they are on-the-job or in specific workshops conducted by LTA Surgeon or LTA Anaesthetist. Australian specialists and support staff will work with East Timorese health workers. Training will be adapted to take account of the skill level of local staff. Much of the skills transfer will occur at the nursing and paramedical level.

Teaching/learning plans will be developed for all teaching/learning situations, outlining the objectives to be achieved and the teaching/learning methods used to achieve them, the assessment method used and the results of that assessment for each individual involved. This information can be used to measure the achievement of the component objective and Output 4.1. Output 4.2 can be measured by ascertaining to what degree the planned case finding, referral and record keeping system has been established and is maintained by the local coordinator and MOH staff. Care will need to be taken to ensure that training takes place for all the visiting sub-specialities and applied to local surgeons, physicians, medical officers and/or nursing staff as appropriate. Specific attention will need to be given to the training of nurses as nurse anaesthetists through inputs from the nurse educator as this is a critical aspect of medical self-sufficiency for East Timor.

The Component Five objective (effective and efficient project management) will be measured utilising the normal range of project reports required by AusAID for project management reporting. These include quarterly and six-monthly reports, annual work plans and budgets and project completion reports. Output 5.1 relates to project effectiveness and efficiency. Project effectiveness can be measured by evaluating in total the degree to which all the project objectives have been met. Project efficiency relates to the consideration of value for money of outputs and their relevant input costs, adherence to budget and choice of input options. Output 5.2 can be measured by checking on the success of the appointment of a local coordinator and support staff in arranging for visiting specialist teams, patient travel and admission,

equipment logistics, liaison with the hospital on the use of hospital staff and facilities on a regular basis, and any relevant patient discharge and follow-up matters.

Reporting Requirements for the Project

The reporting requirements to be met by the AMC comprise the following:

- Inception Report;
- Annual Plans, updated every six months;
- Quarterly Reports (every second Quarterly report being the Six Monthly Report);
- Six-Monthly Reports to the PCC, to include the updated Annual Plan; and
- Project Completion Report.

Unless otherwise specified, the achievement of all Project outputs and milestones should be included in the standard quarterly reports to AusAID/MoH. Reports required as means of verification should be incorporated into the normal reporting regime. Additional reporting will not be required unless specifically requested. All reports will be addressed to the Activity Manager. The reports may be assessed and subject to comment by AusAID or at AusAID's request, a Technical Advisory Group (TAG) or similar.

The RACS, on initial mobilisation, shall prepare a brief Inception Report detailing any Project Design changes recommended, with a justification for the change proposed, to both the Government of Australia and MoH within 6 weeks of mobilisation. Any design changes recommended in this report must be approved by both the Australian Government and MoH before being implemented, but the implementation of the unaffected elements of the Project should not be delayed while the Inception Report is completed and approved.

Annual Plans will review the previous six months' progress and chart implementation activities for the forthcoming year. These reports will identify any implementation issues and non-compliances and their means of resolution. The first Annual Plan should be prepared and submitted with the Inception Report, within twelve (12) weeks of mobilisation.

Quarterly reports, prepared in a format agreed with AusAID, will be submitted electronically to AusAID Dili and to the East Timor desk at AusAID (Canberra). A hard copy should also be submitted to AusAID Dili. The reports will contain a summary of outcomes achieved over each quarter and other material that is useful for Project management purposes. Additional information that is necessary for AusAID to monitor progress should be referred to and be made available to AusAID on request.

Every six months, instead of the quarterly report, the RACS will submit a Six-Monthly Report in a format agreed with the AusAID Desk. These reports will form the basis of reporting to the PCC and may propose minor changes to the Project design to reflect changed circumstances, but any such proposals must be fully justified. The reports will also cover progress achieved in attaining outputs, issues encountered and any corrective action taken or proposed. They will also include the updated Annual Plan.

The Six-Monthly Reports will be submitted 3 weeks prior to the date of the PCC to allow time for review and commentary by MoH, AusAID and (if required) the TAG with or without a field visit. The MoH, AusAID and TAG commentary will also be tabled for the PCC.

The Completion Report, in accordance with AusAID's guidelines for form and content, will be submitted by the AMC no less than 12 weeks prior to the end of year 4.

Annual reports, the six-monthly reports to the PCC and the executive summaries of all other reports outlined in this section should be submitted in English and Bahasa Indonesia. The remainder should be submitted in English. Any requirement for further translation into Bahasa Indonesia or another language will be discussed and agreed between the AMC and AusAID.

It is recommended to undertake a review at the beginning of year three of the Project to assess the need for on-going support beyond the first three years. The review will help clarify and validate the relative specialist needs in East Timor to a greater extent than is currently the case. Particular attention will need to be given to the optimum mix of visiting specialities, the ongoing need for anaesthetics training, the extent to which skills transfer has occurred, and the emergence of other urgent medical needs which this project may address. This mid-term review would be contracted separately by AusAID.

4.2 Risks and risk management

Key Risks

Inadequacy of Health Budget and lack of Supporting Infrastructure

This is highly probable risk and will require constant monitoring. RACS should be in regular consultation with MOH and Cordaid over recurrent and capital budgetary constraints, which may impede aspects of the project. The visiting specialist teams are significantly self-sufficient in resource requirements but some local expenditure will be needed to pay for support staff, light and power, water, other infrastructure costs and transport of patients. The activities of the LTA Surgeon and LTA Anaesthetist would be adversely affected should there be a budgetary crisis. Regular equipment breakdown is almost certain and RACS will need to ensure that much of their project activities can still occur under such conditions. For this reason provision for an initial assessment visit by a biomedical engineer and subsequent twice-yearly biomedical technician support has been included in this project design.

Security Condition

Given recent events in East Timor, RACS will need to liaise constantly with AusAID and MOH over local security. All project staff will be well briefed on what are appropriate activities and conduct whilst in East Timor.

Lack of Adequate After Care Facilities

There is almost no health infrastructure in East Timor, which caters for the needs of discharged patients, apart from the limited community health services and the activities of other agencies and NGOs. Over time, such services may be strengthened, but in the meantime it may be necessary for patients to have longer lengths of stay in hospital to ensure that they are well-recovered post-surgery. In addition, post procedure treatment instructions will need to be entered into the patient's medical record and communicated to local doctors and/or nursing staff either on a hospital outpatients basis or at a community health centre.

Disruption of Normal Hospital Routine by Visiting Teams

There will be about thirteen (13) teams visiting the HND annually, for one week each visit. These teams will be largely self-contained with respect to doctors, nurses and supplies. There will be demands on the hospital with respect to X-ray, pathology and the use of the operating theatre and a consulting room, with the need to utilise local nursing staff for patient admission and discharge as well as the need for short stay inpatient care if required. It is expected the hospital will need to adjust its normal workload to accommodate demand from the activities of the visiting teams, and such an adjustment will have to be carefully negotiated with the MOH and Cordaid. It should be noted however, that such procedures of the visiting teams and the LTA Surgeon are very high priorities, and have prior approval by the PCC and the MOH. Therefore, changes that may occur to the normal patient mix will generally be acceptable. .

Possible Overlap or Duplication of Services Provided by Other Agencies

There are no other general or sub-specialist surgical services available to the general public of East Timor through other agencies. The surgical, medical and anaesthetic services available at the hospital are not sufficient for the current workload. The services offered in internal medicine by non-specialists do not address the need for specialist medical services. There are some specialist services provided for the military and aid workers but these are generally not available to the public or have restricted access. Hence the services to be provided under this project are designed to fill a need not currently addressed elsewhere.

Failure to Gain Cooperation of Local Staff

It is important that the services offered under this project are offered jointly as a team by staff working at the hospital and the project personnel. LTAs and visiting teams will be well briefed and selected for their ability to work well with people from other cultures so as to be responsive to local needs and sensitivities.

Failure to Identify Appropriately Qualified and Experienced Specialist Teams

The RACS will tap into its wide network of volunteers to find appropriate team members who will then be checked carefully by the Project Director and specialty coordinators for their expertise, suitability and cultural sensitivity. The RACS has a large network of specialists to call on, from which it can select appropriate team members. RACS has over five thousand (5,000) Fellows practising in all surgical specialities throughout Australasia and has close links with other Colleges and specialist groups from which it draws for its Pacific projects. RACS has a strong ethos of voluntary service. It has a large group of Fellows with considerable experience in surgical service in the Asia Pacific region. It has established a register of health professionals willing to provide services on a voluntary basis and has the support and involvement of many other medical colleges and societies. Volunteers are sourced from a number of different institutions from around Australia and specialty coordinators undertake an informal system of checking prospective project participants.

4.3 Management and coordination strategies

RACS is the Contractor responsible for the implementation of the project in accordance with the contract with AusAID. It will appoint a Project Management Committee (PMC) chaired by the President of the College or his nominee to provide overall guidance in implementing, monitoring and evaluating the project. The Committee will be responsible for liaison with other bodies supplying services to the project, liaison with counterparts in East Timor, selection and approval of teams to provide clinical skills (undertaken in consultation with the nominated specialist coordinators) and policy advice and direction to the Project Management Secretariat (PMS). The Committee will meet at least three times per year. The PMS comprises senior College administrative staff who are responsible for all aspects of project administration, including the fielding of medical teams and reporting to AusAID. The specialty coordinators and the Project Management Secretariat will be responsible for liaison with the LTA Surgeon and local coordinator in Dili to coordinate arrangements for the visiting teams, including obtaining temporary medical registration where required. As required, a member of the team will travel ahead to assess patients to be treated, to ensure that there will be adequate access to facilities and minimum disruption to other work in the hospital during the teams' visit. RACS will be responsible for liaison with AusAID.

In addition to using the voluntary services of members of the RACS some of whom will be recruited through NGOs such as Interplast and Asea Rehab, the project will depend on the assistance of international NGOs working in the health sector in East Timor. The Dutch NGO Cordaid will collaborate in HND while others working in the rural districts will be asked to assist with case finding and transporting of patients to Dili as appropriate.

As stated earlier, PCC meetings will be held in Dili twice per year with representation from RACS, MOH and AusAID.

Planning and Budgeting Systems

Project planning will be based on the implementation and resource and cost schedules. More detailed monthly and annual plans will be developed by the project annually. Adjustments to these plans will need to be validated and approved by the PMC and the PCC. Budgets will be based upon these schedules and approved changes. Regular acquittals will be provided to AusAID in a specified format. Invoices and receipts will be retained and be available for examination by AusAID auditors.

The MOH is expected to provide a local salary and secure and suitable accommodation for the LTA Surgeon and LTA Anaesthetist, for the visiting specilsist teams, to maintain salary payments to health workers and to provide funds in their budget for the operation of the hospitals and for transport of patients from outlying areas to Dili. Funding for the above is essential to the delivery of the project and also to long-term sustainability of the health system. It will be important for the MOH to set aside this funding in its recurrent budget to ensure funds are available throughout the year in accordance with project needs. The certainty of funding availability from the MOH budget will be an ongoing matter for attention by the PMC and the PCC.

Skills Required From Australia

The project requires a number of specialist skills from Australia. These include:

- a LTA Surgeon – for three years full time
- a LTA Anaesthetist – for three years full time
- nurse educator – total of six months input intermittent over three years
- biomedical engineer/technician inputs – total of eight weeks inputs intermittent over three years
- visiting specialists (one or two) including :
    - ophthalmologist – six visits
    - ear, nose and throat surgeon – five visits
    - plastic surgeon – six visits
    - orthopaedic surgeon – five visits
    - paediatric surgeon – four visits
    - urologist – three visits
    - specialist physicians – six visits
- operating theatre nurses and other support staff – for each visit
- other specialist services to be determined – approximately three visits

Personnel will comprise the major inputs to this project. There will be a total of one hundred fifteen person-months of personnel inputs. There are seventy-two (72) person-months of long-term personnel (36 person-months each for LTA Surgeon and LTA Anaesthetist), and forty-three (43) person-months of short-term inputs by the visiting specialist teams, the nurse educator and the biomedical engineer. The time of the visiting specialist surgeons is donated.

Surgical teams will comprise one to two surgeons, an anaesthetist, and sometimes a nurse, paramedic or other health professional. The inclusion of two surgeons in some teams is necessary to ensure that a range of services can be provided by the team. Medical specialists will visit alone and work with local doctors, assisting them with diagnosis and recommending appropriate treatment.

The timing and estimated costs of these visits is outlined in the Implementation and Resources schedules at Annexes 6 and 7.

Annex 1

Project preparation steps

Project origin

In April 1999, the RACS presented a proposal to AusAID to assist with the delivery of surgical services to East Timor. However, due to the political conditions in East Timor at that time, the proposed activity did not proceed.

Following the vote for independence for East Timor on 30 August 1999, civil unrest led to the displacement of up to 75% of the 850,000 residents of East Timor. Hundreds of people were killed and a large proportion of private and public buildings destroyed including the health facilities. In addition to the physical destruction, the emigration from East Timor of doctors and core health professionals caused the collapse of the health system. With the introduction of a peacekeeping force, by 25 October 1999 the United Nations established a United Nations Transitional Administration in East Timor (UNTAET) with responsibility for the administration of all legislative and executive authority. At the same time, WHO and many international non-government organisations (INGOs) active in the health area arrived to support the urgent humanitarian and health needs.

In March 2000, Australia participated in a World Bank led design and appraisal mission that agreed to a sector wide approach to rehabilitation and redevelopment of the health care system. In May 2000, a RACS team (Theile and Hargrave) visited Dili and assessed the hospital, the medical services available and the prevalent diseases not addressed by the health care services. The Department of Health Services (now the Ministry of Health, MOH) subsequently requested AusAID's assistance with the provision of specialist services. An AusAID team that was part of the second Joint Donor Supervision Mission of Health Sector Rehabilitation and Development in November 2000 recommended that RACS be asked to look further at the situation. In January 2001, RACS was asked to undertake a scoping study for the provision of specialist services. A RACS team visited East Timor from 6 to 13 February 2001, to work with the East Timorese MOH to identify and assess East Timor's need for support for specialist medical services from Australia. The RACS report, 'The Need for Specialist Medical Services in East Timor' dated March 2001, provided a more detailed background on the conditions then prevailing. RACS was subsequently asked to prepare an implementation and project design document. The Project Design Document (PDD) has been prepared taking account of the findings of the scoping study, subsequent discussions with AusAID and the MOH, and the experience gained from RACS involvement in the interim surgical support project since July 2001 to date. The design aims to address the most important needs in a cost-effective and sustainable manner.

Key aspects of method

The current project design is based on the model of an AusAID project managed by RACS that has been used successfully in Pacific Island countries over the past 7 years. The Pacific Islands Project for the Provision of a Range of Tertiary Health Services (PIP) recognises that although the populations of the PICs are generally too low to ensure a regular throughput of clinical cases to justify full time specialists in some of the specialised tertiary services, there is nonetheless an economic and humanitarian need to supply some of these. This can be done by sending in small

teams comprising specialists and supporting personnel, on a regular but short-term basis. This has proven to be a very cost effective approach for many PICS, which could otherwise not afford to send patients in need overseas for treatment or have not and will not in the immediate future have the capacity to provide such specialised services themselves. A similar approach is proposed for East Timor.

Annex 2

Analysis

Development Context

Location and geography

East Timor is on the island of Timor, lying between parallels 8 degrees 17' and 10 degrees 22' of south latitude and meridians 123 degrees 25' and 127 degrees 19' of latitude east from Greenwich. It is surrounded by the Indian Ocean (Timor Sea) in the south and the Pacific Ocean (Banda Sea) in the north. It is about 500km north west of the Australian mainland and 1000 km east of Java. The total area of East Timor is almost 19000 km, and comprises the eastern half of the island, as well as the enclave of Ocussi-Ambeno, and the islands of Ataúro (or Pulo-Cambing) and Jaco. East Timor shares a land border with West Timor, which is part of Indonesia.

Socio-economic and cultural context

The population is about 800,000, mainly Timorese, with approximately 20% of Indonesian origin and about 2% Chinese. The majority of East Timorese follow Catholicism, whilst there is a small number of Muslims. There are about twelve ethnic groups, each with their own language, although one language, Tetum is now spoken by a large number of the population. Tetum is a hybrid language with some Portuguese influence. The country was occupied by the Portuguese since the 16th century, and was annexed by Indonesia in 1975, until achieving the first stage of independence with a United Nations transitional administration formed in 1999. East Timor is a low-income developing country reliant on agriculture as its main economic activity, and with an underdeveloped and war damaged infrastructure. It is receiving aid from a number of international donors.

The people involved

The Division of Health Services (now the Ministry of Health, MOH) of the East Timor Transitional Authority (ETPA) is the major organisation involved and is faced with a big challenge of restoring basic health services to the population.

The target groups for the Project are the people requiring specialist care, who will be treated by the LTA Surgeon and LTA Anaesthetist and the visiting medical teams, as well as the health workers who will be trained by the LTAs and come into contact with these teams. The MOH will be seeking to deliver in a cost effective manner, health and medical services not currently provided, and to train local staff in some of these procedures so that they can be maintained after the conclusion of the Project. The people will benefit by having access to medical services, which will enhance their quality of life. Women and children are likely to be major beneficiaries.

Patient data from HND suggests fairly equal numbers of males and females being treated. Three of the current six Timorese doctors posted in Dili are female. Australian teams will include both female and male members. There are slightly more male than female nursing staff in the HND. Records of consultations and operations will include details of the patient's age, gender and home district to allow monitoring of equity of access to treatment.

Institutional Context

The major institution involved will be the MOH, part of ETPA. Cordaid, an INGO, will also be closely involved, as it has the task of operating the HND on behalf of the MOH. The RACS will be involved directly in providing specialist services on behalf of AusAID, which has a post in East Timor and is involved in institutional development across a number of government sectors.

The MOH has inherited a number of hospitals and health facilities, established either during the Indonesian Administration or subsequently by INGOs. The new plan is for five health regions, with a principal hospital facility in each region. Facilities available in each regional hospital will be dependent on the available budget from the MOH, however the strategy is to ensure access for the entire population for emergency surgical and obstetric services and other essential hospital care within a defined travel time while at the same time phasing out excess hospital capacity where it exists.

Currently some support for delivering of tertiary services is provided by expatriate doctors through the international NGOs. The International Red Cross team managing the HND up to June 30 2001 has handed over responsibility to Cordaid, a coalition of Dutch Catholic organisations. Five specialists are expected to be employed by Cordaid, including an anaesthetist and a general surgeon. This project will supplement and complement the work of these specialists and will directly assist in the delivery of other tertiary health services.

Policy and programme context

After the elections in September 1999 and the calamity that followed, the health system as well as most other government services and infrastructure had collapsed. Emergency services were provided through a number of international agencies, donor governments and INGOs. A working group was formed composed of representatives from WHO, UNICEF, UNFPA, INGOs, and East Timorese health professionals. A review of health services was held in January 2000 and a draft document was produced outlining minimum standards of service provision needed in the country. An Interim Health Authority was formed in February 2000, comprising sixteen senior Timorese health professionals supported by seven international staff of the United Nations Transitional Administration in East Timor (UNTAET). It was named the Division of Health Services under the East Timor Transitional Authority (ETPA). The Division of Health Services is now called the Ministry of Health (MOH). In March 2000, the World Bank led a joint design and appraisal mission to East Timor to develop a sector wide framework for rehabilitation of East Timor's health system. Australia participated in this mission as both a contributor to the World Bank Trust Fund for East Timor, and as a bilateral donor. The sector framework, developed closely with the MOH, provided a program for restoration of basic preventative and curative services and the future development of the health system. The MOH is responsible for the delivery of this program. The MOH has embarked upon the contracting of selected INGOs for the provision of basic health services at District levels. District health plans have been developed and some infrastructure restored. Ongoing technical support for the district health development has been provided by WHO and others donors. The World Bank funded component of the Health Sector Rehabilitation and Development Program (HSRDP) has commenced a program of reconstruction of health facilities, including five hospitals at Dili (the main surgical hospital), Baucau, Ainaro, Oecussi and Maliana. Basic service provision has been supplemented by the specialist medical teams of the International Peace Keeping

Forces and visiting volunteer teams of specialists. While the Peace Keeping Forces are capable of extending access to their medical services to the local population, this cannot be relied upon as a regular source of support. Apart from emergency and basic service provision to replace what has been destroyed, there is the task of building the capacity of the MOH to manage current health services and to plan and develop future services. This need has been included in the HSRDP. The MOH has requested support from Australia to build such capacity and to provide specialist services as a component of basic services provision.

Donor assistance in the health sector is significant. The MOH has contracted a range of international NGOs to provide health services in the different districts, including Médecins Sans Frontières, HealthNet International, Médecins du Monde, Caritas, International Medical Corps, and Timor Aid. There have also been visiting specialist teams from Interplast Germany, Asea Rehab (Australia), the East Timor Eye Project (Australia) and the US Armed Forces. The Government of Portugal is running a second hospital in Dili, whilst the Baucau Hospital, where some specialist work can be undertaken, has been operated by MSF, with the intention of passing operational management over to the MOH.

Australia is strongly committed to East Timor's reconstruction and longer-term development, with Australian assistance in the four years from 2000-01 to 2003-04 estimated to total A$150 million, including A$40 million in the 2000-01 financial year. This assistance will be provided through a program of bilateral development activities, contributions to the UNTAET Trust Fund and the World Bank / ADB Trust Fund for East Timor (TFET) and through ongoing humanitarian assistance. In the health sector, TFET activities will cover sector-wide needs in restoring basic services and development of health policy and systems. In line with this sector-wide approach, Australia's proposed bilateral assistance will focus on technical assistance to head-start community health programs, small grants schemes for local NGOs and professional associations, training of doctors and health administrators, and specialised programs such as the provision of specialist medical and dental services and related training.

Problem Analysis

Very poor health status

The health status in East Timor was poor by world standards even before the events of September 1999. WHO estimates infant mortality rates of 70 – 95 per 1,000 live births, and maternal mortality at 890 per 100,000 live births. Malaria is highly endemic in all areas. TB is a major health problem with 2% of the population with active TB requiring drug treatment. Yaws and Japanese encephalitis are endemic in addition to malaria and dengue fever. Childhood diarrhoea is common while meningococcal meningitis is rare, perhaps because of the wet climate. Lymphatic filariasis (which causes elephantiasis) is also endemic, iodine deficiency causing goiter appears common in inland areas and hypothyroidism may be affecting mental development in children.

Significant Demands on the Health Budget and Donor Funding

There are many demands on the resources available to restore and build the East Timor health system. Priorities include –

- Restoring access to basic services in all districts

- Establishment of an Essential Drug list and guidelines for use
- The development of community health services with a primary health and preventative focus
- The development of basic accident and emergency, medical, obstetric and minor procedure services in hospitals
- The development of a referral system
- The development of specialist referral services in a limited number of hospitals (one or two)

Virtually no local specialist provision

The September 1999 crisis saw the destruction of many health facilities and the loss of many senior health personnel, especially doctors, many of whom have left the country. Currently, there are only about 20-30 local doctors available, mostly non-specialists and with very little involvement in anaesthetics. Accordingly, there is little capacity to meet the specialist needs of the core specialties, general surgery, paediatrics, obstetrics and gynaecology and internal medicine let alone the sub-specialties such as ophthalmology, ear nose and throat, plastic surgery, orthopaedics, urology, infectious diseases (part of internal medicine) and cardiology. Because anaesthetics in East Timor is a function performed by nurses, and there are only about two to four local nurses with adequate training and experience in anaesthetics, this specialist provision is also very inadequate. In summary, the specialist capacity is almost non-existent, except through the provision of foreign short-term medical staff. As an overall indicator, there is about one local doctor for every 32,000 people, a very low ratio compared to many developing countries. In Australia this ratio is about one doctor per 2,000 people in rural areas, increasing to one per 600 people in some urban areas. For specialist services in Australia, the recommended ratio is about one per 10,000 people and up to one per 100,000 people depending on the specialty. In East Timor in most cases, there is no local long-term specialist provision at all.

Long Lead Times

If local candidates can be identified, whether they are trained doctors, undergraduates or still at school, the lead times to train a specialist can be three years (such as a Masters degree for a medical graduate) or eight or more years for others.

Leakage to other Health Services

With specialist training, a doctor can work overseas, where the remuneration and conditions can be much better, so there is likely to be some loss of specialists once they are trained. This has happened in other developing countries, including the PICs.

The Optimum Use of Doctors

In the context of a developing country, especially with the very small number of doctors available, medically trained personnel are required to not only provide tertiary level care (if qualified and experienced) but are also needed to work in secondary level hospitals (care for medical patients, minor procedures, accident and emergency, more complex obstetrics etc) and to provide quality supervision of nursing staff in hospitals and in community health services. In addition, doctors are also in demand as senior administrators and managers of hospitals, district health

services, and as central office personnel (e.g. sometimes in charge of public health, as a medical epidemiologist, a senior health planner or as the Secretary/Director General of the Ministry or Department). This means that doctors need to be utilised for a number of important roles in the development of the East Timor health system, and therefore even out of the twenty to thirty doctors currently available and new graduates coming on stream, there will be very few available to become specialists. Of those who manage to complete their specialist training, they will normally only cover the four core specialties, and this will not be for a number of years. In addition, to provide quality control and appropriate on the job training, it may be useful for one of the East Timorese doctors to undertake at least a Diploma in Anaesthetics in a developed country.

The Resultant Problem – Low Provision of Specialist Services in East Timor for Years to Come

Therefore, unless specialist services are provided from overseas, there will be very little availability of the four core specialities plus anaesthetics over the next few years and virtually no availability of sub-specialist services. The implications of this are increased mortality and morbidity, which could otherwise be avoided. This is not a problem unique to East Timor. It is typical of small developing nations of a few hundred thousand people, where it may never be viable to provide any more than the core specialties, and where they are struggling to do that. These countries neither have the pool of doctors available for training, the number of cases to justify full time sub-specialists, the equipment and trained support staff required, nor the funds to train such doctors over a five to eight year (or possibly longer) period to justify attempting to offer such services themselves, when there are so many other demands on their health services.

Responses to the Problem

Strategy Selection

Given that the provision of a range of local specialists is very difficult or just not possible, even in the longer term, what is a country such as East Timor to do? It has four choices if patients are to be treated.

1. Patients are to be sent overseas for treatment. This is a prohibitive cost, and developing countries such as East Timor seldom have the funds to do this without external assistance. Given the average cost per patient (likely to be over $1,000 even if treated close by in Darwin or South East Asia) such funds can only be utilised for a small number of patients. There are other disadvantages. There is no spin-off in terms of training for local doctors and nursing staff. There is the discomfort and danger to the ill patient of overseas travel. There is also the difficulty of patient follow up post discharge.

2. Patients treated locally by visiting specialist teams. This is the option that is being proposed. This is a well-proven option that works in many PICs of a similar or smaller size to East Timor. As indicated in the Financial and Economic feasibility section, it is also very cost effective. The short term visiting specialists are donating their time and skills. For the proposed project over a three year period, the average cost per procedure may be around A$158 per patient. This very low cost is coupled with very high standards of practice by fully qualified specialists and support staff, who are able to pass on techniques to local doctors and nurses. Because the patient is treated locally, follow up care is more easily arranged with local staff with a better patient

outcome. Because the teams are basically self-sufficient in terms of staff and supplies, the disruption to normal hospital workload can be minimised, although it should be pointed out, this should be the normal workload of the major referral hospital in the country, if it was well resourced.

3. Patients treated by specialists staying for longer periods in-country. This option would rely upon specialists being in-country for one to two years and working with local staff as part of the medical staffing. For the core specialities, this option is feasible. It is possible to obtain overseas specialists in general surgery, obstetrics and gynaecology, paediatrics and internal medicine and supported by qualified anaesthetists. However, it is very dependent on whether such personnel can be obtained at the time needed, so there is considerable risk. For example, if a LTA Surgeon can be obtained for a one to two year contract, this approach can work well. However, if it is difficult to obtain one for any number of reasons (remuneration, stalling of a career, non enthusiasm of a spouse, children's education, lack of indemnity insurance, lack of supply in Australia or New Zealand, security and health risks etc) this option fails completely with considerable local disruption of services. In a way, this option is what is happening now, where a number of overseas agencies are offering core specialist services in a variety of modes, but not always in a coordinated manner. Without a deliberate programme of supply of specialists available to the public health system, there can be glaring holes in the supply of some core specialities. This is very difficult given the various funding, recruiting and contractual options of overseas agencies and NGOs supplying such specialists.

This option does have the advantage of facilitating ongoing training of local doctors and nurses, and this can be done with local non-specialists effectively with certain surgical procedures. Similarly, this is true of anaesthetics too, even though it will be more difficult in East Timor given that the practitioners will be nurses with a different level of clinical training. Because of these advantages and the fact that general surgeons and anaesthetists are relatively easier to obtain, the RACS has decided to pursue this option for surgical and anaesthetics provision in East Timor.

For the sub-specialties this option is virtually impossible to exercise. Firstly, it would be very difficult to obtain a urologist, an orthopaedic surgeon, an ophthalmologist or an ENT surgeon for a long period. This is because of their work and practice in their home country. Most have a busy practice and have appointments in large public and/or private hospitals. It would be difficult for them to leave such a situation for one to two years. Secondly, there may not be the constant flow of work over a one to two year period, which could justify staying full time in East Timor for that length of time.

4. A mixture of Option 2 for the more difficult to obtain sub-specialties and where the workload does not justify a full time in-country presence, and Option 3 for the LTA Surgeon and LTA Anaesthetist where skills transfer is much more feasible to local non-specialists, the workload justifies an in-country presence and where it is relatively possible to obtain such specialists from Australia and New Zealand. It should be emphasised however, that whilst it is easier to obtain a general surgeon and an anaesthetist than the sub-specialists for longer-term appointments, this is only relative. In overall recruitment terms, both are usually difficult to obtain, and realistically it may not be possible to obtain the same LTA Surgeon for three years and the same LTA Anaesthetist for one year. Current indications are that surgeons and anaesthetist are willing to take on three to six months in-country appointments. The option is to fill these two positions on a shared basis (serial appointment) with enough time overlap to have a complete hand-over. If their workloads are high, and are on call many nights per week or regularly on weekends, it may be difficult to hold them for the nominated periods.

Option 4 is the strategy chosen for the project, because:

- It provides a comprehensive range of specialist services
- It allows for considerable skills transfer and capacity building in the specialities where this is most possible and appropriate – general surgery and anaesthetics
- It has flexibility over the project period of the extent to which each sub-specialty needs to be supplied (the number of visits of each of these can change – depending upon demand)
- It is extremely cost effective in cost per procedure terms compared to flying patients overseas
- It is a coordinated managed approach to specialist provision
- It is realistic in terms of the ability to recruit certain types of specialists

Australian Potential to Contribute

RACS has over 5,000 Fellows practising in all surgical specialities throughout Australasia and has close links with other Colleges and specialist groups from which it can draw its Pacific projects. The RACS has a strong ethos of voluntary service and Fellows with considerable experience of surgical service in the Asia Pacific region. It has established a register of health professionals willing to provide services on a voluntary basis and has the support and involvement of many other medical colleges and societies. Volunteers are sourced from a number of different institutions from around Australia, and specialty coordinators undertake an informal system of checking prospective project participants. A conservative estimate of the value of the voluntary services contributed during phase II of PIP is $1.5 million.

Lessons learned

There have been a number of lessons learnt during implementation of the Pacific Island Project, on which this project is modelled, including the following:

1. There are practical difficulties in effectively combining training activities with the delivery of clinical services, when these are undertaken in difficult circumstances, with large case loads and very limited time frames. PIP is primarily a service delivery project and the training that it is able to deliver is severely hampered by the conditions under which visiting teams have to operate. The secondment of a full-time LTA Surgeon and a LTA Anaesthetist will assist by providing on-going training and in reinforcing learning.

2. Given the extremely tight time schedules under which visiting teams conduct their activities, specific time has to be allocated to formal wrap-up meetings after each visit to enable planning of future activities, discussion of lessons learnt, etc to take place. Without such time allocated, much valuable feedback and learning may be denied to stakeholders.

3. Visiting PIP teams have implemented a number of initiatives to improve the quality of pre-screening of patients by taking advantage of local opportunities. These have included: identification and support of local counterparts with special skills in particular clinical areas; specific training of nurses and other non-medical practitioners to perform this function; and organising special screening trips by local practitioners (and occasionally PIP specialists) to outer islands and other remote locations.

4. It has become increasingly apparent that continuing shortages of medical practitioners in the PICs will require an increasing role for nurses, nurse practitioners and other non-medical practitioners to take on some of the functions traditionally performed by doctors. PIP has assisted to date, and can assist even further in focusing its training and support activities on such personnel. A similar situation can be expected in East Timor where there is a scarcer pool of trained doctors but a bigger pool of nurses.

5. Communication networks that have been established by visiting team members with some of their counterparts in the PICs have demonstrated the considerable opportunities that such arrangements offer for professional support and mentoring. Contact via fax or e-mail can provide invaluable clinical support such as second opinions on diagnosis or treatment, reporting on X-rays or pathology, and regular exchange of technical updates.

6. There are many instances in the PIP of sustained support being provided by individuals after their return to Australia by assisting with diagnosis, providing equipment and/or training materials or arranging short-term training visits. The radiology link in Samoa is one such example where x-rays are emailed to Australia for assistance with diagnosis. With the proximity of East Timor to Darwin, it is expected that particularly strong links will be developed and maintained relatively cheaply with physicians.

7. A number of different volunteer groups visit the Pacific to provide clinical services. Some are well organised and visit regularly, others are more ad hoc. It is, therefore, often difficult to avoid duplication and there have been occasions when PIP visits have been cancelled because of recent visits by other teams. With the international interest in providing help to East Timor, it will be important for the project to keep close contact with MOH and the management of the HND in particular, to avoid overloading local resources or duplicating services recently provided.

Annex 3

Feasibility and Sustainability

Manageability of the project

Capacity of the Market to Respond

The Australian market of volunteer medical and health related organisations and individuals is extensive and has the capacity to respond to this project requirement for personnel. There are large numbers of surgeons and anaesthetists in each State and in New Zealand to draw upon, and because the visits are only short, it is possible also to draw upon the numbers of sub-specialists working throughout the two countries. As mentioned earlier, Australia is well placed geographically to implement this project, and it has provided assistance with hospital based services to the Pacific for many years.

The Timing of Inputs

Volunteer medical staff should be available in the times planned in the project, as long as they have plenty of notice to arrange the visits around their usual schedules within Australia. With a large number of specialists to call on, due to the size of the RACS and the shortness of the visits (one week) there should be little problem in accessing specialist medical staff. It may be difficult to access a LTA Surgeon for a full three years and this input may involve three or more surgeons over the period. Similarly, it may be difficult to access a LTA Anaesthetist for a full year and this position may involve one or more persons. Whilst this is not the ideal deployment, this may be the most practical approach to have a highly trained surgeon and anaesthetist available in East Timor on the long term.

Project Flexibility, Simplicity of Structure, Suitability of Proposed Contracting Arrangements and Commercial Risk

The proposed contracting arrangements leave a significant degree of flexibility with the RACS in terms of timing of visits and arrangements with the MOH, HND and Cordaid. The twice-yearly Project Coordinating Committee (PCC) allows for a local voice at a high level to comment and have influence on the conduct of the project. Problems can be raised at this level or in direct interaction with the LTAs and the visiting staff. AusAID has a Post in East Timor which will facilitate ongoing liaison with the MOH and the Contractor, RACS regarding the project and any issues or problems which may arise. In addition to the above mechanisms, there is the PMC, a senior overseeing group within the RACS providing policy management advice and direction/ liaison from Australia, and the PMS, which coordinates team visits with Dili based staff. These mechanisms will all provide means by which problems can be raised and dealt with.

The project structure is relatively simple with a clear understanding of the functions of personnel at each level. Apart from the full time LTAs, the inputs are repetitive in process (a number of visiting teams, which conduct their work in a similar fashion) which adds to the simplicity of the structure.

There are no adverse commercial risks associated with the project, apart from the possibility of litigation for inappropriate treatment or procedural work. However, in a developing country like East Timor, such a risk is small, and the RACS has a blanket professional indemnity insurance policy to cover such situations.

Technical feasibility

The project is technically feasible. The LTAs and the visiting specialists are highly trained and very experienced doctors. While the local doctors are not specialists, the RACS has had enough experience of the developing country environment to work with non-specialists and assist them in learning and practising suitable techniques which will be useful in expanding the procedural and treatment options for patients in East Timor. The level of technical improvement in anaesthetic skills is an important concern. Procedural work is highly dependant on good anaesthetics skills, and whilst the work of the LTA Surgeon and the visiting teams is not at risk, since Australian anaesthetists will always be available, there is a real danger that local procedural work will be very restricted if local nurses do not attain the anaesthetic skills required. The LTA Anaesthetist will undertake training of local staff, but the time available for this may be insufficient. It will be important to closely monitor this aspect.

Financial and Economic Feasibility

The project has been designed to deliver as cost effectively as possible a range of specialist treatment to the people of East Timor. The number of visits within the budget allocation is possible because services are being provided voluntarily by Australian specialists and support staff. Visiting teams will bring small items of equipment and disposable medical supplies. The project therefore does provide a positive impact on the economy of East Timor. Clear economic benefits include:

- Improved access of the people of East Timor to specialist care that would not otherwise be available. In economic terms, sick people are a significant burden to a country. There is a loss of productivity of the person and often, immediate relatives.

- In opportunity cost terms, the cost saving is enormous. If patients were to have such treatment overseas, the cost per procedure would be many thousands of dollars. This compares to a very low cost per procedure of this project (see Table 2 below):

Table 2 Estimated Average Cost per Operation

	Input	Estimated number of operations (1)	Average cost per operation (2)
Visiting Specialist Teams	10 months FTE	840	
LTA Surgeon	36 months FT	3000	
Additional operations supported by LTA Anaesthetist for MOH/Cordaid (3)	36 months FT	1800	
Total		5640	$425

Notes:

(1) *Assumes an average of 5 operations per day on 4 days of each 1-week visit. This is a conservative estimate but accords generally with the experience of the interim project. In addition RACS surgeons assist East Timorese and Dutch (Cordaid) surgeons in at least the same number of operations again where those surgeons take the lead responsibility.*

(2) *The total cost used includes the cost of LTAs, all specialist visits (including equipment and disposables), priority health fund delivery and project management, but excludes cost of training component (Component 4). The average cost includes all consultations pre and post-operation and all consultations/treatments that do not lead to operations.*

(3) *Assumes LTA Anaesthetist is supporting 3 operations per day by MOH/Cordaid surgeon in addition to the operations by the RACS general surgeon.*

- If the incidence and length of illness can be reduced, there will be less demand on health services.

- The aim of increasing the capacity of the East Timorese to support some services from their own resources in the future will reduce their dependence on donor assistance to the health sector.

Impact on Poverty

Having medical teams visit East Timor rather than relying on medical evacuation will enable a larger number of the population to have access to treatment provided by the teams. The poor and those living in isolated communities should have access to services available as a result of this project. Effective treatment of people suffering from chronic illness may enable a return to the workforce and an alleviation of economic hardship. The provision of tertiary health services under this project allows the MOH to concentrate more on non-hospital based community and preventative services, which need to become well developed for an effective long-term health strategy for those experiencing poverty.

Social and cultural impact and gender implications

There have been no specific WID (Women in Development) advisory inputs to the design of this project. In the recruitment of participants and volunteers from both the Royal Australasian College of Surgeons and the Australian Society of Anaesthetists, there will be no discrimination against female members. Many of the health care services in East Timor are provided by female nurses, so the inclusion of women in project activities will be vital to achieve the improvements in health care delivery. Attention will be given to ensuring that women attend training and other HRD opportunities and to encourage them to participate in career development training. Data on the number of female doctors and nurses who participate in project teams will be recorded.

Women, as both patients and primary carers of the sick, have a stake in the efficiency and effectiveness of the health system. They will be major beneficiaries from any improvements to it.

It is generally believed that good health is the foundation upon which social and economic development is based.

Institutional and governance feasibility

The MOH has agreed to provide all necessary assistance to the visiting medical teams. It is hoped that the project will also promote stronger linkages between East Timor and Australian counterparts.

A formalised project structure and well-practised management and administrative processes will serve as a demonstration of efficient and effective governance and health administration to the senior staff of the MOH.

Environmental impact

The project implementation will have minimal direct effect on the environment. Visiting medical teams will need to dispose of waste which they generate. They will pay attention to environmental regulations and disposal of toxic and other waste. Where appropriate, they may suggest improvements to present practices. In particular, when teaching and training about infection control practices to participating local personnel, it will be essential to ensure the establishment of appropriate practices and protocols on the disposal of sharps which will reduce the dangers to the environment and also the likelihood of unsafe injecting practices.

Factors in the design to promote sustainability

For a project such as this, the issue of sustainability needs to be viewed from a different perspective than is usually the case with donor projects. The concept of capacity building and transfer of skills reaching the stage where donor support can be replaced totally by self-sufficiency does not sit easily with the realities of health services in East Timor.

Sustainability considerations must take into account that the work carried out by the visiting teams is highly specialised, the local medical workforce is small, and the population base makes it unlikely that East Timor will ever be able to support this level of service themselves. Further, there are other pressing and emerging preventive and primary health issues to be addressed and the available health budget is very limited.

It is possible to identify a number of basic outcomes which can be considered the minimum necessary to ensure some sustainability of the Project, these being*:*

- An adequate level of surgical and anaesthetic services provided in HND
- Direct clinical services delivered by visiting teams
- Local performance of some of the procedures by East Timorese counterpart doctors
- Increased involvement of local doctors in pre-screening and follow-up
- Additional training of nurses and other staff categories to perform some of the above functions

- Debriefing sessions for each visiting team and counterparts to plan future clinical work and training
- Increased support to East Timorese counterparts while teams are absent from the country, by means of twinning arrangements with their private practice or local hospital through e-mail exchange of clinical data and other forms of on-going communication and professional support and mentoring

Annex 4

Study Terms of Reference

Background

Following the vote for independence for East Timor on 30 August 1999, civil unrest led to the displacement of up to 75% of the 850,000 residents of East Timor. Hundreds of people were killed and a large proportion of private and public buildings destroyed including the health facilities. In addition to the physical destruction, the emigration from East Timor of doctors and core health professionals – mostly Indonesians – caused the collapse of the health system.

The Department of Health Services of the East Timorese Transitional Authority (ETPA) is facing a massive task to rebuild the health system with the assistance of many international Non-Government Organisations. Priorities have focussed on provision of primary care services but in developing specialist medical and surgical services in hospitals to Level II by providing, for example, caesarean sections, laparotomies for abdominal emergencies and treatment of major fractures, there is very little capability amongst the approx twenty East Timorese doctors currently in the country. There is no capability to provide tertiary surgical or medical services.

Australia has been asked by the East Timorese authorities to assist by providing tertiary health services and to supplement the staffing of the Hospital Nacional Dili (HND) by providing a LTA Surgeon for the three years of the project and a LTA Anaesthetist for the first twelve months. The secondment of a LTA Surgeon and a LTA Anaesthetist will ensure that there is a sufficient level of specialist staffing in the HND
to provide a full-time surgical service and to allow staff time to identify cases and benefit from the visits of the specialist teams who will treat cases beyond the capacity of the LTA Surgeon.

An important aspect of the work of the two long-term advisers will be training of local doctors who are interested in becoming surgeons and nurses who wish to be trained as nurse practitioner anaesthetists. This will provide a basis for future development of a cohort of local staff that will be the first step to sustainability of specialist services in East Timor.

The project is to be managed by the Royal Australasian College of Surgeons, which has experience in managing similar projects providing tertiary health services to countries in the Pacific and to PNG. RACS attracts volunteers from all over Australia who are willing to provide short-term services to the Projects on a voluntary basis.

Required services

2.1 The RACS shall complete the outputs and activities defined herein in accordance with the Contract and quantities specified in Schedule 2.

Component 1: Strengthening the delivery of surgical and anaesthetics services in East Timor

The RACS will provide support to the Division of Health Services to deliver full-time general surgical services at Dili General Hospital through the deployment of a surgeon and anaesthetist who will provide professional services and train local staff.

Output 1.1: Surgical services delivered at Hospital Nacional Dili.

1.1 The RACS will recruit and employ a general surgeon for a period of three years to work at the Hospital Nacional Dili in accordance with the Terms of Reference in Annex 6.

Output 1.2: Anaesthetic services delivered at Dili National Hospital

1.2 The RACS will recruit and employ a specialist anaesthetist for a period of three years to work at the Hospital Nacional Dili in accordance with the Terms of Reference at Annex 6

Component 2: Delivery of tertiary clinical services

Output 2: Clinical tertiary health services provided in a range of specialties

The RACS will provide Tertiary Health Services to East Timor through a planned programme of visits by qualified Australian and New Zealand medical specialists and support staff.

Specifications for this output are as follows:

(1) An indicative schedule of visits is outlined in the Project Design document and summarised in Annex 3.

Variations to schedules may be necessary, particularly after the first quarter of the project, depending on emerging needs and availability of personnel. Any proposed variations should be endorsed by the Project Coordinating Committee and AusAID.

(2) The RACS will inform AusAID in Canberra and in East Timor of the dates of each visit as soon as they become available.

(3) Reports on the visits will be provided to AusAID in a Quarterly Progress Report (QPR) as verification that the visits have occurred. These QPR will contain data on the numbers of patients seen and treated. Patient data will be disaggregated by gender, age and district of residence. Data on the gender of doctors and nurses participating in the visits will also be provided.

Component 3: Priority Needs Fund

Output 3: Surgical services provided in response to emerging or newly identified needs in East Timor.

The RACS will provide services in response to needs identified by the long-term appointees, visiting surgical teams or visiting medical specialists. These are likely to include needs for services in closed cardiac surgery and neurosurgery.

The schedule of visits under component 3 will be determined after consultation with MOH and AusAID and endorsed by the Project Coordinating Committee. The scope and costing of each such activity will be subject to negotiation, based on the unit costs outlined in Annex 2.

Reports on activities under this component will be included in Quarterly Progress Reports.

Component 4: Training of East Timorese medical personnel

Output 4: East Timorese doctors and nurses trained in basic surgical, anaesthetic, theatre and ward nursing techniques.

The RACS will provide training to selected local doctors and nurses both by day-to-day work with the long-term surgeon and anaesthetist and by attachments to the visiting specialist teams.

4.1 Training in general surgery: The RACS will, in consultation with MOH, identify appropriate local doctors and provide training to them in general surgery and, where appropriate, in selected specialist procedures.

4.2 Training in anaesthetics: The RACS will, in consultation with MOH, identify appropriate local nurses and provide training to them in anaesthetics to enable them to provide basic anaesthetic services.

4.3 Training in nursing support: The RACS will, in consultation with MOH, identify appropriate local nurses to work with visiting teams and provide training to them in theatre nursing and ward nursing for after-care of patients.

Component 5: Project management
The RACS will manage the project efficiently and effectively within the budget, on agreed time frame and will evaluate the effectiveness of the project on an on-going basis.

Reporting and monitoring

The RACS must submit to AusAID Canberra three (3) copies of Quarterly Progress Reports (QPRs) within two weeks of the end of each quarter. QPRs must contain details of Project progress and achievements during the quarter and any issues or problems relevant to or affecting the delivery of Project outputs. The following should be included:

(a) a report on activities by the long-term appointees and progress of trainees

(b) a report on all specialist team visits that took place during the quarter

(c) a schedule of proposed specialist visits for the following quarter

Personnel

The RACS shall provide the following long and short-term personnel in order to meet the requirements of this Scope of Services.

Long-term TA in surgery/ Project team leader- total input 36 person-months

Long-term TA in anaesthetics- total input 36 person-months

Short-term surgical teams: Total of eighteen (18) specialist surgical teams of three persons each team, six (6) teams of two persons and three (3) teams of four persons each (subject to amendment as needs are identified)

Short-term medical specialists: Total of eleven (11) specialist medical visitors for approximately one week each visit.

Plus personnel as required for priority needs teams.