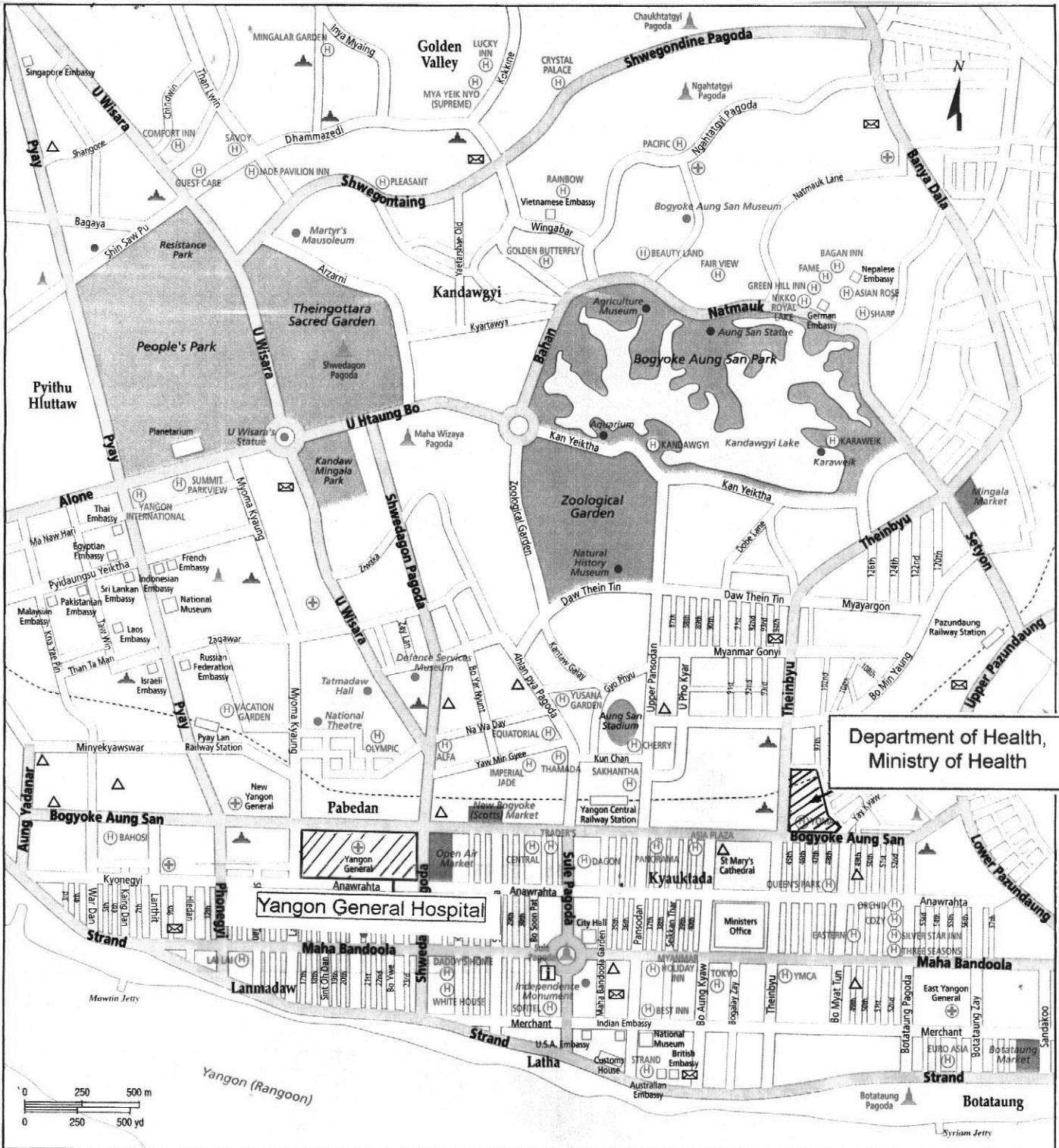


Map of Yangon City



SUMMARY

Summary

The national land area of the Union of Myanmar is about 1.8 times as large as that of Japan. The country is adjacent to India and China to the north. To the south, the country faces Bay of Bengal and Andaman Sea. The southernmost part of the country, bordering with Thailand, extends into the neck of Malay Peninsula. It has a gross population of 48.123 million (Population increasing rate: 1.84 %) in 1999. Yangon City, a targeted area of this project, is located in the southern part as a capital of “Myanmar”, has a population of 5.47 million (Population increasing rate: 1.64 %).

The current plan, the Third National Health Plan (1996-2001), is a continuation from the second plan that was implemented under National Health Committee, which is the highest decision-making organ concerning health policies. It contains the following key programs: Community Health Care Program, Disease Control Program, Hospital Care Program, Environmental Health Care Program, Health Systems Development Program, and Organization and Management Program. This project is positioned as a project conducted under Department of Health, Ministry of Health, as a part of the Hospital Care Program.

Recently, Yangon City is experiencing an increase in the number of patients from accidents and injuries, including traffic accidents, in proportion to the growth of population. To provide appropriate medical services for these outpatients and emergency patients, Myanmar's Ministry of Health has been establishing emergency departments in public medical facilities providing secondary care (West Yangon General Hospital, East Yangon General Hospital, Insein General Hospital, etc.), as well as those providing tertiary care (Yangon General Hospital, Central Women's Hospital, Children's Hospital, etc.).

Emergency patients may directly arrive the emergency department of a medical facility, or call for an ambulance (emergency dial 199) to be picked up. In most cases, patients arrive directly, using taxis or carried in cars that happened to pass by the suffering persons. The system has been developed so that the patients that cannot be treated at a secondary-level medical facility may be transferred to a tertiary-level medical facility. In reality, many patients directly visit tertiary-level medical facilities on their own discretion.

In 1993, the Emergency Receiving Centers was established in Yangon General Hospital as the top referral hospital, intended to provide technical guidance to other medical facilities and to treat severe cases that cannot be treated at these facilities. The centers are treating emergency outpatients and accepting patients referred from other facilities.

The department, which is the project site, covers emergency outpatient care consisting of Outpatient Department, Emergency Receiving Center I (Internal Medicine & Surgery), and

Emergency Receiving Center II (Injury). These departments are working in close functional relationship, and are located in the same building. Neither of these departments can work separately.

At Yangon General Hospital, emergency patients, referred patients, and other general patients are all increasing, particularly because the hospital is staffed with neurosurgeons, it is equipped with CT, and the patient's cost of treatment is relatively low in comparison with other medical facilities.

In 1979 and 1984, the projects at Yangon General Hospital supported by the grant aid from Japan provided the following equipment:

Equipment granted to Yangon General Hospital through past projects:

Total 77 items including linear accelerator, platelet counter, blood cell counter, blood gas analyzer, automatic biochemical analyzer, fluorescent microscope, patient monitor, defibrillator, suction unit, autoclave, operating table, operating lamp, electrocautery, dental unit, gastric endoscope, artificial ventilator, anesthesia machine, etc.

The granted pieces of equipment have been used for 15 to 20 years after procurement, exceeding the service life considerably. Although they are used and maintained in generally appropriate ways, the emergency and outpatient departments, which are covered by this project, suffer from a loss of health service capabilities due to the aging deterioration and shortage of equipment.

As discussed before, Yangon General Hospital is positioned as the top referral hospital, which accepts patients beyond the ability of primary and secondary-level medical facilities. Staffed with specialists in 27 clinics, the hospital also accepts patients referred from other facilities. The need for improvement is urgent, particularly in the emergency and outpatient departments.

The Ministry of Health plans to restore the proper functions of Yangon General Hospital through enhancement of operation, maintenance, and management capabilities; improvement of facilities and equipment; and renewal or supplementation of deteriorated equipment. While improvement of buildings is showing progress by self-help efforts, procurement of equipment by self-help is difficult because of the hard economic circumstance. The Ministry of Health continues its efforts to improve buildings relying on the government's own budget. However, with respect to the procurement of necessary medical equipment for the emergency and outpatient departments of this hospital, the Ministry submitted a request for assistance from the Japanese government, dated May 2000. To respond to this request, The Government of Japan has decided to carry out Basic Design Study and Japan International Cooperation Agency (JICA) dispatched Basic Design Study Team during October 21st, 2000 to November 19th, 2000.

The purpose of this request is to facilitate more effective and efficient restoration of the hospital's functions and thus to improve the quality of medical services, through procuring necessary equipment for the emergency and outpatient departments of Yangon General Hospital under the development plan for facilities and capacities which will be implemented in the departments.

The existing for Emergency Receiving Center consists of examination rooms and treatment rooms, and in some cases that is adequate for patients who are not very seriously ill, but for serious cases it is also necessary to have examination by radiological or ultrasonic diagnosis and other equipment as well as treatment in operating rooms, observation rooms and other facilities. Furthermore, rather than being of a content implemented independently by itself, such medical care activities have to be provided as a series of medical services.

In the initial request the facility covered was only the emergency patient receiving center, but for the sake of provision of effective assistance it is also necessary to provide for incidental test functions (radiological tests, ultrasonography tests, etc.) and treatment functions (operating table, shadowless lamp, anesthesia machine, patient monitoring systems, etc.), and therefore it has been decided to have the project cover the out-patient department as a whole, including emergency patients. The project equipment plan has been formulated on the basis of the following policies:

- 1) Abiding by the principle of replacement of deteriorated equipment and filling equipment shortages.
- 2) Making the plan such that it will not impose an extreme burden on the other side's implementation system (personnel allocation, budget measures, technical level, etc.).
- 3) Having the equipment provided have basically the same grade as the existing equipment as regards specifications.
- 4) Exclusion of equipment items that it is considered that Myanmar is capable of procuring itself in order to encourage self-help efforts on its part.

Furthermore, in this basic design study it was found that besides the department's medical equipment, there are many problems concerning its electrical equipment, including extreme deterioration of the transformers, which have been in service for more than 35 years, the generator and the distribution cables, insufficient power receiving capacity and failure to ensure safety.

That being the case, a transformer, a generator, distribution panels and other electrical equipment have been included in the equipment plan to improve that situation regarding the department's electrical equipment in order to make it possible to use the medical equipment furnished in the project in an effective and safe manner. However, the wiring work after the distribution panel, procurement of the air conditioning equipment, the installation work, the repair work, etc. have been left as the responsibility of the Myanmar side. The following main equipment details were selected on the basis of the above mentioned policies:

Table S-1 Major planned equipment

Dept. Or room	Equipment
Emergency Receiving Center I & II	Defibrillator
	Patient monitor
	Ventilator
	Anesthesia apparatus with ventilator
Operation theater	Operation light, ceiling type
	Scrub unit, wall mount type
CT room	CT scanner
X-ray room	General X-ray unit with accessories
Dark room	Manual X-ray film processing set
Emergency laboratory	Automatic chemical analyzer
Power house	Electrical system

It takes about twelve months to implement this project, including the conclusion of the Exchange of Notes between Japan and the Union of Myanmar, an equipment procurement agreement and the completion of this project. The detailed design phase requires about three months, while the bidding activities need about two months. Also, the period for procurement, transportation and installment of equipment is about six months after the certification of the procurement contract by the Japanese government.

If this project is implemented under the support of the grant aid from the Japan, the Myanmar side will require about 3.2 million yens for the repair cost of facilities. In addition, calculating the annual maintenance cost (including the expense of maintenance contract with a manufacturing company) newly occurred in the plan, the substantial increment fell in about 3.5 million yens per year, due to that the hardware plan is designed mainly for the renewal of existing equipment.

It is judged that this cost can be sufficiently covered with the budget of each targeted hospital. In addition, the repair work for the emergency and outpatient departments of the Hospital (building and repair work, electric and wiring work, air conditioning work and plumbing work) was implemented by the local side, as of December 2000. The all repair works of facilities will be executed at cost of the local side.

The following Project effects can be expected of implementation of the project:

(1) Direct Beneficial Effects

- 1) With things like replacement of the radiation equipment, the images of which have become unclear as a result of lower output, the CT, which takes too much time for examinations because of its old specifications, and other key equipment, it will be possible to have more efficient and smoother examination, and improvement of faulty operation equipment will improve treatment functions.

- 2) Whereas in the present situation dispersed location and partial overlapping of radiation rooms and dark rooms require more staff and upkeep expenditures than would otherwise be necessary, the building repair work being done by the local side and this project will concentration such functions and make for more efficient operation and upkeep.
- 3) As a result of provision of the equipment in this project the department's patient load will be lightened by reduction of testing and examination time, more appropriate operations and treatment, post-operation observation, etc., and that will make it possible to handle more patients.

(2) Indirect Beneficial Effects

- 1) More appropriate medical care services for emergency patients and out-patients will shorten stays in the hospital, making it possible to accept more patients, and will lower the death rate.
- 2) With recovery of functions that the department ought to have but has not be able to adequately fulfill, the hospital will be able to meet its obligations as a referral facility, including furnishing of better technical guidance to other medical facilities and provision of more appropriate medical care services to patients referred to it.
- 3) Although the hospital in question has medical personnel who have studied abroad and others who have received considerable training, in the present situation the hospital environment is not such as to make it possible to make the most of their experience and skills. With the improvements in the department in question through this project, it will become possible to do just that.
- 4) Although as the country's top referral hospital the hospital in question conducts training activities for the benefit of medical personnel, it is not able to do so on an ongoing basis because of the inadequacies of its existing equipment. After implementation of the project it will be able to accomplish better training activities through use of the newly procured equipment.

The following important points should be implemented in Myanmar so as to be able to manage this plan in a smooth and effective way and to attain the initial objective after the prompt realization of the plan and the provision of equipment to the targeted hospitals.

Organization and Manpower

- (1) Central management system shall be constructed to utilize limited equipment.
- (2) Needed Medical staff shall be allocated absolutely.

Financial planning

- (1) To continue to expand cost-sharing system
- (2) To confirm the status of the financial planning
- (3) To stock finance for future procurement is necessary as additional finance of O/M cost.
- (4) To have maintenance contract for sophisticated equipment and schedule for financial planning.

Basic Design Study Report on
The Project for Improvement of Medical Equipment
For Yangon General Hospital in the Union of Myanmar

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