

1. Introduction

The Government of the Lao People's Democratic Republic (Lao P.D.R.) stated in "Health Strategy 2020" to ensure that all Lao people has access to healthcare services, and one of the important principles to achieve this goal is to improve the capacity of health staff at each level in order to ensure high quality services.

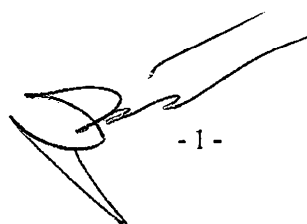
The Setthathirath Hospital is a general hospital with 175 inpatient beds and is a central hospital which provides tertiary curative care in the country. At the same time, the Hospital plays a role of the teaching hospital providing clinical training and education for both undergraduate medical students and postgraduate medical doctors. Japan provided grant-aid to the Project for Construction of New Setthathirath Hospital from 1998 to 2000 and the new hospital was constructed in November, 2000. In addition, JICA conducted technical cooperation for the Project for Improvement of the Setthathirath Hospital for five years from October, 1999 and supported improvement of medical service and training activities of the Hospital. In September 2004, Setthathirath Hospital was ranked up from a Vientiane City Hospital to a university hospital of the Faculty of Medical Sciences (FMS) of the National University of Laos (NUOL). In May 2007, Jurisdiction over the FMS of the NUOL was handed over from the Ministry of Education (MOE) to the Ministry of Health (MOH) and turned to be the University of Health Sciences (UHS).

On the other hand, there exists a problem of scarcity in number as well as insufficient technical skills of medical doctors in the country, especially in the rural areas. There is a strong demand to educate qualified medical doctors with ability to respond to the local needs and health issues. The Faculty of Medical Sciences of the National University of Laos started a two-year postgraduate program, namely Family Medicine Specialist Program to respond to such demand.

Under those circumstances, the Government of the Lao P.D.R. has submitted a proposal to the Government of Japan for the Technical Cooperation Project for Medical Education and Research of the Setthathirath Hospital.

In response to the request from the Government of the Lao P.D.R., the First Preparatory Study was conducted to collect information, such as basic health indicators, current situations of hospitals both at the central and local levels, recent activities of other donor agencies, etc. Based on the results of the First Preparatory Study, the Second Preparatory Study Team was dispatched to work out the framework and administration of the Project with the authorities in the Lao PDR.

The Project Document was prepared by JICA, the Ministry of Health (MOH), of the Lao PDR based on the outcomes of both preparatory studies. This Document consists of the following sections: Chapters 2-3 explain the background of the Project including the socio-economic situation, description of the health sector, etc., as well as the institutional framework of the health sector; Chapter 4 discusses the project strategies, i.e., how to implement the Project; Chapter 5 presents the detailed design of the Project; Chapter 6 summarizes the ex-ante (preliminary) evaluation based on the five evaluation criteria (relevance, effectiveness, efficiency, impact, and sustainability); and Chapter 7 explains how the Project conducts monitoring and evaluation.



- 1 -



2. Background Information

2-1 Socio-economic Situation¹

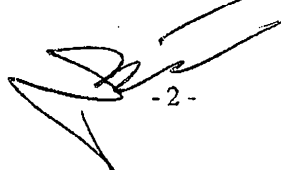
Following the introduction of the “Konkay Settha Kit May (New Economic Mechanism)” in 1986 an independent accounting system for government and privately managed corporations was introduced, and policies for privatization, the domestic economy, and trade liberalization were promoted. As such, Lao P.D.R. has been making a gradual transition from a planned economy to a market economy. From the latter half of the 1980s through the late 1990s, Lao P.D.R. continued to have a stable economic growth in tandem with the strong economic growth of various neighboring ASEAN countries. From 1992 to 1997, the real Gross Domestic Product (GDP) average annual growth rate reached 7.0%. During the Asian Economic Crisis that occurred in 1997 the country was seriously impacted as result of its strong economic ties with Thailand, with the currency in Laos, the kip, declining sharply. While the real GDP growth rate also fell to 3.4% in 1998, in 1999 it shifted towards recovery, and from 1999 to 2003 the average growth rate was 5.8%. The growth rate in 2004 was 6.0% (estimated value) and is expected to reach 7.0% in 2005. While the agriculture and forestry sector comprises slightly less than 50.0% of GDP and 80.0% of the working population, economic growth has been driven by the growth of the industry and service industries (particularly the increase of exports from the private sector) since the 1990s. It is predicted that hereafter the percentage comprised of the power generation and mining sectors will expand rapidly.

Lao P.D.R. is faced with constraints in terms of economic development, such as the fact that it is a landlocked country, has a small population (approx. 5.6 million people) and sparse population density, and that domestic market integration has not yet occurred due to delays in infrastructure development. Conversely, Lao P.D.R. is situated in the central part of the river basin region along the Mekong River, a crucial geographical site, and is well-endowed with abundant natural resources (forest, water, minerals), and thus carries with it the potential for economic growth.

2-2 Description of the Health Sector

Considerable progress has been made in the health sector of the Lao PDR, and it has been reflected in the major health indicators. However, there still remain a number of issues in the health sector. It is necessary to enhance the primary health care for prevention and medical treatment since the preventable and curable infectious diseases including malaria, diarrhea, etc. are ranked in the major morbidity and mortality statistics. The infant mortality rate and maternal mortality ratio are considerably high in comparison with neighboring countries. In addition, the gap in the standard of living between urban and rural areas has also influenced the accesses to the health services. As a result, the quality of the health services is quite low in the mountainous areas where many ethnic minorities inhabit with their own languages, customs, and culture.

¹ This section is quoted from “Country-by-country assistance program for the Lao PDR (September, 2006)” by the Ministry of Foreign Affairs of Japan.



- 2 -

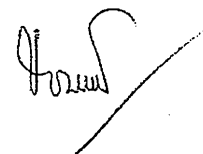


Table 1 Trend in Major Health Indicators (1995~2005)

Major Health Indicators		1995 (a)	2000 (b)	2005 (c)	
1	Life expectancy at birth (years)	51	58.7	61	
2	Infant mortality rate (per 1,000 live births)	134	82.2	70	
3	Under five mortality (per 1,000 live births)	170	107	98	
4	Maternal mortality (per 100,000 live births)	560	530	405	
5	Crude birth rate (per 1,000 population)	na	34.0	na	
6	Crude death rate (per 1,000 population)	na	6.3	na	
7	Total Fertility Rate	na	4.9	4.5	
8	% of villages covered by EPI (%)	na	87	na	
9	% of pregnant women covered by immunization of TT (%)	24.6	45.9	na	
10	% of households with access to PHC(%)	na	75	na	
11	% of villages located more than 8 hours away from nearest health facilities (%)	na	8	na	
12	Morbidity rate of Malaria (per 1,000 population)	na	55	na	
13	% of population with access to safe water	15	Urban	75.5	75.0 (2004)
			Rural	37.6	60.0 (2004)
14	% of population with access to adequate sanitary facilities	na	Urban	67.1	70.0 (2004)
			Rural	19.0	35.7 (2004)

Source: NHDR 2001; NSC 2000; National Socio-Economic Development Plan (2006-2010), 2006

Indicators of 1995 (a) and 2000 (b) are from the Project Document on the Project for Human Resources Development of Nursing/Midwifery in Lao PDR, p. 2

(1) - (4) and (7) in the indicators of 2005 (c) are extracted from the National Socio-Economic Development Plan (2006-2010), as well as (13) and (14) of 2004 from the content of <http://www.wpro.who.int>.

2-3 National Strategy and Health Policy

In the Socioeconomic Development Strategy up to 2020 and the Fifth Five-Year Socioeconomic Development Plan, the Lao P.D.R. sets the major goal of social development as “to free the country from the status of the least developed country by the year 2020 and ensure that all Lao people have access to health care services”. The Health Strategy to 2020 has emphasized the development of health care by presenting six key principles². Among these principles, “strengthening the capability of health staff in terms of attitudes, ethics, and technical skills” and “improving community-based health promotion and disease prevention” are listed in order to ensure high quality services. The target indicators to be achieved by the year 2020 are set as shown in Table 2.

² Six Health Development Policies are as follows: 1) strengthening the ability of health care providers; 2) improving community-based health promotion and disease prevention; 3) improving and expanding hospitals at all levels and in remote areas; 4) promoting and strengthening the use of traditional medicine, safety and rational use of food and drug, promoting national pharmaceutical product; 5) promoting the operational health research; and 6) Ensuring effective health administration and management, self-sufficient financial system and establishing health insurance fund.

Table 2 Specific Targets of the Health Strategy 2020

Target Indicators	Unit	Target For 2005	Target For 2020
Crude Birth Rate	Per 1,000 population	36.5	31
Crude Death Rate	Per 1,000 population	13.5	11
Infant Mortality Rate	Per 1,000 live births	75	20
Under Five Mortality Rate	Per 1,000 live births	100	30
Maternal Mortality Ratio	Per 100,000 live births	355	130
Life Expectancy at Birth	years	55	63
Population growth rate	%	2.3	2.0
Contraceptive Prevalence Rate	%	35	60-65
Immunization coverage	%	80	90
% of population with access to safe water	%	55	60-75
% of population with access to adequate sanitary facilities	%	46	70
% of population with access to PHC	%	75	90

Source : Health Strategy up to the year 2020, MOH 2000

The National Growth and Poverty Eradication Strategy (NGPES) places considerable emphasis on the development of the health sector, especially on strengthening and improving the quality of health care services at rural areas.

2-4 Prior and On-going Projects / Assistances

Various assistances from donor agencies have been provided with reference to the capacity development of health care providers. The University of Calgary in Canada has provided the Medical Department of the Faculty of Medical Sciences in the National University of Laos with assistance for undergraduate medical education, and the University of Calgary has also cooperated on early post-graduate training, namely the Family Medicine Specialist Program (FMSP), from January, 2005. CIDA, Luxemburg, WHO, and the University of Calgary have continued financial assistance from the initial stage of FMSP.

The World Bank provides financial aids for the training programs for the instructors of FMS and the FMSP through the component 2: "Strengthening Institutional Capacity for Health Services Provision" within the framework of the Health Service Improvement Project (2006-2010).

The WHO generally supports the capacity development for the health sector, including curriculum development and revision of the training courses for the health care providers, technical assistance for planning of capacity development in the MOH and analysis of human resources in the health sector, etc.

The contents of assistance for health education through major international organizations and bilateral aid agencies are shown in the Annex 1.

In addition, financial and technical assistance is provided for the resident courses, master's programs, training for instructors in the FMS through universities in the Western nations and international NGOs (See the Annex 2 in detail).

3. Problems to be Addressed and the Current Situation in the Health Sector

3-1 Institutional Framework of the Health Sector

3-1-1 Health Administration

At the central level, the MOH is the key body to direct the health administration and implement the health policy and strategies. At the MOH, each department independently conducts its designated activities and the Cabinet acts to control and coordinate the overall activities. However, coordination and collaboration among these departments within the MOH is not necessarily conducted efficiently. Research institutes, central hospitals, colleges, public health schools, and pharmaceutical factories are directly positioned under and affiliated to the Ministry of Health. Each Province and District has the Provincial Health Office (PHO) and District Health Office, respectively. The directors of PHOs and Provincial Hospitals (PH) are appointed by the Minister of Health, while those of DHOs and District Hospitals (DH) are appointed by the Director of the PHO.

3-1-2 Health Service Delivery System

The health service system is organized into three levels. Health centers serve at the community level as the primary level health facilities while district hospitals serve as the secondary level health facilities. Those serving as the tertiary level health facilities are provincial hospitals, regional hospitals, and central hospitals. Although the standards of hospital functions at each level are being established, health services with expected standards, in fact, are not provided at each level. Also, the systematic referral system has not functioned effectively.

Table 3 Health Facilities of Lao P.D.R.

Level of Health Facilities	Type of Hospitals	# of Hospitals	# of Beds	Details
Tertiary Level Health Facilities	Central Hospitals	7	975	3 general hospitals (Mahosoth Hospital, Setthatirath Hospital, and Friendship Hospital) and 4 specialized hospitals (Mother and Child Health Hospital, ophthalmology, dermatology, and rehabilitation) are located in Vientiane City. The three general hospitals and Mother and Child Health (MCH) Hospital also serve as teaching hospitals for the University of Health Sciences. They are the top referral hospitals.
	Regional Hospitals	4	632	4 provincial hospitals in Louangphrabang, Oudomxay, Savannakhet, and Champasak serve as regional hospitals as well as teaching hospitals.
	Provincial Hospitals (PH)	12	985	A PH is located in each province as a general hospital.
Secondary Level Health Facilities	District Hospitals (DH)	126	2,366	A DH is located in each district except the districts with PHs and provides medical services and preventive care (PHC). DHs are divided into two types, namely, type A and type B. In the former, operations of an

				appendix and a Caesarean can be conducted, while in the latter they cannot be.
Primary Level Health Facilities	Health Centers (HC)	739	1,554	The number of health centers is not sufficient, and high-level medical health workers, such as medical doctors, are not assigned properly. Also, it is necessary to improve the quality of services.

Source: Project Document on the Project for Human Resources Development of Nursing/Midwifery in the Lao PDR, and hearing investigation from curative section of the MOH

Although there are private clinics in urban areas, such as Vientiane City, Louangphrabang, Savannakhet and Champasak, the number of private clinics is quite few in rural areas. Criteria for establishing private clinics are laid down by the Law on Health Care promulgated in December, 2005. According to the Department of Curative Medicine in the MOH, around 400 private clinics actually exist although around 200 private clinics are registered as of January, 2007. However, there are no private hospitals in the Lao P.D.R.

3-1-3 Classification of Governmental Officials and Human Resources in the Health Sector

Governmental officials are classified into three levels according to the educational level, i.e., High-level, Mid-level, and Low-level. Similarly, the human resources in the health sector are also classified into the High-level (medical doctors, medical specialists, pharmacists, dentists, laboratory specialists), the Middle-level (medical assistants, nurses, laboratory assistants, pharmaceutical assistants, sanitarians, dentistry assistants, etc.), and Low-level (assistant nurses, pharmaceutical technicians, laboratory technicians, primary health workers). Also, there are non-medical staffs who engage in accounting, administrative works, driving services, etc.

3-1-4 The Roles of Institutions related to Education for Medical Doctors

Several organizations in the MOH get engaged in education for medical doctors (undergraduate and post-graduate education) in the Lao P.D.R. The followings are the major roles of each organization.

Table 4 Major roles of organizations engaged in education for medical doctors

Institution	Department	Major roles
Ministry of Health	The University of Health Sciences	Pre-graduate education (medical science, dentistry, pharmacy) Post-graduate education
	Seththatirath Hospital	Clinical training (undergraduate, post-graduate)
	Teaching hospitals Mahosoth Hospital Friendship Hospital MCH Hospital	
	The Cabinet	Coordination of donors
	Department of Curative Medicine	Planning and implementation for medical facilities Supervision and instruction to

		medical facilities
	Department of Organization and Personnel	Planning and implementation of training programs for medical staff
	National Institute of Public Health (NIOPH)	Post-graduate education (Master of Public Health ³ and short-term training course on health management for medical doctors)
	Institute de la Francophonie pour la Medicine Tropicale	Post-graduate education (Master's programs on public health in tropical medicine)

Meetings by the Inter-Ministrial Steering Committee composed of relevant departments of medical education in the MOH and MOE (MOE had been in charge of FMS and the Setthathirath Hospital until May, 2007) as well as relevant institutions are held once or twice a year. The coordination of pending matters and the collaboration between MOH and MOE are promoted in the meetings.

3-1-5 Clinical Training System for Medical Students and Doctors at the Setthathirath Hospital

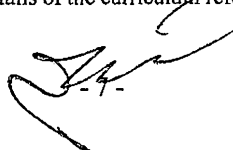
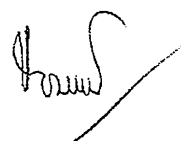
The Medical Teaching Unit (MTU) was set up at each teaching hospital, including the Setthathirath Hospital, under the leadership of the Faculty of Medical Sciences (FMS) through the adoption of the system developed by the University of Calgary recently. The teaching doctors of training courses (preceptors) are assigned in each ward, and the staff teams under their instructions are supposed to teach medical students (fifth and sixth year as well as seventh year under the old curriculum⁴), medical doctors under the Family Medicine Specialist Program (FMSP: first year), and the resident course (first, second, and third year). Undergraduate medical students and post-graduate medical doctors under the FMSP rotate clinical wards in four teaching hospitals. There are two to three preceptors in each ward, and 10 to 20 preceptors are assigned at teaching hospitals. Professors, associate professors, heads of medical wards, and experienced medical doctors are qualified to become preceptors, and they are supposed to continue their services for two months. However, one preceptor is often replaced by other preceptors in around two weeks because they have various obligations other than training. In case of absence of preceptors, residents in the third year instruct other trainees. The FMS draws up the job descriptions of trainees, and the descriptions are distributed to both preceptors and the trainees.

On a steady basis, 50-100 undergraduate medical students and post-graduate medical doctors take part in clinical training sessions at the Setthathirath Hospital.

Four teaching hospitals in Vientiane City carry out clinical training sessions in the same way. Mahosoth Hospital accepts the largest number of medical students and doctors, and Setthathirath, Friendship, and MCH hospitals follow in number in that order.

³ Although the second training class was completed in 2004, this course was not carried out after that.

⁴ Medical students entering before adopting the new curriculum continue their studies under the old curriculum of the seven-year program, so that many seventh-year students also take part in the clinical training at the teaching hospitals. Also, see 1) of 3-2-2 regarding the details of the curriculum reform.

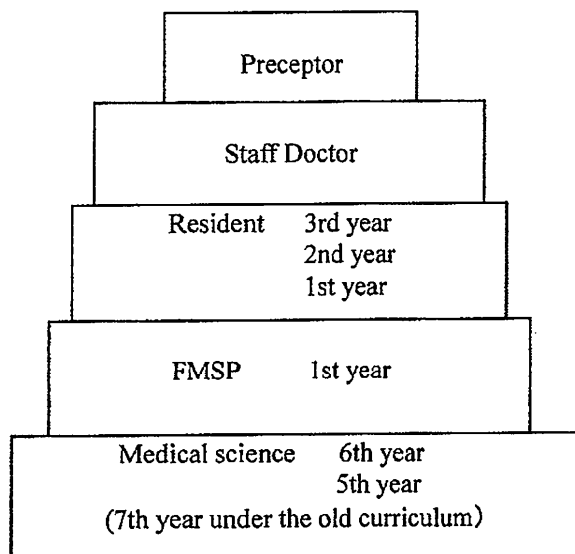


Figure 1 Medical Teaching Unit (MTU)

Regarding training curriculum, there are curriculum committees for each specialty composed of the instructors of the UHS and medical specialists from four teaching hospitals, and the committees develop and draw up the curriculums. The deputy director of the Setthairath Hospital is the chairperson of the curriculum committee on pediatrics.

3-2 Analysis of the Current Situation and Problem

3-2-1 Deployment of Medical Doctors

According to the draft of “the Human Resources for Health: Analysis of the situation in the Lao P.D.R. (as of December 13th, 2006)” conducted by the MOH in cooperation with the WHO, the number of medical doctors working for the health sector is 1,527 (0.27 doctors per 1,000 population) across the country. Around 81% of them are working for the departments and health facilities under the MOH. The number of medical doctors per 1,000 population is less than those of Thailand (0.37) and Vietnam (0.53).

In addition to a lack of the number of medical doctors, it is pointed out that medical doctors are not effectively allocated in each province/district as well as at different levels of medical institutions. For instance, 387 medical doctors are assigned at seven central hospitals in Vientiane City, while there are 323 medical doctors at 126 district hospitals and several district health offices, and only eight medical doctors are deployed at more than 700 health centers across the country. Also, 16 districts do not have one single regular medical doctor.

The number of human resources in the health sector is not increased outstandingly because the recruitment quota in the health sectors is low in comparison with the overall recruitment of governmental officials since 2001. The growth rate of the health personnel is around two percent in the past two years, which is less than the population growth rate.

Although the number of graduates who can be high-level medical health workers, such as medical doctors, pharmacists, and dentists, was 148 in 2005, only 73 were accepted as high-level medical health workers. The number of medical doctors is 48 out of 73 high-level medical health workers, and 28 medical doctors (58.3%) are assigned at the central level, 10 (20.83%) at the provincial level, and 10 (20.83%) at the district level. No medical doctors are assigned at health centers.

According to the official of the Department of Organization and Personnel in the MOH, although there are vacant posts as medical doctors at district hospitals and health centers, few medical doctors apply for these posts, especially those at health centers.

3-2-2 Education for Medical Doctors (Undergraduate Education)

Undergraduate education for medical doctors in the Lao PDR was launched with the foundation of the Faculty of Medicine in Sisavangvong University in 1968, and the University was transferred to the University of Medical Sciences under the control of the MOH in 1975. Again, the University was moved into the FMS of the National University of Laos under jurisdiction of the MOE in 1996, and the FMS became the educational institution for medical doctors, dentists, and pharmacists. Jurisdiction over the FMS of the National University of Laos was handed over from MOE to MOH in May, 2007 and turned to be the University of Health Sciences (UHS). The UHS is the exclusive educational institution to nurture medical doctors in the Lao P.D.R., and the Bachelor of Medicine is conferred to the graduates of the Department of Medicine in the UHS.

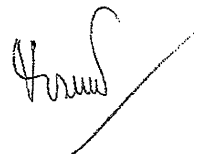
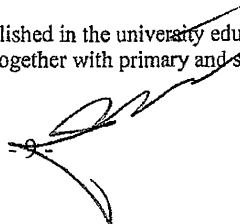
1) Admission

Prospective students to the Department of Medicine must have two selections at the times of the entrance examination to the University and the promotion to the second year. There were around 600 applicants to the FMS, and 200 – 250 applicants were admitted to enter the FMS. The students learn the foundation study in the first year, and professional education is opened up from the second year. The duration of school attendance through the elementary and secondary education is 11 years in the Lao PDR, and it is one year shorter than that of other countries. Thus, the first year is for the foundation study in the FMS⁵. After the foundation study in the first year, the major Department of study from the second year is decided according to the preference and performance of the students.

Newly enrolled students in the Department of Medicine are composed of the following students.

- Quota students: One to two applicants are recommended from each province, and quota students account for about 50 % of newly enrolled students.
- Students other than quota: Applicants are selected through the entrance examinations across the country.

⁵ There are prospects that foundation study will be abolished in the university education according to the reform of the educational system for 12 years (5, 4, and 3 years) together with primary and secondary education toward 2010.



- Medical Assistant (MA): In order to take the qualification of medical doctors for MAs who work as staff of the MOH, MAs participate in the bridge course for a half year instead of the foundation study in the first year. After the bridge course, they are able to move into the second year. MAs account for 5-10% of newly enrolled students.

The contents of each grade in the Department of Medicine are composed of the following way.

Grade	Contents
1st year	Foundation Study
2nd year	Preclinical Sciences
3rd year	
4th year	Clinical Sciences (Only observations and simple medical care in the 4th year) <u>Clinical training at hospitals</u>
5th year	
6th year	Practical Clinical Sciences

The curriculums in the FMS were revised in cooperation with the University of Calgary from 2002, approved by the National University of Laos, the MOH and the MOE, and introduced in 2004. In the new curriculums, the teaching method focuses on problem-solving style, self learning, small-group tutorial lectures, case presentation, bed-side teaching, and the integration of community health instead of old lecture-style teaching by different organs/themes. Thus, the improvement of medical education is planned along with the current state of the Lao P.D.R. Clinical training is started in the fourth year, and medical students have the training sessions by rotating four Departments (internal medicine, surgery, pediatrics, obstetrics and gynecology) at four teaching hospitals (Mahosoth Hospital, Setthatirath Hospital, Friendship Hospital, MCH Hospital) in Vientiane City under the instruction of preceptors. Medical students carry out observations and simple medical care of patients in the fourth year, draw up proposals for diagnosis in the fifth year, and have consultations for patients in the sixth year under the observations of preceptors and residents. Medical students in the fifth and sixth years take part in clinical training at teaching hospitals in the morning and have lectures in the FMS in the afternoon.

2) Instructors

The number of instructors in the Department of Medicine is about 200, and around 80% of them are part-time instructors who are the staff of the MOH. In order to become instructors, the following conditions must be fulfilled: (1) medical doctors having post-graduate education; (2) full-time medical doctors at teaching hospitals; and (3) nomination by the Minister of Health. Many instructors took the qualifications of the medical specialist through the overseas education.

3) Problems and issues of undergraduate education

The FMS, MOH, and donors regard the following points as problems and issues in order to

improve the undergraduate education at present.

Table 5 Problems and issues of undergraduate education

Item	Problems and issues
Instructors	<ul style="list-style-type: none"> Although instructors are medical specialists, they do not acquire teaching methods. There are many instructors who took the qualifications of medical specialists through overseas education in France, Russia, Germany, Cuba, US, Australia, Japan, etc. As a result, it is difficult to unify technical terms used among instructors.
Students	<ul style="list-style-type: none"> In general, students entering through the quota system have lower academic performance than students enrolling through the competitive examinations. There are many cases in which the former students are not able to improve academic performances even after one-year foundation studies. The FMS is not popular in comparison with the Faculty of Economics, etc., so there are a few excellent students who apply to the FMS.
Teaching materials	<ul style="list-style-type: none"> Although there are textbooks on the basic science, such as anatomy, pathology, physiology, parasitology, etc., in Lao language, textbooks other than the above are available only in English, French, Thai, German, etc. Many medical terminologies cannot be translated into Lao, and it is not sufficient for students to learn foreign languages⁶.
Facilities	<ul style="list-style-type: none"> The facility is too old in 40-50 years after the construction, and the space is narrow because the number of students has increased two to three times compared with the number of students at that time. <p>Facilities improvement is planned by the Lao government and Vietnamese government. Director General of Department of Higher, Technical and Vocational Training say there might be a possibility to move FMS to the adjacent site to the Setthathirath Hospital.</p>
Equipment	<ul style="list-style-type: none"> Equipment is quite old. Also, the number of equipment is also insufficient. For instance, there is only one microscope for five students in the practical work. Thus, it is difficult to carry out the practical works.

4) The courses to take after graduation

Around a half of graduates go on to either the FMSP of the FMS or the post-graduate training course in the Institute de la Francophonie pour la Medicine Tropicale. It is expected that students entering through the quota system go back to and work in their provinces. According to Deputy Dean of the FMS, many of them return to their provinces because it is difficult for them to find jobs as medical doctors in Vientiane. In order to take part in the resident course in the FMS and master's program on public health, 5 to 7-years of clinical experiences after graduation of the Department of Medicine are required, so that the graduates from the Department cannot go on to the

⁶ 10% of students in the Department of Medicine have the medical education in French, and they take the common degree within the Francophone countries.

- 11 -

course nor program right after their graduation at present⁷. Around 10 percent of graduates work in different fields other than the health sector.

3-2-3 Post-graduate Education in the FMS of the National University of Laos

Post-graduate education in the FMS is promoted by receiving technical and financial assistance from international organizations, bilateral aid agencies, international NGOs, overseas universities, etc.

1) Family Medicine Specialist Program (FMSP)

In order to provide high-quality general medical practice in the countryside, a new two-year post-graduate training program, Family Medicine Specialist Program (FMSP), was set up for new university graduates. The FMSP was initiated in January 2005 with the assistance of the University of Calgary which had also assisted undergraduate education in the Department of Medicine in the past. The students who entered the FMSP in 2005 completed the program at the end of 2006.

The medical doctors who completed the program receive the certificates from the MOH and MOE. In the first year, post-graduate medical doctors rotate among internal medicine, surgery, pediatrics, obstetrics and gynecology, emergency/anesthesia/ICU, laboratory and radiology at the four teaching hospitals in Vientiane City. In the second year, they have training for six months at regional hospitals, for four months at provincial hospitals, and for two months at district hospitals. 36 graduates in 2005, 17 in 2006, and 24 in 2007 went on to the FMSP, respectively. Doctors-under-training are supposed to have tests whenever completing the rotation of each ward, and they have three-day tests in their second year. Three doctors-under-training entering the FMSP in 2005 dropped out of the program by the wayside. The number of medical doctors going on to the FMSP is not constant because the allowance of the FMSP (US\$20 per month) is cheaper in comparison with the allowance of the resident course for medical specialists (US\$100 per month). Presently, the process for elevating the FMSP to the master's program is proceeding.

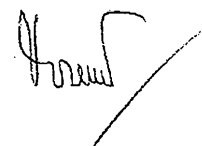
2) Resident course

Although the qualifications of medical specialists were taken by overseas education including France, Soviet, East Europe, etc. in the past, resident courses for medical specialists in the fields of pediatrics were initiated from 1997 with the assistance of Health Frontier and Case Western Reserve University. Afterwards, resident courses in the fields of internal medicine and ophthalmology in 2001, obstetrics and gynecology in 2002, and surgery and anesthesiology in 2003 were launched in the FMS, and this allowed the medical doctors to take the qualifications of medical specialists in the Lao PDR. Further, a resident course in the field of radiology was also started. In

⁷ According to the Director of the Department of Curative Medicine, the MOH considers the possibilities of establishing the system in which excellent medical students are able to enter the 3-year specialist program (resident program) right after the graduation. It is planned to launch the program from this September when the school year starts.



- 12 -



order to enter the resident courses, it is obliged to be a medical doctor as well as to have clinical experiences for five to seven years. The salary is paid for the staff of the MOH, provincial hospitals, and district hospitals during the enrollment period, and allowance is paid through either donors which support each specialist course or local governments. The allowances are \$US 20 – 100 per month and different among courses.

Table 6 Resident courses in the FMS

Specialty	Inaugural year	Enrollment limit
Pediatrics	1997	5~6
Internal medicine	2001	5
Obstetrics and Gynecology	2002	5
Surgery	2003	4
Anesthesiology	2003	4
Ophthalmology	2001	1~3
Radiology	2005	(12)

Source: Hearing investigation from the duty official of post-graduate education in the FMS, "Human Resources for Health: Analysis of the Situation in Lao PDR (Draft)" of the MOH, the Report by the former MOH advisor from JICA

3) The Master's Program on Public Health

The master course on public health was carried out in French at the National Institute of Public Health (NIOPH) under the control of the MOH from 1998 to 2004, and after 2004 the program was to be opened in Lao language at the FMS with the assistance of the Rockefeller Foundation. In order to take part in this program, it is obliged to be a medical doctor as well as to have clinical experiences for five to seven years.

3-2-4 The Current Situation and the Challenges of Medical Education at the Setthathirath Hospital

1) The change of the status of the Setthathirath Hospital under the National University

The Setthathirath Hospital was ranked up from a Vientiane City Hospital to a university hospital of the FMS of the National University of Laos in September 2004 by the Presidential Decree, and the jurisdiction of the Hospital was officially transferred to the MOE from the MOH on 12th April, 2005. According to this change, the Director of the Hospital served concurrently as the Dean of the FMS, and it was anticipated that the educational functions were further enhanced. In May 2007, the jurisdiction of the Hospital as well as the FMS of the National University of Laos was transferred to the MOH from MOE and the Hospital is again under the control of MOH.

Priority specialties are 1) endocrinology and hematology, 2) oncology and pathology, 3) infectious disease, and 4) MCH services. The number of staff at the Setthathirath Hospital is shown as follows.

- 13 -

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Table 7 The number of staff at Setthathirath Hospital

Types of medical health workers / degree	Number of staff	Number of preceptors ⁸			
		Internal	OBGY	Pediatrics	Surgery
High Level Staff	92	6	4	7	3
Associate Professor (PhD: 2, Medical Specialist: 1)	3	-	-	-	-
PhD	3	-	-	-	-
Master Degree	8	4	1	-	-
Medical Specialist	15	1	2	7	1
Bachelor Degree					
- Medical Doctor	44	1	1	-	2
- Nurse	7	-	-	-	-
- Pharmacist	3	-	-	-	-
- Dentist	2	-	-	-	-
- Administrative Staff (Electric engineer, Chemist, English language, Finance)	7	-	-	-	-
Middle Level Staff	90				
Assistant Doctor (Medical Assistant)	16				
Technical Nurse/Midwife	38				
Administrative Staff	36				
Low Level Staff	84				
Auxiliary Nurse	64				
Administrative Staff	20				
Clerk and Cleaner	12				
Temporary Staff (MD, Nurse, Worker, etc.)	101				
Total	379				

Source: Statistical data of Setthathirath Hospital

2) Medical services at the Setthathirath Hospital

The average number of outpatients at the Setthathirath Hospital is 210 per day in 2005 and 285 per day in 2006. According to the director and the deputy director of the Hospital, the average number of outpatients per day tends to increase including referred patients from district hospitals (average number is 130 in 2000). Furthermore, the average number of outpatients per day is different in two seasons, i.e., dry season (October to April) and rainy season (May to September). Especially, there are many outpatients from August to September when dengue fever is prevalent.

The number of tests with CT scanner, ultrasound and endoscopy is increased by utilizing those testing equipment provided under the former JICA Project. The tests with CD4 testing equipment procured under the grass-root grant aid from Japan are also conducted, including tests requested by other hospitals. On the other hand, there are some problem cases where test items are not correspondent to the target disease or medical doctors do not necessarily give treatment orders

⁸ The total number of preceptors is 20: 6 in the Department of Internal Medicine; 4 in the Department of OBGY; 7 in the Department of Pediatrics; and 3 in the Department of Surgery. Residents rotate among 4 teaching hospitals in the cycle of 4 to 8 weeks, and there were 16 residents at the time of the First Preparatory Study (January 2007): 3 in the Department of Internal Medicine; 3 in the Department of OBGY; 3 in the Department of Pediatrics; 3 in the Department of Surgery; 1 in the Department of Anesthesiology; and 3 in the Department of Radiology.

based on test results.

The details of medical services at the Setthathirath Hospital are shown in Annex 5 and 6.

3) The current situation and challenges of clinical training for undergraduate medical students and post-graduate medical doctors

The following challenges on the clinical training were identified through interview with the hospital staff and observational visit.

Supervisory doctors	<ul style="list-style-type: none"> • The majority of the teachers at the hospital had been trained in the former Soviet Union, East European countries, and France. They are now in their 50s. There are not enough successors as there are fewer long-term training opportunities than before. • There are not enough doctors with sub-specialities in the country. Therefore, the doctors here have to take their short-term sub-speciality training in Kong Kaen, Thailand, but the law of Thailand does not allow trainees to treat patients. • Preceptors are often busy and cannot dedicate enough time for teaching. • The teachers are not well aware of teaching methods. There is a need for training of trainers on how to teach.
Facilities	<ul style="list-style-type: none"> • Functional enhancement of the hospital has generated lack of sufficient spaces in the lecture rooms, laboratories, dormitory for the students and teachers, etc.
Equipment and materials	<ul style="list-style-type: none"> • The testing equipment is comparatively fulfilled, but not enough laboratory practices are conducted due to the shortage of materials. Reagents such as X-ray films required testing are usually at the expense of the patients. Although 10% of the patients are exempted for economic reasons, the number of tests is not sufficient.
Patients	<ul style="list-style-type: none"> • The hospital is small in size (175 beds) and cannot provide enough clinical cases for training.

Many of the issue challenges are common among other three teaching hospitals as well.

4. Project Strategy

4-1 Project Strategy

The human resource development in the Health Sector in Lao P.D.R. faces challenges both in quantity and quality as described in Chapter 3 and the Government of Lao PDR plans various policies to address these issues. Among these, quantity highly depends on efforts of the Government, namely, sufficient allocation of budget, improvement of employment environment, incentives, etc. Quality of human resources has more room for improvement by technical support, not by financial one, from external assistance.

In order to improve the quality of health staff at each level which is one of the important principles described in "Health Strategy 2020", it is an urgent need to produce quality medical doctors, who are key professions in medical service. Especially, improving skills, knowledge and attitude as a basis of competency of medical doctors is necessary for medical practice at any health facility, and undergraduate and early postgraduate education for that plays an important role.

The program of undergraduate and postgraduate education has been designed and

implemented by Faculty of Medical Science of National University of Laos, Ministry of Health and Ministry of Education with support from Calgary University and its system is formally established. On the other hand, problems and challenges in the implementation of the programs are pointed out as well as those in clinical training conducted in teaching hospitals.

In order to address these, this Project will be aimed at improvement of clinical training conducted at Setthathirath Hospital, a university hospital, for nurturing basic clinical competency of medical students/doctors. This Project will focus on improvement of quality of clinical training targeted at (1) undergraduate clinical training and (2) early postgraduate clinical training for those who graduated from UHS within two years. (The resident courses are out of the Project scope.)

After the end of the Project, continuous activities developed through this Project will be a reference to practices in other teaching hospitals and improvement of clinical training systems and will contribute to the improvement of quality of clinical training, thus lead to the improvement of skills, knowledge, and attitudes of medical doctors in the whole country. In this way, the entry point of this Project is concrete improvement of actual practices by realistic approach and the strategy adopted in this Project is based on the situations in Lao P.D.R.

4-2 Implementation Structure

The implementation structure of the Project is presented in Figure 2 as shown below.

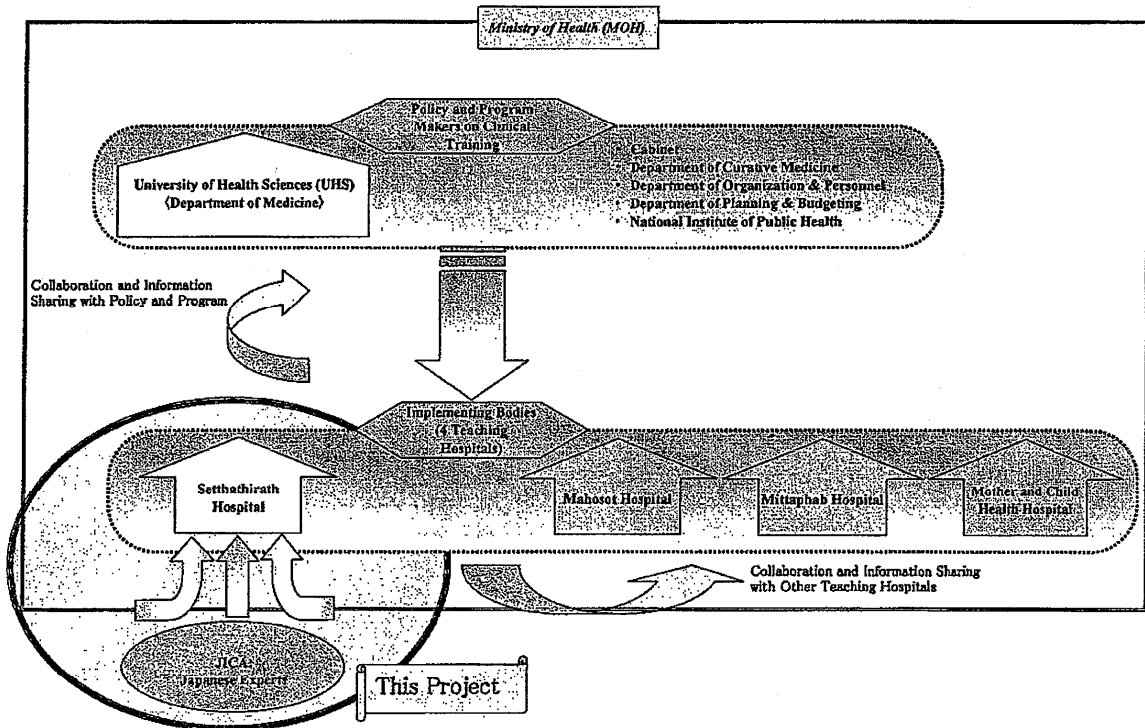


Figure 2 Project Implementation Structure

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The project activities will be conducted by the MOH from the administrative, management and technical aspects. The Project is mainly to be operated at the Setthathirath Hospital in consultation with the UHS, the MOH, the National Institute of Public Health (NIOPH), and the Japanese experts. Also, clinical training for both undergraduate medical students and early post-graduate medical doctors are carried out in collaboration with other three teaching hospitals by rotating among these hospitals. In this way, as various concerned parties are involved in the Project, it is necessary to share the concepts and recognitions of the Project with responsible persons in the MOH, UHS and four (4) teaching hospitals as indicated in the above Figure 2 through the Joint Coordinating Committee (JCC) held once a year at least.

5. Project Design

The Project Design Matrix (PDM) of this Project is shown in Annex ~~1~~². The project design is explained in this chapter based on the PDM.

5-1 Project Purpose

The objective that is expected to be achieved by the termination of the Project is that “Quality of undergraduate clinical training and early postgraduate clinical training for those who graduated from the University of Health Sciences within two years at the Setthathirath Hospital is improved.” The target group of the Project is “trainers of clinical training for medical doctors” at the Setthathirath Hospital. It means that the target group is not only preceptors but also the medical doctors who conduct clinical training by themselves because the number of teaching doctors (20 preceptors) at the Setthathirath Hospital is not sufficient to promote the clinical training and staff doctors other than preceptors actually teach trainees at the Setthathirath Hospital.

There are three main components in the Project, i.e., expansion of knowledge and know-how on clinical training as a teaching hospital (Output 1), improvement of training management system (Output 2), and capacity development for trainers of clinical training (Output 3). It is required for the Setthathirath Hospital to expand knowledge and know-how on clinical training to both undergraduate medical students and post-graduate medical doctors as a precondition to provide clinical training as one of teaching hospitals in the Lao PDR (Output1). In addition, in order to strengthen the quality of clinical training at the Setthathirath Hospital, it is necessary to improve training management system such as establishing the committee in charge of clinical training and accumulation and presentation of experiences of clinical training (Output 2) and the capacity development for trainers as teachers (Output 3). In this way, the Setthathirath Hospital should be a fine model of the medical service provider, and it is necessary to improve medical services focused on clinical training (Output 3). As is described in the Important Assumption for the Project Purpose, it is a condition to achieve the Project Purpose that the MOH secure the budget for the clinical training at the teaching hospitals.

Indicators of the Project Purpose are as follows: “Satisfaction rate of trainees who



- 17 -



completed clinical training at the Setthathirath Hospital increases”; and “Evaluation (Reputation) of clinical training at the Setthathirath Hospital from the professional organization is enhanced.” The first indicator is set for measuring the satisfaction rate of trainees regarding the clinical training at the Setthathirath Hospital from the comprehensive perspectives, such as the implementation structure, the quantity of clinical cases, the quality of trainers, etc. Thus, the checklist for the clinical training should be prepared by the Department of Personnel and Doctors’ Committee at the Setthathirath Hospital during the baseline survey (Activity 1-1) in collaboration with the Japanese experts. According to the checklist, the satisfaction rate of trainees should be measured during the cooperation period (every four to eight weeks).




In the second indicator, external audit will be conducted by the third parties including other teaching hospitals, the Department of Curative Medicine in the MOH, the MOE, University of Calgary, etc., in order to grasp the reputations of clinical training at the Setthathirath Hospital. Also, the outline and the items of the audit should be considered by the directors’ committee responsible for the arrangement of external audit (Activity 2-6) in cooperation with the Japanese experts at the beginning of the Project.

5-2 Overall Goal and Super Goal

The Overall Goal and Super Goal are the development effects expected as a result of the achievement of the Project Purpose. The Overall Goal of the Project is “Quality of clinical training for medical doctors in the Lao P.D.R. is improved.” In order to achieve the Overall Goal after the termination of the Project, the Setthathirath Hospital has to continue its sustainable efforts and conduct project-related activities in collaboration with other teaching hospitals, the UHS, related parties of the MOH and the MOE. In addition, the Project sets up the activities for the purpose of attainment of the Overall Goal, such as documentation of the project processes and outcomes (Activity 2-4), holding seminars of clinical training (Activity 2-5), and implementation of TOT for medical doctors working for other three teaching hospitals and provincial hospitals (Activity 3-3). These activities will link the Setthathirath Hospital and other three teaching hospitals. In this way, the Project is designed so as to make preliminary arrangements for achieving the Overall Goal. In Addition, the Overall Goal will be achieved if the clinical training are improved by the MOH and MOE based on the project outcomes as presented in the Important Assumption for the Overall Goal.

The indicator in the Overall Goal is that “Achievement of undergraduate/ Family Medicine Specialist Programs increases.” Quality of clinical training is measured by the academic achievements of undergraduate medical students and post-graduate medical doctors. In this way, the indicator should be traced even after the termination of the Project through the academic reports of completion aggregated in the UHS.

The Super Goal of the Project is that “Skills, knowledge, and attitudes of medical doctors in the whole country are improved.” At the next stage of the Overall Goal, the capacity of medical doctors will be enhanced with the sustainable efforts of the Lao side. Importantly, the Super Goal will be achieved if overseas study programs are carried out as expressed in the Important Assumption for the Super Goal. Also, the indicators of the Super Goal are the utilization rate of

  - 18 - 

district hospitals and the number of medical doctors at district hospitals, and both of them are collected from the Annual Report of the MOH. If the capacity of medical doctors is enhanced across the country, then the changes will be appeared at the rate of hospital utilization and the number of medical doctors at the district level. Further, these indicators in the Overall Goal and the Super Goal should continuously be monitored even after the termination of the Project.

5-3 Outputs

Outputs are specific objectives to achieve the Project Purpose⁹, and they shall be accomplished within the project duration. The following Outputs are set up in the Project.

Output 1: Knowledge and know-how on clinical training of Setthathirath Hospital as a teaching hospital is expanded.

Output 2: The training management system is improved at the Setthathirath Hospital.

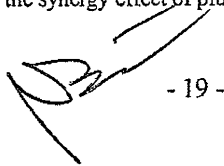
Output 3: Capacities of trainers of clinical training for medical students/doctors are strengthened.

The Output 1 is developed for the purpose of expansion of knowledge and know-how on clinical training as one of the teaching hospitals in the Lao PDR. Specifically, the following activities are raised under Output 1: training for evidence-based medicine for trainers of clinical training; improvement of medical records; accumulation of clinical cases; and so forth. In order to measure the level of medical services, the following indicators are utilized in the Output 1: “the number of doctors who receive training for evidence-based medicine”; “the number of pathological diagnosis”; “the number of transferred patients from other hospitals”; and “the number of compiled clinical cases.” These indicators are aggregated in the medical records filed by the Department of Medical Affairs.

In order to improve the training management system at the Setthathirath Hospital, the Output 2 contains those activities, such as development of concepts/philosophy of clinical training, holding monthly meetings for clinical training, documentation of the project processes and outcomes, holding seminars of clinical training with involved parties, etc. The Project sets up the following indicator, “the number of monthly meetings for clinical training” and “the number of seminars/meetings held among relevant organizations”, in order to measure the achievement of the Output 2.

The aim of the Output 3 is to strengthen the capacities of trainers of clinical training. The trainers are not only preceptors but also the medical doctors who can conduct clinical training by themselves as mentioned above. In order to accomplish the Output 3, the following activities are planned, i.e., drawing up the programs and curriculums of TOT, implementation of TOT for medical doctors working for four teaching hospitals and provincial hospitals, monitoring of trainers; etc. The indicators are prepared as follows: “the levels of skills, knowledge and attitudes of trainers of clinical training at the Setthathirath Hospital”; and “the number of trainers of clinical training who

⁹ The Project Purpose is achieved by the synergy effect of plural Outputs.



receive TOT at the Setthathirath Hospital.” The first indicator is determined through the observation and assessment by the Doctors’ Committee in charge, and the second indicator is obtained from the project/training report.

5-4 Activities

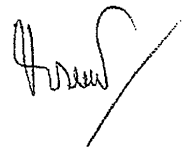
Activities corresponding to each Output are described in sequential order in the PDM. The Plan of Operations (PO) during the project period (three years) includes the schedule of implementation and the responsible persons in charge as shown in Annex 4. Activities under each Output are summarized in the following. The PO might be changed after the commencement of the Project when necessary.

Output 1: Knowledge and know-how on clinical training of Setthathirath Hospital as a teaching hospital is expanded..

- Activity 1-1: Conduct baseline survey on clinical training for medical students/doctors.
- Activity 1-2: Conduct training for evidence-based medicine in the fields of clinical pathology, pathognomy, symptomatology, etc. for trainers of clinical training in consideration of systematic clinical case presentations.
- Activity 1-3: Improve medical records from a viewpoint of follow-up/compiling of clinical cases.
- Activity 1-4: Compile clinical cases systematically for evidence-based medicine.
- Activity 1-5: Implement case conferences of clinical cases for trainees.
- Activity 1-6: Prepare learning materials for case presentations/references for trainees.

At the initial stage of the Project, the baseline survey will be conducted in order to grasp the current conditions of the clinical training for medical students/doctors at the Setthathirath Hospital in detail as well as to confirm and obtain the indicators of the Project.

In order to expand knowledge and know-how on clinical training as a teaching hospital, training for evidence-based medicine (EBM) are conducted for trainers of clinical training in consideration of systematic clinical case presentations. In addition, it is indispensable to improve medical records from a viewpoint of follow-up/compiling of clinical cases. Undergraduate medical students and post-graduate medical doctors stay at the Setthathirath Hospital in a short period (around four to eight weeks) during the clinical training, and they might not be able to meet opportunities to go through sufficient practical cases. Thus, the clinical cases should systematically be compiled for them to be able to refer to the cases even if they do not happen to meet the opportunities of the practical cases within the limited period. By implementing conferences with the cases compiled by the project activities, involved parties are able to share the cases. Also, learning materials on case references are supposed to be prepared for the medical students and doctors participating in the clinical training.

 - 20 -

Output 2: The training management system is improved at the Setthathirath Hospital.

- Activity 2-1: Develop concepts/philosophy of clinical training from a viewpoint of medical education at the Setthathirath Hospital.
- Activity 2-2: Establish a new committee in charge of clinical training.
- Activity 2-3: Hold monthly meetings for clinical training.
- Activity 2-4: Document process, experiences, outcomes, and lessons learned of the clinical training for medical doctors at the Setthathirath Hospital.
- Activity 2-5: Hold seminars of clinical training in collaboration with four teaching hospitals, the Ministry of Health, and the University of Health Sciences.
- Activity 2-6: Arrange external audit.

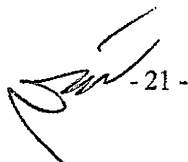
In order to improve the training management system, it is very significant to establish the concepts and philosophy of clinical training from the viewpoint of medical education, feeding back imitable points of good practice models of clinical training which some counterparts watch during the training in Japan after the baseline survey. In the next step, a new committee exclusively responsible for clinical training is to be established for planning, operating, monitoring, and managing the clinical training based on the newly developed concepts/philosophy. Also, monthly meetings for clinical training are held under the initiative of the committee so as to provide a platform for the clinical training.

It is crucial to document efforts made and approaches adopted for the purpose of improvement of clinical training at the Setthathirath Hospital. Through the project implementation, the Setthathirath Hospital will be able to absorb various experiences and lessons which should be documented for other teaching hospitals in the Lao P.D.R. In this way, other teaching hospitals are able to refer to the document prepared by the Setthathirath Hospital. Further, the seminars on clinical training are held annually in collaboration with involved parties. In the seminars, good practices are introduced to the participants and the document will be distributed to them.

In order to evaluate the clinical training for medical doctors at the Setthathirath Hospital, external audits are yearly carried out by the teaching hospitals, the Department of Curative Medicine in the MOH, etc. The external audits are planned to be conducted at the beginning of the Project and right before the mid-term and the terminal evaluation studies.

Output 3: Capacities of trainers of clinical training for medical students/doctors are strengthened.

- Activity 3-1: Draw up the programs and curriculums of training of trainers (TOT).
- Activity 3-2: Prepare teaching materials for TOT.
- Activity 3-3: Conduct TOT for medical doctors working for four (4) teaching hospitals and provincial hospitals in the areas of pedagogy, problem-based learning clinical training, clinical presentations, training management by team approach and teaching system, self-learning, etc.
- Activity 3-4: Set up the monitoring criteria for trainers of clinical training.
- Activity 3-5: Monitor and evaluate trainers of clinical training.

- 21 -

The programs and curriculums of TOT are drawn up in the first place. According to the programs and curriculums, teaching materials are prepared in order to conduct training for trainers (preceptors, staff doctors, medical doctors who conduct clinical training, etc.) of clinical training at the Setthathirath Hospital. In the latter half of the Project, TOT is planned to be conducted for the medical doctors working for other teaching hospitals and provincial hospitals by the trainers of the Setthathirath Hospital nurtured by the Project.

In order to monitor trainers of clinical training, it is necessary to set up the monitoring criteria before launching the TOT. According to the criteria, monitoring activities are carried out on regular basis.

5-5 Inputs

5-5-1 Inputs from Japanese Side

- 1) Dispatch of experts
 - (1) Chief Advisor
 - (2) Medical Education
 - (3) Pedagogy
 - (4) Evidence Based Medicine
 - (5) Epidemiology
 - (6) Internal Medicine
 - (7) Emergency
 - (8) Medical Record Management
 - (9) Clinical Pathology
 - (10) Clinical Laboratory
 - (11) Training Management and Evaluation

(Note: The number of experts will be smaller than the number of above-mentioned fields, because some experts will be in charge of several fields. At the moment, such envisaged examples are as follows;

- Chief Advisor/Evidence Based Medicine/Epidemiology
- Medical Education/Pedagogy)

The experts will be dispatched in accordance with the needs for effective implementation of the Project. Other experts in the fields mutually agreed upon may be dispatched.

- 2) Training of counterpart personnel in Japan
 - Medical Education
- 3) Equipment/materials
 - Equipment for Medical Education
 - Equipment for Clinical Medicine (for education)



5-5-2 Inputs from Lao Side

1) Allocation of counterparts (Personnel)

Lao counterparts for the Project are to be assigned as follows.

- Project Director: Dean of the University of Health Sciences
- Deputy Project Director: Director of the Setthathirath Hospital
- Project Manager: Deputy Director of the Setthathirath Hospital (in charge of medical education)
- Counterpart personnel:
 - *Departments of Medical Affairs, Internal Medicine, Surgery, Obstetrics and Gynecology, Pediatrics, Laboratory, Statistics, Gastro, etc. at the Setthathirath Hospital
 - *Department of Medicine, the University of Health Sciences

2) Provision of the project office and facilities necessary for the implementation of the Project

- Project offices for JICA experts
- Furniture in the office
- Office supplies
- Facilities, etc.

3) Others

- Administrative and operational costs
- Running costs for electricity, water, etc.
- Maintenance costs

5-6 Important Assumptions and Risk Analysis

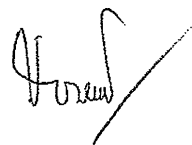
Important Assumptions are conditions necessary for achieving (an) objective(s) in the upper level after implementing activities or achieving objectives specified for each component of the Narrative Summary from the Activities to the Super Goal.

5-6-1 Important Assumptions from the Activities to the Outputs

Important Assumptions from Activities to Outputs are that "Trainers of clinical training continue working as teaching doctors" and "The number of patients is not reduced drastically at the Setthathirath Hospital."

Although TOT is to be conducted under the Output 3, it is not expected that capacities of trainers of clinical training are enhanced unless the trainers of clinical training continue working as teaching doctors. Thus, this assumption is added in the PDM, and monitoring activities should be continuously conducted. Further, if it is judged that this assumption is not fulfilled, parts of the project should be modified immediately.

In terms of the second assumption, it is difficult to achieve the Output 1 if the number of clinical cases at the Setthathirath Hospital is reduced drastically. Therefore, it is necessary to monitor the number of patients with attention so as to take actions rapidly when such a situation takes place.



5-6-2 Important Assumption from the Outputs to the Project Purpose

The Important Assumption from the Outputs to the Project Purpose is that “The MOH continues to secure the budget for the clinical training at the educational hospitals.”

It is crucial to secure the budget for the continuation of the clinical training at the Setthathirath Hospital during the cooperation period in order to attain the Project Purpose. Thus, it is necessary to discuss the matters of operational expenses for the clinical training and the Lao side is expected to allocate the budget for the clinical training at the teaching hospitals appropriately in order to accomplish the Project Purpose.

5-6-3 Important Assumption from the Project Purpose to the Overall Goal

Important Assumption from the Project Purpose to the Overall Goal is as follow: “The MOH improves clinical training based on the outcomes of this project.”

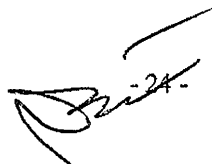
After the termination of the Project, it is necessary for the MOH to institutionalize the implementation methods of clinical training based on the experiences and outcomes of the Project so as to accomplish the Overall Goal. The Project also contains several activities leading to the Overall Goal, such as documentation of the project processes and outcomes (Activity 2-4), holding seminars of clinical training (Activity 2-5), and implementation of TOT for medical doctors working for four teaching hospitals and provincial hospitals (Activity 3-3) as mentioned earlier. However, the achievement of the Overall Goal greatly depends on sustainable efforts by the Lao side. Thus, the assumption is added in the PDM, and the Lao side should promote the institutionalization of the clinical training conducted by the Project on their own initiative for the purpose of the achievement of the Overall Goal.

5-6-4 Important Assumption from the Overall Goal to the Super Goal

The Important Assumption from the Overall Goal to the Super Goal is as follow: “Overseas study programs (Long-term training programs) for obtaining a master or doctoral degree are carried out.” In order to improve the skills, knowledge, and attitudes of medical doctors in the Lao P.D.R., the excellent medical doctors leading to the Super Goal should learn and acquire higher knowledge and skills through the long-term training programs in foreign countries. This assumption is added in the PDM, and the Lao side should continue monitoring activities even after the termination of the Project.

5-6-5 Important Assumption for Maintaining the Super Goal

Important Assumption for maintaining the Super Goal is that “Medical doctors are appropriately deployed at district hospitals and health centers in line with the policy of the MOH.” It is expected that medical doctors will be deployed in rural areas in order to provide appropriate medical care services for the people living there. Even if there are many capable medical doctors only in specific areas, such as Vientiane City, it does not make sense. Thus, this assumption must be fulfilled in order to maintain the situation in which capable medical doctors serve in the whole country. However, medical doctors are not willing to work at health centers in rural areas, so it is a



big challenge how to motivate medical doctors to work at the district level, especially at health centers. Therefore, this assumption is added in the PDM, and monitoring activities should be continuously conducted.

5-7 Pre-conditions

Pre-conditions are the requirements that should be fulfilled before the commencement of the Project. In the Project, the Pre-condition is that “Cooperation and agreement on the project implementation are obtained from the MOH.”

6. Ex-ante Evaluation

As a result of an evaluation from the viewpoints below, it is judged that the implementation of the Project is appropriate.

6-1 Relevance

For the following reasons, the Project is judged to be of high relevance:

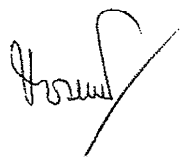
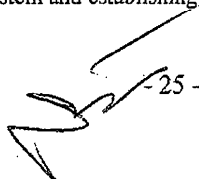
<Consistency with the policies of the Lao government and Needs>

- (1) The “Health Strategy up to the Year 2020” has emphasized the development of health care by presenting six key principles¹⁰. Among these principles, “strengthening the capacity of health staff, in terms of attitudes, ethics, and technical skills” is listed in order to ensure high quality services. Also, the National Growth and Poverty Eradication Strategy (NGPES) places considerable emphasis on the development of the health sector. Among health professions, medical doctors play a key role, and this project aims at improvement of clinical training of medical doctors at the Sethathirath Hospital for nurturing basic competency as medical doctors. Activities of this project will be expected to contribute to improvement of quality of medical doctors in the long run, so the direction of the project corresponds to the Strategy and Plan and the needs of Lao P.D.R.

<Consistency with the policies of the government of Japan>

- (2) Japan’s Country Assistance Program for Lao PDR (September, 2006)” by the Ministry of Foreign Affairs of Japan places “improving healthcare services” as one of six priority areas, and human resources development related to the health and medical field (capacity development for healthcare workers) is described in the assistance policy of the priority areas.

¹⁰ Six key principles are as follows: (1) Strengthening the ability of health care providers; (2) Improving community-based health promotion and disease prevention; (3) Improving and expanding hospitals at all levels and in remote areas; (4) Promoting and strengthening the use of traditional medicine with the integration of modern and traditional care, ensuring the quality, safety and rational use of food and drug, promoting national pharmaceutical product; (5) Promoting the operational health research; and (6) Ensuring effective health administration and management, self-sufficient financial system and establishing health insurance fund.



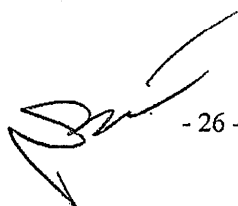
Therefore, the direction of the Project is in line with the content of this Country Assistance Program.

- (3) There are three healthcare-related programs in the JICA's country implementation plan of the Lao P.D.R. (JFY2006), and this Project is positioned in the Program on Capacity Development for Human Resources in the Health Sector. Also, one of the objectives in the Program is to improve healthcare standards of the Lao P.D.R. through the capacity development for medical doctors and the system development for human resources. Thus, the long-term objective of this Project is consistent with this Program.

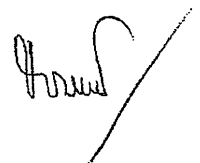
6-2 Effectiveness

For the following reasons, it is expected that this Project will be effective:

- (1) The Project Purpose is to be achieved by the synergy effects of multiple Outputs. In order to accomplish the Project Purpose, the following Outputs are established: (a) Expansion of knowledge and know-how on clinical training as a teaching hospital; (b) Improvement of the training management system; and (c) Capacity development for trainers of clinical training. As mentioned in 5.1 "Project Purpose" of the Chapter 5, in terms of (a), in order to expand the basis of knowledge and know-how to conduct clinical training for medical students and doctors as a teaching hospital, such activities are conducted as training for EBM, compiling clinical cases, case conferences of clinical cases for trainees, etc. Regarding (b), the training management system is to be improved at the Setthathirath Hospital whereas the Project adjusts the system for promoting the clinical training efficiently in collaboration with related agencies and organizations at the same time. Also, with reference to (c), TOT is conducted for the trainers of clinical training working for the Setthathirath Hospital. Thus, the Project is designed so as to achieve the Project Purpose, improvement of quality of clinical training for medical doctors, as the synergy effects of each Output. Therefore, it is highly expected that the Project Purpose is achieved at the end of the cooperation period in combination with the Output 1 to 3 in an effective manner.
- (2) Although the activities necessary for improvement of quality of clinical training are conducted in this Project, quality of clinical training could not be improved without implementation of those training *per se*. Thus, the Important Assumption for the Project Purpose has been set as "The MOH continues to secure the budget for the clinical training at the educational hospitals." It is indispensable to take actions with the initiative of the Lao side as well as to promote the budgetary measures for clinical training including personnel assignment and implementation of clinical training so as to improve the quality of clinical training.



- 26 -



6-3 Efficiency

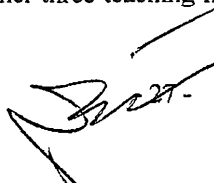
There are prospects that the Project is efficiently implemented for the following reasons:

- (1) Since the technical basis on medical services had been established in the technical cooperation project "The Project for the Improvement of the Setthathirath Hospital in the Lao PDR (1999-2004)" implemented in the past, it is expected that the project activities are efficiently conducted through the effective utilization of various experiences and lessons learned as well as human resources nurtured in the former Project.
- (2) Responsible persons and departments in charge of each project activity is clearly described as shown in the Plan of Operations (PO: see Annex 4). This implies that the ownership of the Project is gradually being cultivated. Also, the project counterparts are appropriately assigned for each project activity.
- (3) From the perspective of the project efficiency, it is crucial to communicate and coordinate appropriately with other donors, such as the ADB, WHO, University of Calgary, etc., in order to avoid duplication of similar activities among these donors. Thus, it is necessary to establish the environment to collaborate and communicate adequately with other donors right after the commencement of the Project.

6-4 Impact

The Impact of this Project is expected to be as follows:

- (1) It is necessary to involve other three teaching hospitals in Vientiane City in order to accomplish improvement of quality of clinical training (Overall Goal) and capacity development for medical doctors (Super Goal) from the perspective of spread of effect to the whole country. Thus, the Setthathirath Hospital shares skills and knowledge obtained by the Project with other three teaching hospitals through documentation of the experiences and lessons learned of clinical training at the Setthathirath Hospital (Activity 2-4) as well as holding seminars of clinical training together with related agencies and organizations (Activity 2-5). That is, the Setthathirath Hospital aims at improving the quality of clinical training so as to be a reference of other teaching hospitals. Also, external audits are supposed to be conducted in the Activity 2-6. This activity is for enhancing the function of clinical training by feeding constructive recommendations from other teaching hospitals and the Department of Curative Medicine in the MOH back to the Setthathirath Hospital. In this way, there is a prospect that the Overall Goal will be achieved in several years after the termination of the Project if the structure for clinical training in the Lao P.D.R. is consolidated for upgrading the quality of clinical training through collaborating with other three teaching hospitals and sharing the common recognition



with related agencies and organizations.

- (2) In terms of the capacity development for trainers of clinical training in the Output 3, TOT is conducted for trainers of clinical training who work at the Setthathirath Hospital. Additionally, it is necessary to actively support the capacity development for trainers of clinical training at other three teaching hospitals and regional/provincial hospitals in order to promote the preparation for the achievements of the Overall Goal and the Super Goal during the cooperation period. Therefore, the Project prepares for the spread of effect of the project activities to the whole country through TOT for medical doctors working at other three teaching hospitals and regional/provincial hospitals (Activity 3-3) in the latter half of the Project while monitoring the progress of the Project. In this way, it is significant to establish the mechanism for spread of effect produced at the Setthathirath Hospital to the whole country through considering measures and procedures for achieving the Overall Goal and Super Goal during the cooperation period.
- (3) Important Assumption from the Project Purpose to the Overall Goal is that “The MOH improves clinical training based on the outcomes of this Project.” The Overall Goal will not be achieved unless this condition is fulfilled after the termination of the Project although the condition greatly depends on the relationship-building with the MOH. Therefore, it is necessary to thickly communicate with the MOH so as to establish the trusting relationship with key persons in the MOH and operate project activities smoothly during the cooperation period.

6-5 Sustainability

The sustainability of this Project will be expected as follows:

<Continuation of the policy support>

- (1) As mentioned in the Relevance, the “Health Strategy up to the Year 2020” has emphasized “strengthening the capacity of health staff.” Therefore, there is a prospect that the policy support will be continued from the Lao side during the cooperation period and even after the termination of the Project.

<Organizational capacity for the project continuation - Ownership towards the Project>

- (2) Activities promoting the ownership and the project continuity are incorporated in this Project. The capacity of trainers of clinical training is enhanced by TOT through activities under Output 3. These trainers are able to teach other medical doctors and medical students on their own initiative, so that it is expected that the ownership and the continuity of the Project are enhanced. With reference to the Activity 2-1, furthermore, because the concepts and philosophy of clinical training will be established in participation of medical staff at the Hospital with some counterparts who take part in the training course in Japan and watch good practices in



Japan, the ownership of the counterparts towards the Project will be cultivated by promoting the project activities along with these concepts/philosophy.

7. Monitoring and Evaluation

7-1 Monitoring

In this Project, it is planned to improve medical records (Activity 1-3) from a viewpoint of follow-up/compiling of clinical cases and compile clinical cases systematically (Activity 1-4) in order to smoothly conduct monitoring on expansion of knowledge and know-how on clinical training.

A new committee in charge of clinical training is to be established (Activity 2-2) as one of activities for the purpose of improvement of the training management system. Monthly meetings for clinical training are held under the initiative of the committee, and the committee members discuss the problems on the implementation of the clinical training, the solutions, and the adjusting points. Also, the issues which are not solved in the meetings should be taken up as the priority agenda of the Joint Coordinating Committee (JCC).

Additionally, with reference to capacity development for trainers of clinical training, the monitoring criteria necessary for monitoring activities are set up (Activity 3-4) and monitoring activities on trainers of clinical training are properly conducted along with the criteria (Activity 3-5).

If it is necessary to modify parts of this project because of inhibiting factors detected through the monitoring activities, the contents of the project plan are to be modified by holding the JCC meetings upon necessity.

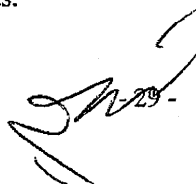
The practical monitoring formation of the Project will be discussed and fixed with the Lao side after the commencement of the Project.

7-2 Evaluation

The annual achievements and the process of the Project are to be reported to the JCC and evaluated jointly by the Japanese and Lao sides, and then to be fed back to the plan of the next year. In particular, the JICA will send the evaluation missions around the middle of the cooperation period (in one and a half years after the commencement of the Project) and six months before the termination of the Project for the mid-term and terminal evaluation studies, respectively.

The latest situation on clinical training is grasped through the Baseline Survey in Activity 1-1 and the target values and the evaluation criteria of the indicators are confirmed for the mid-term and terminal evaluation studies.

The external audits (Activity 2-6) are conducted before the mid-term and terminal evaluation studies, and the detail evaluation analysis is promoted from the perspective of five evaluation criteria by utilizing the results validly. In this way, the evaluation will be conducted so as to make recommendations regarding the measures to be taken for improvement of the project activities and to draw the lessons learned for the improvement in planning and implementation of similar technical cooperation projects.



Annex 1 Assistance for health education through major international organizations and bilateral aid agencies

Donors	Contents of assistance
World Bank	<p>In the Health Service Improvement Project (2006-2010: Overall budget is around \$US 15 million), the target population, 2.4 million (40% of total population in the Lao PDR), is inhabitants in seven provinces of the central and southern regions. There are some localities in seven provinces where the ADB carries out its own program. Capacity development for human resources in the health sector including administrative officials is planned in the component 2, Strengthening Institutional Capacity for Health Services Provision, of this Project.</p> <ul style="list-style-type: none"> • <u>Sub-component 2.1: General training</u> Training on surgery, anesthesiology, obstetrics and gynecology, pediatrics, otorhinolaryngology, dentistry, laboratory, sonography, first aid, nursing care, etc. (3 to 6 months) • <u>Sub-component 2.2: Capacity development for medical education</u> Capacity development for the instructors of the FMS <ul style="list-style-type: none"> - Local training for instructors (70 instructors) - Short-term training course on curriculum management and student assessment at Chulalongkorn University in Thailand (16 participants) - Training course on pathology, parasitology, microbiology at Chiang Mai University in Thailand (six months) - Fellowship in master courses on basic sciences at Khon Kaen University and Chiang Mai University in Thailand (seven persons for two years) <p>Assistance to the Family Medicine Specialist Program (FMSP)</p> <ul style="list-style-type: none"> - Daily allowance of trainees, traveling expense to other provinces, etc. (around \$US 0.15 million) <p>Infrastructure for medical education</p> <ul style="list-style-type: none"> - Provision of the building of headquarters office in FMS, lecture rooms, library, educational equipment, etc. - Provision of equipment to Mahosoth Hospital - Reconstruction of headquarters office at Friendship Hospital
ADB	<p>The Primary Health Care Extension Project (2001-2006: total budget US\$ 20 million) plans the expansion of primary health care (PHC) services in districts, health centers, and villages of seven provinces in the northern region, including training for human resources in the health sector and refresher training.</p> <p>Furthermore, the "PHC doctor" fulfilling the intermediate role between medical doctors and assistants is considered as a new qualification under the review of the MOH at this moment, and there is a prospect that ADB financially supports the training programs if this qualification is approved.</p>
WHO	<p>Technical assistance by consultants is mainly conducted for the MOH in terms of overall health policies, such as analysis of human resources for health, planning of capacity development in the health sector, and planning of laws on health care.</p>
Luxemburg	<p>Luxemburg (Lux) supports human resource development of nursing and midwifery at Vientiane Province School of Nursing (VPSON). Also, Lux is supposed to take over functional enhancement of the Integrated Community Health Center and the expansion program of comprehensive regional health care services in Vientiane Province from the Belgian Technical Cooperation (BTC).</p> <p>With reference to the medical education, the following assistances are conducted:</p> <ul style="list-style-type: none"> • Lux financially supports curriculum development, TOT, and supervision of the FMSP for five years (approximately US\$ 0.5 million from 2003 to 2008); and • Lux technically supports the Maria Teresa Hospital in Vientiane Province which assists post-graduate training for medical doctors as a training hospital for the 2nd-year doctors in the FMSP.
CIDA	<p>CIDA provides financial assistance for FMSP which is technically supported by the University of Calgary (2004-2010: C\$ 1.0 million).</p>

Source: Literature survey and hearing investigation from each donor agency

Annex 2 Assistance for FMS from donor agencies

Donors	Contents of assistance	Period	Budget (\$US)
China Medical Board (USA)	Financial aid for instructors' training and textbooks	2002-2007	500,000
Case Western Reserve University (USA)	Assistance for the resident courses in pediatrics and internal medicine (first phase)	1997-2000	784,000
Der Deutsche Akademische Austauschdienst (DAAD : Germany)	Assistance for the resident courses in obstetrics and gynecology	2002-2007	238,771
Christopher Blindness Mission (CBM: Australian NGO)	Assistance for the resident courses in ophthalmology	2002-2007	165,780
Agence universitaire de la Francophonie (AUF : France)	Assistance for the resident courses in radiology	2005-2007	13,000 Euro
Health Frontiers (USA)	Assistance for the resident courses in pediatrics and internal medicine (second phase)	2005-2008	200,700
Rockefeller Foundation (USA)	Assistance for the master course on public health	2006-2008	204,000
Asia-Link (EU)	Assistance for the post-graduate training programs on psychotherapy	2006-2008	159,000 Euro

Source: Hearing investigation from the person in charge of international exchange in FMS

Annex 3: PDM₀

Project Name : Project for Medical Education and Research of the Sethathirath Hospital in the Lao P.D.R.

Target Group : Trainers of clinical training for medical students/doctors

Target Area : Sethathirath Hospital

Project Period : 2007 – 2010 (3 years)

Date : October 8, 2007

Version : No. 0

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
<p>Super Goal Skills, knowledge, and attitudes of medical doctors in the whole country are improved.</p>	<ol style="list-style-type: none"> The utilization rate of district hospitals increases. The number of medical doctors at district hospitals increases. 	<ol style="list-style-type: none"> Annual Report from Ministry of Health Annual Report from Ministry of Health 	<p>Medical doctors are appropriately deployed at district hospitals and health centers in line with the policy of the MOH.</p>
<p>Overall Goal Quality of clinical training for medical doctors in the Lao P.D.R. is improved.</p>	<ol style="list-style-type: none"> Achievement of undergraduate / Family Medicine Specialist Programs increases. 	<ol style="list-style-type: none"> Academic report of completion by the University of Health Science 	<p>Overseas study programs (Long-term training programs) for obtaining a master or doctorial degree are carried out.</p>
<p>Project Purpose Quality of undergraduate clinical training and early postgraduate clinical training for those who graduated from the Department of Medicine, the University of Health Sciences within two years at the Sethathirath Hospital is improved.</p>	<ol style="list-style-type: none"> Satisfaction rate of trainees who completed clinical training at the Sethathirath Hospital increases. Evaluation (Reputation) of clinical training at the Sethathirath Hospital from the professional organization is enhanced. 	<ol style="list-style-type: none"> Trainee Assessment by Department of Personnel and Doctors' Committee at the Sethathirath Hospital External audit from other teaching hospitals, Curative Department of MOH 	<p>The MOH improves clinical training based on the outcomes of this project.</p>
<p>Outputs</p> <ol style="list-style-type: none"> Knowledge and know-how on clinical training of Sethathirath Hospital as a teaching hospital is expanded. The training management system is improved at the Sethathirath Hospital. Capacities of trainers of clinical training for medical students/doctors are strengthened. 	<ol style="list-style-type: none"> 1-1. The number of doctors who receive training for evidence-based medicine increases. 1-2. The number of pathological diagnosis increases. 1-3. The number of transferred patients from other hospitals increases. 1-4. The number of compiled clinical cases increases. 2-1. The number of monthly meetings for clinical training is increased. 2-2. The number of seminars/meetings held among relevant organizations is increased. 3-1. The levels of skills, knowledge and attitude of trainers of clinical training at the Sethathirath Hospital are enhanced. 3-2. The number of trainers of clinical training for medical students/doctors who receive TOT at the Sethathirath Hospital increases. 	<ol style="list-style-type: none"> 1-1. Medical Records in Medical Affairs 1-2. Medical Records in Medical Affairs 1-3. Medical Records in Medical Affairs 1-4. Medical Records in Medical Affairs 2-1. Project Report 2-2. Project Report 3-1. Observation/Assessment by Doctors' Committee in charge, i.e. DTC (Drug Treatment Committee) 3-2. Project Report / Training Report 	<p>The MOH continues to secure the budget for the clinical training at the educational hospitals.</p>

Activities	Inputs	Lao side	1. Trainers of clinical training continue working as teaching doctors. 2. The number of patients is not reduced drastically at the Ssethathirath Hospital.
<p>1-1 Conduct baseline survey on clinical training for medical students/doctors.</p> <p>1-2 Conduct training for evidence-based medicine in the fields of clinical pathology, pathognomy, symptomatology, etc. for trainers of clinical training in consideration of systematic clinical case presentations.</p> <p>1-3 Improve medical records from a viewpoint of follow-up/compiling of clinical cases.</p> <p>1-4 Compile clinical cases systematically for evidence-based medicine.</p> <p>1-5 Implement case conferences of clinical cases for trainees.</p> <p>1-6 Prepare learning materials for case presentations/references for trainees.</p>	<p>Japanese side (tentative)</p> <p>1. Experts Chief Advisor, Medical Education, Pedagogy, Evidence Based Medicine, Epidemiology, Internal Medicine, Medical Record Management, Emergency Medicine, Clinical Laboratory, Clinical Pathology, Training Management and Evaluation (Note: The number of experts will be smaller than the number of above-mentioned fields, because some experts will be in charge of several fields. At the moment, such envisaged examples are as follows; - Chief Advisor/Evidence Based Medicine/Epidemiology - Medical Education/Pedagogy)</p>	<p>1. Personnel Project Director Deputy Project Director Project Manager Counterpart personnel</p> <p>2. Provision of the project office and facilities necessary for the implementation of the project</p> <p>3. Others Administrative and operational costs Running costs for electricity, water, etc.</p>	
<p>2-1 Develop concepts/philosophy of clinical training from a viewpoint of medical education at the Ssethathirath Hospital.</p> <p>2-2 Establish a new committee in charge of clinical training.</p> <p>2-3 Hold monthly meetings for clinical training.</p> <p>2-4 Document process, experiences, outcomes, and lessons learned of the clinical training for medical students/doctors at the Ssethathirath Hospital.</p> <p>2-5 Hold seminars of clinical training in collaboration with four teaching hospitals, the Ministry of Health and the University of Health Science.</p> <p>2-6 Arrange external audit.</p>	<p>2. Training of counterpart personnel in Japan Medical Education</p> <p>3. Equipment/materials Equipment for Medical Education, Equipment for Clinical Medicine for Educational Purposes</p>		
<p>3-1 Draw up the programs and curriculums of training of trainers (TOT).</p> <p>3-2 Prepare teaching materials for TOT.</p> <p>3-3 Conduct TOT for medical doctors working for four (4) teaching hospitals and provincial hospitals in the areas of pedagogy, problem-based learning clinical training, clinical presentations, training management by team approach and teaching system, self-learning, etc.</p> <p>3-4 Set up the monitoring criteria for trainers of clinical training.</p> <p>3-5 Monitor and evaluate trainers of clinical training.</p>			<p>Pre-conditions Cooperation and agreement on the project implementation are obtained from the MOH.</p>

Plan of Operations (PO)
(Tentative Version)

Project for Medical Education and Research of the Setthathirath Hospital

Year 07	08												09												10												Responsible Persons																																																																																																																																																										
	Month	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11		12																																																																																																																																																									
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<p>OUTPUT 1. Knowledge and know-how on clinical training of Setthathirath Hospital as a teaching hospital is expanded.</p> <p>1-1 Conduct baseline survey on clinical training for medical students/doctors.</p> <p>1-2 Conduct training for evidence-based medicine in the fields of clinical pathology, pathogeny, symptomatology, etc. for trainers of clinical training in consideration of systematic clinical case presentations.</p> <p>1-3 Improve medical records from a viewpoint of follow-up/compiling of clinical cases.</p> <p>1-4 Compile clinical cases systematically for evidence-based medicine.</p> <p>1-5 Implement case conferences of clinical cases for trainees.</p> <p>1-6 Prepare learning materials for case presentations/references for trainees.</p>																																																<p>OUTPUT 2. The training management system is improved at the Setthathirath Hospital.</p> <p>2-1 Develop concepts/philosophy of clinical training from a viewpoint of medical education at the Setthathirath Hospital.</p> <p>2-2 Establish a new committee in charge of clinical training.</p> <p>2-3 Hold monthly meetings for clinical training.</p> <p>2-4 Document process, experiences, outcomes, and lessons learned of the clinical training for medical doctors at the Setthathirath Hospital.</p> <p>2-5 Hold seminars of clinical training in collaboration with four teaching hospitals, the Ministry of Health, and the University of Health Sciences.</p> <p>2-6 Arrange external audit.</p>																																																<p>OUTPUT 3. Capacities of trainers of clinical training for medical students/doctors are strengthened.</p> <p>3-1 Draw up the programs of training of trainers (TOT).</p> <p>3-2 Prepare teaching materials for TOT.</p> <p>3-3 Conduct TOT for medical doctors working for four (4) teaching hospitals and provincial hospitals in the areas of pedagogy, problem-based learning clinical training, clinical presentations, training management by team approach and teaching system, self-learning, etc.</p> <p>3-4 Set up the monitoring criteria for trainers of clinical training.</p> <p>3-5 Monitor and evaluate trainers of clinical training.</p>																																																<p>Doctors' committee (Dr. Ou Keo, Head of Doctors' Committee / Chief of Out Patient Department and Gastroenterology)</p> <p>Dr. Yangsavath (Deputy Chief of Laboratory), Dr. Phetsamon (Chief of Pathology), Dr. Nianh (Deputy Director of Medical School)</p> <p>Dr. Yang Yaj (Deputy Director), Dr. Khamsavanh (Deputy Chief of Medical Affairs), Ms. Manolome (Deputy Chief of Statistics)</p> <p>Dr. Phay (Chief of General Affairs), Dr. Kham La (Chief of Internal Medicine), Dr. Kham Loun (Deputy Chief of Internal Medicine)</p> <p>Dr. Phay (Chief of General Affairs), Dr. Kham La (Chief of Internal Medicine), Dr. Kham Loun (Deputy Chief of Internal Medicine)</p> <p>Dr. Phay (Chief of General Affairs), Dr. Kham La (Chief of Internal Medicine), Dr. Kham Loun (Deputy Chief of Internal Medicine)</p> <p>Dr. Kampe (Deputy Director), Dr. Bourthiang (Chief of OB/GY), Dr. Somchanh (Chief of Internal Medicine), Dr. Chekham (Chief of Surgery)</p> <p>Doctors' committee (Dr. Ou Keo)</p> <p>Dr. Kolsasoth (Deputy Chief of Pediatrics), Dr. Boumy (Deputy Chief of Internal Med.), Dr. Keckesthon (Deputy Chief of OB/GY)</p> <p>Dr. Yangsavath (Deputy Director), Dr. Soudeth (Deputy Chief of Pediatrics), Dr. Bouathep (Chief of Rehabilitation)</p> <p>Dr. Som-Ok (Director), Dr. Kampe (Deputy Director), Dr. Boudhavong (Deputy Chief of Academic Affairs), Dr. Thavong (Deputy Chief of Surgery)</p> <p>Director Committee of Setthathirath Hospital (Director and two Deputy Directors: Dr. Kamap)</p> <p>Dr. Mamvint Soubhathong (Director of Medical School), Dr. Ou Keo (Chief of Gastro), Dr. Bouathep (Chief of rehabilitation), Chief of four Departments (Internal, Surgery, OB/GY, Pediatrics)</p>																																															

underline: key person

↔ C/P training

* The start of the Project, schedules described in this chart and so on are subject to modifications through further examination and discussions.

Annex 5 Current state of medical services at Setthathirath Hospital

Types of medical services		Unit	2005	2006
1	Outpatient	Patients per year	53,974	74,332
	Average # of outpatients per day	Patients per day	210	285
2	Inpatient	Patients per year	36,334	40,535
	Average # of inpatients per day	Patients per day	102	111
3	Emergency	Patients per year	84,048	30,239
4	Delivery	Patients per year	1,172	1,155
5	Cesarean section (C/S)	Patients per year	153	176
	The percentage of C/S	%	13.05	15.23
6	ANC visit	Patients per year	7,321	7,143
7	Family planning	Patients per year	1,746	1,940
8	Injury	Patients per year	2,125	6,297
	Accidents	Patients per year	1,644	5,753
	Others	Patients per year	481	544
9	Major surgery	Patients per year	624	240
	Medium surgery	Patients per year	760	584
	Minor surgery	Patients per year	726	2,058
10	Bed occupancy rate	%	56.88	63.45
11	Mortality rate	%	0.28	0.33
12	Infant mortality rate (< 1 year)	%	0.02	2.97
13	Laboratory	Patients per year	63,779	71,946
14	X-Ray	Patients per year	7,177	8,749
15	CT Scanner	Patients per year	786	760
16	Electrocardiogram (EKG)	Patients per year	2,858	3,024
17	Ultrasonography	Patients per year	5,333	3,659
18	Endoscopy	Patients per year	446	1,881

Source: Statistical data of Setthathirath Hospital

Remarks:

- Major operations are the followings: appendicitis, tumor, bilestone, nephro-extraction, exsection of interspinal disk, hysterectomy, Caesarian operation, etc.
- External injury of bones is transferred to Friendship Hospital.
- Sectio cadaveris is not carried out because of religious reasons.
- Regarding in-hospital infection, the pilot studies were conducted through the anesthesia after the operation at ICU, the line tube after the operation at the surgical unit, etc., the positive ratio of pseudomonas was 80-90%.

Annex 6. Major morbidity and mortality of outpatients and inpatients at the Setthathirath Hospital

Annex 6-1 Outpatients at Setthathirath Hospital (Major morbidity in 2006)

Ranking	Morbidity	Case	%
1	Fever	5,055	24.45
2	Pain located to upper abdominal	2,014	9.74
3	Injury	1,899	9.18
4	Malise and fatigue	1,986	9.28
5	Pharyngitis	1,919	9.16
6	Gastritis	1,894	9.16
7	Neuralgic and neuritis	1,830	8.85
8	Diarrhea	1,650	7.98
9	Tonsillitis	1,505	7.28
10	Dengue Fever	916	4.43
	Total	20,668	

Source: Statistical data of Setthathirath Hospital

Annex 6-2 Inpatients at Setthathirath Hospital (Major morbidity in 2006)

Ranking	Morbidity	Case	%
1	Appendicitis	537	19.56
2	Injury	427	15.59
3	Essential hypertension	331	12.06
4	Pneumonia	328	11.95
5	Fever	328	11.95
6	Diarrhea	314	11.44
7	Gastritis	163	5.94
8	Calculus of Kidney	120	4.37
9	Tonsillitis	116	4.22
10	Asthma	79	2.87
	Total	2,744	

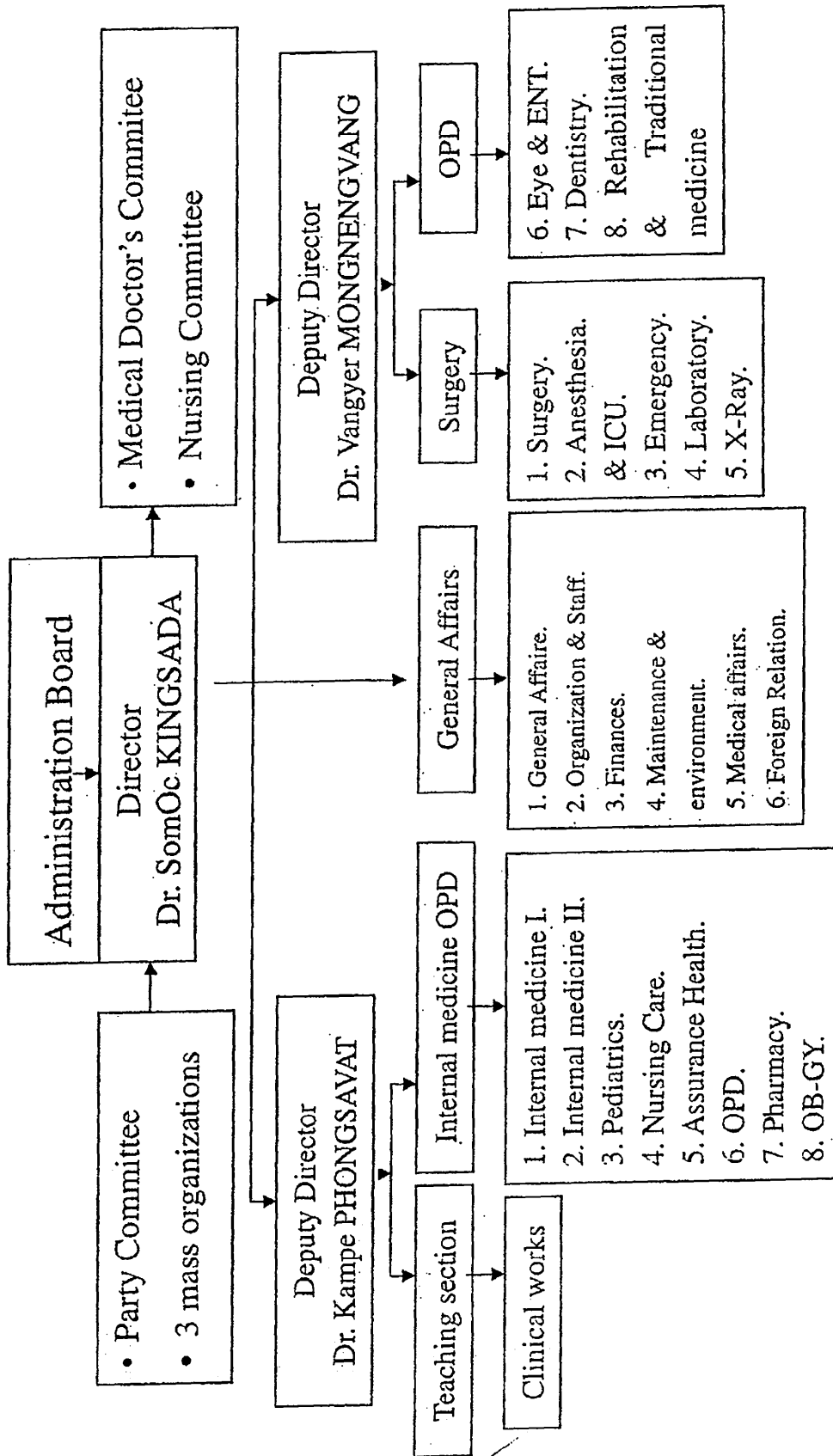
Source: Statistical data of Setthathirath Hospital

Annex 6-3 Major mortality at Setthathirath Hospital (2006)

	Diagnosis	0-12 months		2-4 years		5-9 years		10-14 years		15-49 years		More than 50 years		Total
		M	F	M	F	M	F	M	F	M	F	M	F	
1	Cardiac disease	1	-	-	-	1	-	-	-	3	2	4	6	17
2	Intracranial injury	-	-	-	-	-	-	1	3	-	8	-	1	13
3	Pneumonia	1	1	-	1	1	-	-	-	-	1	2	1	8
4	Cardiac failure	1	1	-	-	1	-	-	-	-	-	2	-	5
5	Essential hypertension	-	-	-	-	-	-	-	-	2	-	1	2	5
6	Tuberculosis	-	-	-	-	-	-	-	-	-	1	-	4	5
7	Lung edema	-	-	-	-	-	-	-	-	-	-	3	2	5
8	Liver cancer	-	-	-	-	-	-	-	-	-	1	-	4	5
9	Diabetes	-	-	-	-	-	-	-	-	-	-	-	4	4
10	AIDS	-	-	-	-	-	-	-	-	1	3	-	-	4
	Subtotal	3	2	-	1	3	-	1	3	6	16	12	24	71
	Others	7	6	1	-	3	-	-	1	14	7	9	16	64
	Total	10	8	1	1	6	-	1	4	20	23	21	40	135

Source: Statistical data of Setthathirath Hospital

Annex 7 Organizational Chart at the Sethathirath Hospital



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Annex 8: Curriculum of the Bachelor of Medicine (Revised Version in 2004: For six-year program)

Subject	credit
1st year Founcaion Study : 33 credits	
Lao Culture	4(4-0-0)
English 1	2(0-4-0)
French 1	
Physical Education	1(1-1-0)
Environment Education	1(1-1-0)
Lao Education 1	2(2-0-1)
Mathematics	3(2-2-0)
Chemistry	3(2-2-1)
Lao Education 2	2(2-0-0)
Policy	3(3-0-0)
English 2	2(0-4-0)
French 2	
Psychology	2(2-0-0)
Basic Statistics	2(2-0-0)
Physics	3(2-2-1)
Biology	3(2-0-2)
2nd year General Subjects and Medicine : 22 credits	
French I-1	1(0-4-0)
French I-2	1(0-4-0)
French II-1	1(0-4-0)
French II-2	1(0-4-0)
French III-1	1(0-4-0)
French III-2	1(0-4-0)
French IV-1	1(0-4-0)
French IV-2	1(0-4-0)
French V-1	1(0-4-0)
French V-2	1(0-4-0)
Policy Study I	1(1-0-0)
Policy Study II	1(1-0-0)
Policy Study III	1(1-0-0)
Policy Study IV	1(1-0-0)
Policy Study V	1(1-0-0)
Physiopathology	1(0-4-0)
Introduction to Medicine I	3(2-3-0)
Introduction to Medicine II	4(3-3-0)
3rd year : 65 Credits	
Introduction to Medicine III	6(5-3-0)
Introduction to Medicine IV	6(5-3-0)
Blood and immune system	5(4-3-0)
Cardio-vascular Aystem	6(5-3-0)
Respiratory System	6(5-3-0)
Renal System and Electrolytes	6(5-3-0)
Gastro-intestinal System	6(5-3-0)
Musculo-skeletal system	6(5-3-0)
Nurvous System I	4(3-3-0)
Nurvous System II	4(3-3-0)
Nurvous System III	4(3-3-0)
Endocrine System and Metabolism	5(4-3-0)
Reproductive System	5(4-3-0)

A(X-Y-Z)

A: Unit of Credit

X: Lecture hour/week

Y: Practice hour/week

Z: Laboratory training hour/week
hour/week

4th year : 30 Credits	
Nursing Care	2(1-3-0)
Haemato-immunology	3(3-0-0)
Cardio-vascular diseases	3(3-0-0)
Respiratory diseases	3(3-0-0)
Urinary diseases and Electrolytes	2(2-0-0)
Gastro-intestinal diseases	4(4-0-0)
Musculoskeletal Diseases	3(3-0-0)
Neurology	2(2-0-0)
Mental Health	2(2-0-0)
Endocrinology and Metabolic Diseases	2(2-0-0)
Reproductive Diseases	2(2-0-0)
Human Development	2(2-0-0)
5th year: (Clinical Practice) 63 credits	
Nursing Care	2(0-5-0)
Internal Medicine I	4(0-10-0)
Internal Medicine II	7(0-15-0)
Surgery I	4(0-10-0)
Surgery II	7(0-15-0)
Gyneco-Obstetrics I	4(0-10-0)
Gyneco-Obstetrics II	7(0-15-0)
Pediatrics I	4(0-10-0)
Pediatrics II	7(0-15-0)
Ear-Nose-Throat and Stomatology	4(0-10-0)
Ophthalmology	2(0-6-0)
Dermatology	2(0-6-0)
Mental Health	2(0-6-0)
Rehabilitation Medicine	2(0-6-0)
Traditional Medicine	2(0-6-0)
Emergency Care	3(0-8-0)
6th year: (Community Medicine) 17 credits	
Community Development	2(1-3-0)
Research Methodology	2(2-0-0)
Health Management	3(2-3-0)
Field Practice in Community Medicine	2(0-8-0)
Practice at District Hospital	6(0-18-0)
Special Project	2(0-0-25)

Source: Curriculum: School of Medicine, FMS, National University of Lao PDR, 2004