Section 4. Improvement of Health Care

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1. Analysis of the present conditions

1-1 Background

In the Pol Pot era of the 1970s, the highly educated became the targets of a massacre, and in the following period of forced labor Cambodia lost a lot of doctors to the point where only about 40 remained. This resulted in a shortage of capable personnel, decreased professional competency due to the weakening of education and training systems, and a lowering of ethical standards. In the period of communism and the subsequent events following the Pol Pot era, physicians received inadequate training in an effort to increase the quantity rather than the quality of medical personnel. Full-scale aid was resumed in the UNTAC era but stagnated when aid agencies were forced to withdraw upon the outbreak of an armed conflict in 1997. It gradually resumed once again with the recovery of public peace, and is presently expanding. Since the general elections of 1993, the Cambodian People's Party had monopolized the main posts at and below ministerial level in the Ministry of Health, but following the general election of 1998, the FUNCINPEC Party came to occupy the post of Minister and one of the two posts of Secretary of State.

1-2 The present situation of health care

1-2-1 Overview

According to the Development Assistance Committee (DAC) indicators, the Cambodian health indicators, including the maternal mortality rate (MMR) of 473, under 5 mortality rate (U5MR) of 163, infant mortality rate (IMR) of 104 and average life expectancy at birth (overall) of 53, show lower standards compared to the neighboring countries of Thailand and Vietnam.[1] (Table 4-1)

Regarding diseases, infectious rather than adult diseases still constitute the major health issue. For example, the main diagnoses for outpatients of all ages are, in order of incidence, acute respiratory infection (18%), diarrhea (11%), malaria (4%), fevers from other causes (22%), and others (42%). The hospitalized patients suffer from malaria (13%), tuberculosis (10%), acute respiratory infection (8.8%), diarrhea (4%), traffic accidents (3.8%), obstetric and gynecological diseases (3.5%), dengue hemorrhagic fever (3%), and others (51.5%). Other prevalent diseases, depending on the region, include dysentery, cholera (1,723 cases nationwide in 1998, mainly in Banteay Mean Chey, Kampong Cham and Phnom Penh), meningitis and typhoid.[2]

Table 4-1 Health Indicators

Indicator	Cambodia	Vietnam	Thailand	Laos	Japan
Average life expectancy at birth	53	68	69	53	80
Average life expectancy at birth of females (ratio to males: %)	106	108	109	106	108
Infant mortality rate (1960)	146	147	103	155	31
Infant mortality rate (1998)	104	31	30	96	4
Under-5 mortality rate (1960)	217	219	148	235	40
Under-5 mortality rate (1998)	163	42	37	116	4
Maternal mortality rate	470	160	44	650	8
Crude death rate (1970)	19	15	10	23	7
Crude death rate (1998)	13	7	7	13	8
Crude birth rate (1970)	42	38	39	44	19
Crude birth rate (1998)	34	22	17	39	10
Total fertility rate	4.6	2.6	1.7	5.7	1.4
Annual rate of population growth (%)	2.7	1.9	1.0	2.7	0.8

Source: UNICEF (2000)

[1] UNICEF (2000)

[2] Ministry of Health (1999b)

1-2-2 Infectious diseases

The number of malaria outpatients recorded nationwide in one year was 123,873, of which 20,148 were hospitalized and 652 died (according to an estimate by the expert Professor Sato of the National Malaria Center, however, the number of affected patients reached 200,000), mainly in the mountainous regions of provinces such as Siem Reab, Kampot, Rotanak Kiri and Kampong Spueu.[3] Reports show that 96 percent of these cases are caused by the tropical malaria parasite, Plasmodium falciparum. Near the Thailand border in the province of Siem Reab, 60% of the residents were found positive for the malaria protozoan in blood tests. Dengue fever is common in the rainy season of July to September, in the regions of Bat Dambang, Banteay Mean Chey and Kampong Chhnang, while epidemics were experienced recently in 1995 and 1998.[4]

Regarding parasitic diseases, 65% of the primary and secondary school students in Phnom Penh City tested positive for roundworm eggs. Moreover, schistosomiasis is reportedly common in the province of Stueng Traeng bordering Laos, and Kracheh. The parasite is believed to be Schistosomia mekongi. Filariasis is also seen on the border of Laos in the form of scrotal edema.[5]

1-2-3 Tuberculosis

The total number of tuberculosis-infected individuals is 63,000 (ratio per population of 100,000: 539) for tuberculosis, 28,000 (likewise: 241) for smear-positive tuberculosis, and 10,500 (likewise: 90) for tuberculosis deaths. The number of newly registered infected individuals in 1999 was 19,266 (likewise:165) for tuberculosis, 15,744 (likewise:136) for new registrations of smear-positive tuberculosis, and 792 for registrations of recurring smear-positive tuberculosis, with a 56% rate for smear-positive patient discovery. These statistics are rated the worst among the Asian countries where tuberculosis is common. The 5% (1992) annual risk of infection (ARI) was also one of the highest worldwide. These figures are partly the result of the large number of patients left untreated due to the civil war who were forced to live communally. Moreover, as the incidence of tuberculosis complications accompanying HIV has also risen recently, a future explosive increase is predicted in HIV-infected patients, the incidence of which spread in the 1990s. An annual total of over one thousand new patients has been reported in the regions of Kandal, Kampong Cham, Siem Reab, Kampong Spueu, Prey Veaeng and Takaev (1998). As a control measure, a treatment program called Direct Observed Treatment Short-course (DOTS) is being implemented, where hospitalized treatment under observation is required for the initial two months. Free of charge diagnosis by smear microscopy, free treatment and free food aid from the World Food Programme (WFP) have brought about highly favorable results of a 91.5% rate of recovery from tuberculosis.[6] On the other hand, the reported cases nationwide of leprosy number 11,426, and of these, the number who completed MDT treatment is 2,634.

1-2-4 HIV/AIDS and sexually transmitted diseases

HIV/AIDS is spreading rapidly, at an explosive rate since 1992, with the cumulative number of HIV-infected individuals totaling 154,316 by the end of 1998, and AIDS patients totaling 18,612. The affected age group is mainly the late teens to the 20's. HIV positive rates are estimated at 2.4% for married women, 4% for blood donors and expectant and nursing mothers, 6.2% for police officers, 12.2% for hospitalized patients, and 42.6% for direct Commercial Sex Workers (CSWs). The main route of transmission is believed to be through heterosexual intercourse, while there is no data regarding homosexual transmission.[7] (Box 4-1)

1-2-5 Health conditions of children

The infant mortality rate (IMR) is 104 and the under-five mortality rate (U5MR) is 163. The main diagnoses for child outpatients under 15 years of age are acute respiratory infection, diarrhea and malaria, while hospital-

[3] Ministry of Health (1999b)

[4] Ministry of Health (1999b), Sato, K. (1999)

[5] Sato, K. (1999)

[6] Onozaki, I. (2000), Mori, T (1994)

[7] UNAIDS (1999) UNAIDS (2000)

Box 4-1 AIDS Control Measures for Residents

Local residents tend to judge AIDS from its appearance, thus a household found to have an AIDS patient is often socially ostracized. The patients are rejected from burial in the village cemetery after death, which is cruel punishment for residents who pray to die in peace in the afterworld. There are known cases of patients who, after receiving positive blood test results, sought help from Buddhist priests or traditional healers, or recovered (were found to be negative in the blood test) through prayer and other means. The actual reason for this phenomenon is not known, but as it is conceivable that testing accuracy in Cambodia is low, especially in private practice laboratories the results lack credibility. It cannot be denied, however, that the temples and traditional healers are helping in the emotional care of the patients and their families.

Other sexually transmitted diseases include gonorrhea (infected adults over the age of 15: 3%, infected CSWs: 35.0%), chlamydia (4% and 22.4% likewise), syphilis (4% and 14.0% likewise) and trichomoniasis (Trichomonas)-(unknown and 5.4% likewise) (Source: HIV/AIDS in Cambodia). Moreover, blood donor infection statistics include 7.5% positive for S antigen of hepatitis B, 3.0% positive for hepatitis C, and 3.7% for syphilis (Reference 2: Ministry of Health Annual Report 1999). There have been no reported incidences of wild strains of polio in recent years, and eradication has been announced as of 2000.

Box 4-2 Growth Process of Newborn Infants

Typically, newborns grow in step with the standard growth curve for the first six months, after which they fall below the normal curve with the onset of the weaning period using rice soup. They experience diarrhea with complications such as acute respiratory infections, maintain their underdeveloped state, often suffering from measles, and eventually die.

ized children suffer from dengue hemorrhagic fever, measles, meningitis, diarrhea, dysentery, acute respiratory infection, malaria, traffic accidents, and landmine accidents. The causes of death include diarrhea, acute respiratory infection, dengue fever, diseases preventable by immunization, protein-energy malnutrition, and micronutrient deficiency.[8] (Box 4-2)

1-2-6 Health conditions of expectant and nursing mothers

The maternal mortality rate (MMR) is 473, with hemorrhaging, infection, and eclampsia constituting the three main causes of death. These figures may be due to the fact that, in the rural areas, nearly 90% of childbirths are given at home, while only 3% of births are given at health facilities such as hospitals and health centers. In addition, delivery is assisted in most cases by members of the family or traditional birth attendants (TBA), with only 31% of childbirths attended by health care personnel. The proportion of expectant mothers who take advantage of antenatal care (ANC) is also low at a national average of 29.6%.[9] (Box 4-3)

Box 4-3 Customs Related to Childbirth and the Health of Expectant and Nursing Mothers

Especially in the rural areas, post-delivery care customs such as cutting the umbilical cord with a newly split bamboo stick (may cause tetanus of the newborn), not checking the mother for residual placenta (also true for midwife-attended births, and may cause postpartum hemorrhage), warming the mother with a fire (may cause burns), and not changing the mother's garments to maintain sanitary conditions (may cause puerperal fever) continue to be practiced. In such regions, the means of transportation and communication are inadequate, and even where transfer is possible, there are no immediate control measures for bleeding since a blood bank system has not been established. Moreover, in cases of miscarriages and abortions, the procedure followed by TBAs is not appropriate (for example, it is said that pieces of wood are used for curettage of the uterus, often piercing the delicate tissue) thus contributing to increased infections.

Meanwhile, in Cambodia there is a shortage of drugs such as magnesium sulfate for the prevention and treatment of toxemia of pregnancy and eclampsia, and the

[8] Ministry of Health (1999b)

[9] UNICEF (2000), Ministry of Health (1999b), NMCHC (1996)

physicians are not knowledgeable in their methods of use. The total fertility rate is 4.6 and the annual population increase is 2.7%. Data for birth control and family planning are relatively well organized as the donors are concentrating their efforts in these areas. The contraception usage rate is 13% (UNICEF data: Ministry of Health data indicates 9.7%), with the methods, in order of popularity, of injections (60.8%), oral contraceptives (28.2%), condoms (10.6%), and IUDs (0.4%).

1-2-7 Nutrition

Poor nutritional conditions are a major problem. There is no nationwide data regarding the rate of low birth weight infants (approximately 7.5%[10] at the National Maternal and Child Health Center of Cambodia), while statistics are 52% for underweight children under the age of 5, 56% for stunting, and 13% for wasting. The percentage of malnourished women (BMI < 18.5 kg/m^2) is 28.5%. The rate of night blindness (vitamin A deficiency) is 3.6% for children aged 2 to 5 and 10% for pregnant women, while the prevalence of goiter (iodine deficiency) is 12% for students aged 8 to 12, and reaching a rate of 30% or higher of severe cases among students in particular provinces (Siem Reab, Rotanak Kiri, Banteay Mean Chey and Svay Rieng). The incidence of anemia (including deficiencies of iron, vitamin B_{12}, and folic acid) is high at 82% for children under the age of 5, 69% for women of childbearing age, and 74% for pregnant women.[11] 76.4% of mothers do not give their newborns colostrum, and 56.7% commence breastfeeding from the second day after this secretion. Weaning is started from 0 to 5 months in 45.5% of the cases, and from 6 to 11 months in 38.9%. The type of baby food used is rice soup with added salt for 69.3%, and the same with added sugar for 15%. The calorie intake for adults ranges from 1,716 to 1,979 kcal, with constituents of approximately 80% carbohydrates, 9% protein and 11% fat. Sources of energy include rice (100%), palm sugar/sugar cane (56.6%), lard/vegetable oil (54.6%) and corn/wheat (34.9%). Sources of animal protein include prahok (fermented fish)/dried fish/fish pickled in salt (58.4%), fresh fish (52.6%), frogs/crabs/clams/ prawns/birds (40.7%), beef/pork/chicken/duck (21.5%), and eggs (20.1%). Sources of vitamins and minerals include green vegetables (70.8%), other vegetables (54.3%), citrus fruit (23.7%), pumpkins/carrots (14.8%), papayas/mangos (8.9%), and bananas (8.4%), but these vary with the seasons.[12] (Box 4-4)

Box 4-4 Diet in the Rural Villages

The typical diet of the rural population consists mainly of rice, with fish such as sardines (mainly river fish) pickled in salt and prahok, with some soup.

1-2-8 Injuries

The two main causes of injuries are traffic accidents, an annual 5,839 of reported cases and increasing, and landmine accidents, 663 cases and decreasing. The conceivable causes of traffic accidents are the increase in traffic, not obeying traffic rules, many people riding a single motorcycle, without helmets. While the removal operations of landmines are in progress, many accidents still occur, mainly in the regions of, in order of frequency, Banteay Mean Chey, Bat Dambang, Kampong Chhnang and Kampong Cham.[13]

1-2-9 Mental disorders

Part of the population suffers from mental disorders most likely caused by the death of many family and friends or by their own dangerous experiences under Pol Pot domination. According to studies, the war experience did not end after the Pol Pot era but increased in the period of forced labor for forest tree felling in 1985. The effects of such mental conditions of the people are apparent, for example, in the easy acceptance of violence, weak interpersonal relationships and easy loss of emotional stability indicating deep disturbance. The large difference in the population of men and women following the massacre also led to a weakening of social status of women. The psychiatrists were presumably all killed in the Pol Pot era, resulting in a shortage of competent mental care professionals. The need for mental care was also neglected in periods to follow. Statistics for this area are scarce, limited to only a few

[10] National Maternal and Child Health Center of Cambodia of Cambodia (1997-2000)

[11] FAO (1999)

[12] UNICEF (1994)

[13] Ministry of Health (1999b)

Box 4-5 Food Sanitation Conditions

The report of a study carried out by the Pasteur Institute in 1997 revealed bacteria such as dysentery, typhoid and *E. coli* detected in a bacterial test of a street stall ice cream shop in the city of Phnom Penh. In addition, from August to November 1998, in the province of Kandal, there was a reported case of group health disorders from a local alcoholic brew, diagnosed to be caused by the admixture of methyl alcohol.

survey results. According to these survey results, the incidence of post-traumatic stress disorder (PTSD) is 28.4% (1 to 3% in international standards), the rate for life-long suffering from major depression is 13% (internationally 5 to 12%), while reliable statistics are not available for other disorders. The majority of sufferers remain untreated and unsupported even at present.[14]

An element characterizing the psychosocial situation in Cambodia is the fact that 36% of the population lost family members or possessions in the war and massacres. The people still talk of sporadic violent experiences (torture, landmine accidents, capture in prison, and witnessing violence) encountered up to the present day. 18% of all women are widows due to war or other causes, or are divorced. Over half of the women have experienced migration. 14% of households have a disabled member. Other evident problems include illiteracy (17.5%), domestic violence (experienced by 19% of married women), disease, and perception disorders (19% complain of thinking and concentration disabilities, or confusion).[15]

1-2-10 Sanitation

Although a water supply system exists in the city of Phnom Penh, it is not sanitary, and the population generally purchases clean bottled water for drinking. In the regional districts, water is obtained from wells (71.7%), ponds (27%), canals (0.9%) and rivers (0.2%), or rainwater is collected and stored in jars. The proportion of the population with access to safe drinking water is low at 30% nationwide (53% for urban areas, 25% for rural areas).[16]

Meanwhile, the proportion of the population with access to adequate sanitary facilities is 19% nationwide (57% for urban areas, 9% for rural areas).[17] Especially in the rural areas, 93.7% of the population do no possess toilets[18] thus generally relieve themselves in the bushes. Even medical facilities rarely have a sewage system, and resort to dumping human waste in the rivers. Garbage is collected by trucks in the city of Phnom Penh, but is often scavenged beforehand by other residents. There are hardly any appropriate incinerators for medical facilities, thus the disposal of medical wastes in Phnom Penh also relies on the general garbage collection system. Garbage is often seen scattered on the ground in local districts.

Regarding food sanitation, some laboratories or aid groups sporadically perform tests, but there does not appear to be an established system for management and testing. (Box 4-5)

1-3 Government action

1-3-1 General

The emphasis in health care still lies in quantity, but there seems to be a gradual tendency towards raising the quality. The policy of the Ministry of Health for 1999 to 2003 focuses on investment in the following four fields.

(i) Strengthening the health system
The specific actions of strengthening health management and capacity for plan implementation, augmentation of basic health services, training of human resources, establishment of control measures against infectious diseases, and reform of medical drug management are to be carried out.

(ii) Integration of the existing programs, especially in operational district health centers
This includes measures against tuberculosis, malaria/dengue hemorrhagic fever/ schistosomiasis,

[14] Tebayashi (2000), Tebayashi (1999)

[15] Tebayashi (2000), Psychiatric Outpatient Division of the Sihanouk Hospital/ University of Oslo survey and a Mental Health NGO of the Netherlands

[16] UNICEF (1994)

[17] UNICEF (2000)

[18] UNICEF (1994)

Box 4-6 Health Care Seeking Behavior of Villagers

The typical health care seeking behavior of villagers consists of purchased medication from the village pharmacy, and sometimes use of the traditional healer. In addition, if required, physicians, nurses or midwives are called on to make visits, which can cost a considerable amount, reaching 20 dollars in some cases. This, however, covers several visits. The patients who do not recover using the means above then visit the hospital.

and AIDS/ sexually transmitted diseases, immunization programs, health programs for women and children, and leprosy eradication.

(iii) Measures against newly developed problems
The priorities include reinforcement of expertise in the fields of ear nose and throat/oral hygiene/mental health, the development of health education, prevention of cancer, prevention of blindness, and reinforcement of national laboratories for supervising the food and drug administration.

(iv) Reinforcement of the competency of medical technology applications in national and provincial hospitals, and expanding blood transfusion services to referral hospitals nationwide.[19]

(1) Organizational structure of the Ministry of Health

The system within the Ministry of Health was reformed in 1998, and presently consists of the Senior Minister and Minister of Health, Secretaries of State, Under Secretaries of State, Directorate Generals, and their respective subordinate departments (Figure 4-1). Formerly, the national system consisted of tertiary medical facilities such as national general hospitals and specialized hospitals in the capital of Phnom Penh, the secondary facilities of provincial and district hospitals in the provinces and districts respectively, and the primary facilities of health centers below them, supplemented by traditional healers including traditional birth attendants performing medical practices unofficially. The health sector reform was implemented in 1996, and the number of required health centers was established at approximately one per 10,000 people. An *operational district* was established to oversee 10 to 15 health centers integrating several of the administrative districts in some cases. The Operational District Health Office thus exercises jurisdiction over the operational districts, while the central hospital in each operational district serves as the *referral hospital* (equivalent to the former district hospital). In addition, the upper level provincial hospital serves also as the referral hospital of the operational districts under its jurisdiction. In the plan of 1996, the required numbers were established as 67 for referral hospitals, 935 for health centers, and 8 for national hospitals.[20]

(2) Standards of the medical facilities

The number of beds nationwide is low at 6,516 (approximately 57 beds per population of 100,000), while the percentage of occupied beds is 48.76%. The average period of hospitalization is 4.75 days.[21]

The hospitalization facilities of health centers are usually limited to two beds. Many health centers have recently been rebuilt, making them cleaner than their supervising district level referral hospitals. However, as not all the health centers have yet been built as planned, some are still absent while others are old and decrepit. The personnel in the health centers usually consists of the Head (a medical assistant or nurse) supervising six or so staff members for pediatrics, ANC, immunization and administration.

The district level referral hospitals usually have about 50 beds but no operating room, and use electricity supplied by a generator. Tests and treatments requiring electricity are generally not performed. Except for the tuberculosis wards where the patients can receive medication and rice free of charge, hospitalized patients are rare. The general tendency seems to be for patients to first of all consult the health center, then if unsuccessful, skip the district level referral hospital and go directly to the provincial hospital, or in the provinces around Phnom Penh, directly consult a tertiary national hospital or private hospital. (Box 4-6)

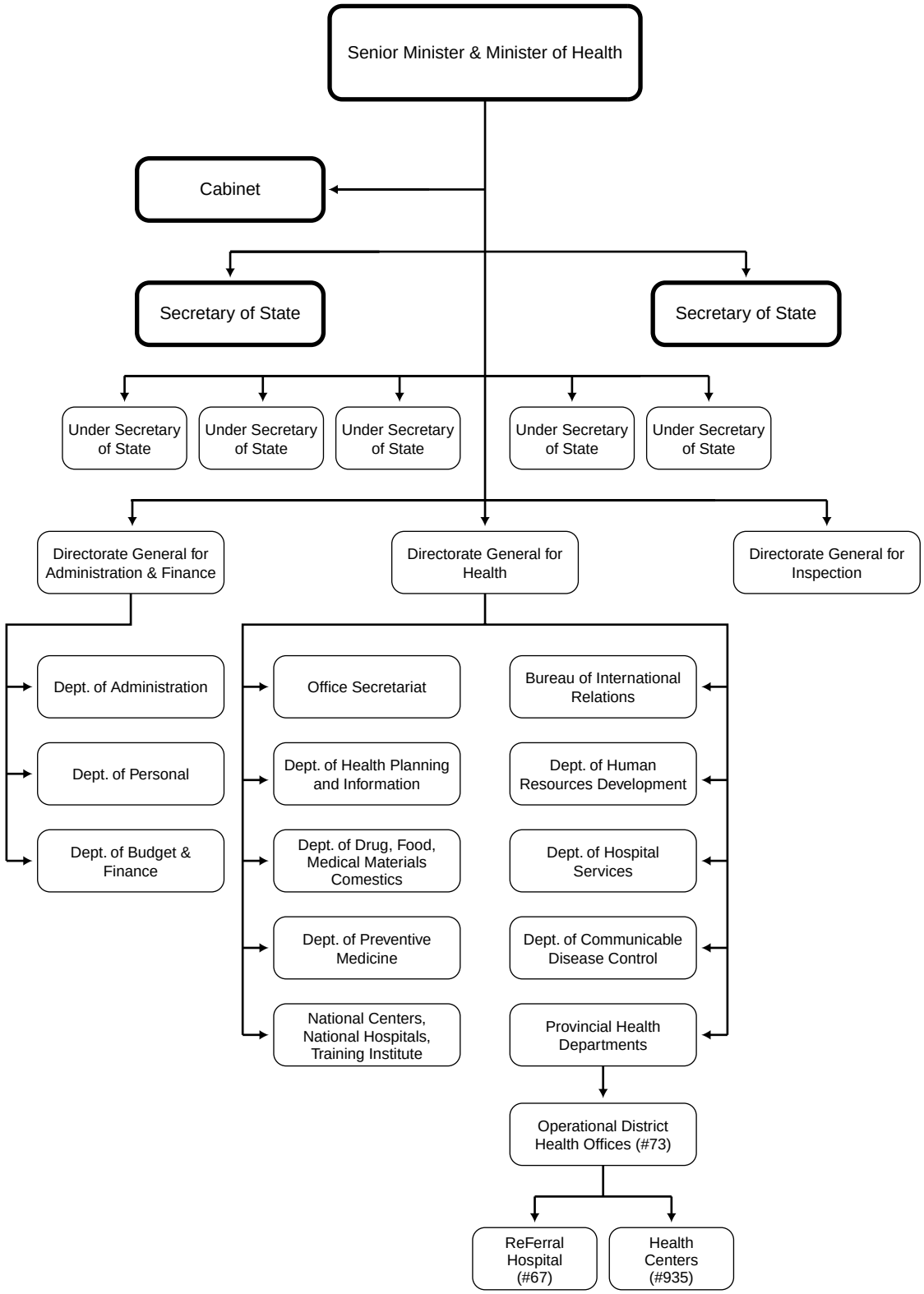
Provincial hospitals are generally designed in pavil-

[19] Ministry of Health (1999a)

[20] Ministry of Health (1999a)

[21] Ministry of Health (1999b)

Figure 4-1 Organizational Structure of the Ministry of Health



Source: Department of Planning and Health Information (1999)

Box 4-7 Conditions in the Regional Hospitals

A preset budget of 1,000 riels per patient is supposedly expended to cover meal provisions but as this amount is inadequate, only two nutritionally inadequate meals of rice and soup are provided. There is usually a traditional cooking stove on the premises where the patient's family is able to cook. The majority of beds are wooden, with sticks standing erect in the four corners to support a mosquito net under which the patient sleeps. Often family members sleep over in the hospital with the patient, but reportedly go home in cases where the hospital is considered dangerous.

ion form, where the wards are interspersed throughout a large hospital lot, and a health center is provided in the form of an outpatient division. These hospitals usually have operating rooms, X-ray facilities, clinical laboratory test facilities for blood, malaria, urine and stool, and ultrasound equipment, but no automatic blood cell counters or biochemical test equipment. Often there is a binocular microscope installed through tuberculosis aid. X-ray machines are of a simple design, for simple roentgenography only. The refrigerators are apparently mainly kerosene types. Oxygen tanks for medical use are transported from Phnom Penh, but as this often requires time, either electric oxygen supply units (oxygen concentrators) or oxygen tanks distributed by the Ministry of Health or the JICA Maternal and Child Health Project are used. As provincial hospitals generally do not have central distribution systems for medical gases, the gas tanks are brought directly into the operating rooms and wards. Water is supplied by pump from a well, and electricity is generally taken from the municipal supply combined with electric generator supply. The electrical wiring is overloaded and does not conform to design standards. Facility standards differ between hospitals. Hospitals receiving assistance from donors have high-level machinery and management capabilities, and in addition may have a field of specialty especially supported by a donor that is of a higher standard than the hospitals in Phnom Penh (the ophthalmology department at the Kampong Chhnang Provincial Hospital, for example). Regarding administration, most provincial hospitals do not possess an independent nursing department, and have a poor or no equipment and facilities management department.

Many of the provincial hospitals, district level referral hospitals and health centers are extremely old and worn out, occasionally with leaky roofs. Renovation and repair work financed by aid is presently being carried out.

Although some of the tertiary hospitals such as the Calmette Hospital and the Kuntha Bopha Hospital established in Phnom Penh and Siem Reab by donors have incorporated biochemical automatic analyzers, biochemical tests are generally not performed. There are only two known CT scanners in Cambodia, while laparoscopy and dialysis are not provided. Moreover, the number of facilities capable of using endoscopes and respirators is limited.

Currently, advisory guidelines called Minimum Packages of Activity (MPA) for the health centers, and Complementary Packages of Activity (CPA) for the referral hospitals have been set, which establish the activities to be performed by the medical facilities at each level. (Box 4-7)

(3) Quality of medical care

1) Competency of physicians

Many of the doctors possess no understanding of anatomy, physiology or pathology, and seem to be performing specialized tasks such as examinations and surgery without this basic medical knowledge. For example, ultrasonography is performed vaguely without any understanding of anatomy or the equipment mechanism, and chest X-rays are diagnosed using guesswork without a basic knowledge such as the silhouette sign. Further, lymphadenectomy for cancer is not performed for reasons such as lack of experience or the danger of long hours of anesthesia. In large hospitals, anesthesia is performed using a combination of oxygen and gaseous anesthetics such as enflurane, but not nitrous oxide. In provincial hospitals, anesthesia using oxygen with only ketamine (ketalar) is also often encountered.

2) Nursing and midwifery

"Nursing" of the patient is often the responsibility of the patient's family, while the task of the nursing staff

tends to be limited to nursing procedures. Some of the nursing staff who, for example, are unable to take blood pressure measurements, not only lack basic medical training and the various required specialized training but also lack basic education such as reading, writing and arithmetic. For these reasons, the patient charts (records of vital signs) are often inadequate, and the tasks of urine output checks and transferring of nursing information at meetings are performed poorly.

3) Clinical laboratory tests

The technical level of clinical laboratory tests is low. There is no national reference laboratory, and only the Pasteur Institute, established with support from France, and the National Institute of Public Health, aided by Germany, perform tests with relatively good accuracy. Moreover, with the exception of smear microscopy for tuberculosis, no quality control (QC) is undertaken. The National Institute of Public Health is reportedly recently considering the incorporation of a quality control system. Tests generally performed at the secondary medical facilities include blood counts, malaria, sputum examination of tuberculosis, and urine and stool tests, while those possessing blood banks perform syphilis, hepatitis B and HIV tests in addition. Serologic tests, however, are not necessarily performed even in the tertiary hospitals in Phnom Penh. Therefore, PCR and chromatography are obviously beyond their capabilities. The surgical specimens are never observed closely or sketched following surgery, and nor checked pathologically for precise diagnosis. Cytology is also not performed. Pathological examination is performed only in the pathology department in medical school.

4) Radiation

There is no qualification for the execution of X-ray examinations, thus nurses take the photographs by imitating the procedures of others, without any basic understanding of radiation or anatomy. For example, some staff are afraid to enter the room after taking X-ray photographs, believing that radiation remains in the room. On the other hand, carelessly and without warning, some take portable X-ray photographs with other persons nearby. X-rays in the secondary medical facilities are limited to simple roentgenography, while some tertiary facilities also perform contrast examinations. However, double contrast methods for upper gastrointestinal fluoroscopy and barium enema examination are not performed (not known), nor are hysterosalpingography or angiography procedures. Radiotherapy for cancer has not yet been introduced, while chemotherapy is recently being tested through trial and error by certain physicians at the Sihanouk Hospital, for example.

(4) Various systems of health care

1) Immunization

The Expanded Program on Immunization (EPI) in Cambodia was initiated in 1986 in Phnom Penh and the province of Kandal, and extended to all provinces in 1988. Fifteen provinces (Kampong Cham, Prey Veaeng, Kandal, Phnom Penh, Svay Rieng, Kampong Chhnang, Kampong Spueu, Takaev, Pousat, Bat Dambang, Banteay Mean Chey, Siem Reab, Kampong Thum, Kampot, and Kaeb) were selected for priority coverage, and in 1997, the coverage target was set at 80%. In the UNICEF data for 2000, the rate of tetanus immunization was 31% for expectant mothers, and the immunization coverage figures were 76% for tuberculosis, 64% for DPT, 64% for polio and 63% for measles.[22] Peaking in 1995, coverage is now on the decline with the outbreak of armed conflict in 1997 (Figure 4-2). The Central EPI Committee is responsible for immunization activities, with JICA and UNICEF providing aid in various areas such as supervision, training, printing of documents, and logistics including vaccines and cold chain equipment.[23]

2) Infectious disease control measures

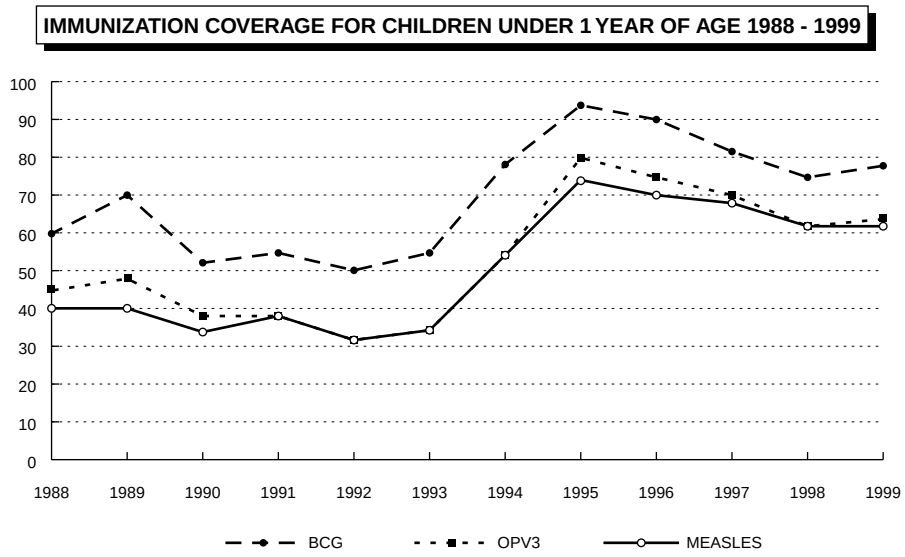
The National Tuberculosis Center currently under reconstruction as of 2000 by JICA grant aid is the main force in implementing nationwide treatment of tuberculosis based on the National Tuberculosis Program (NTP), by establishing tuberculosis wards and performing diagnosis within over 140 public hospitals, with the cooperation of WHO, WFP, and JICA, as well as through exchanges with MSF and other NGO groups.[24]

[22] UNICEF (2000)

[23] Ministry of Health (1999d)

[24] Onozaki (2000)

Figure 4-2 Immunization Coverage



Data: Ministry of Health (1999b)

The National AIDS Program was established in 1993, the National AIDS Plan 1993-1998 in 1993 and the National Strategic Plan 1998-2000 in 1998. The National Center for HIV/AIDS Dermatology and STD (NCHADS) was established in 1998 to function as the nucleus of all activity. In addition, in January 1999, the National AIDS Authority was established, thereby incorporating the entire government, including the various Ministries of Health, Interior, Women's and Veteran's Affairs, Defense, Education, Regional Development, Tourism, Information, Culture, Religion and Planning, as well as provincial governments in its activities. Control measures on a provincial level are executed mainly by the Provincial AIDS Committees Secretariats. Sentinel group surveillance was initiated in nine provinces in 1995 and extended to eighteen provinces in 1996, conducted on the four groups of CSW, the military, police, and expectant and nursing mothers. The activities, centering on home based care (HBC), include the activities of a prevention division (covering the issues of surveillance and control of sexually transmitted diseases (STD), condoms, safe blood transfusions, as well as education in schools and for the individuals in the commercial sex industry, the military and to youths, and also AIDS education in prisons), and those of a treatment division for counseling and clinical laboratory tests. The divisions within NCHADS include program management, a multi-section unit, STD control, STD/dermatology clinic, AIDS care, and IEC unit. Policy plans regarding mother-to-child transmission and counseling are proposed mainly by NCHADS to the Ministry of Health, with the extensive involvement of international organizations (WHO, UNICEF, UNAIDS) and bilateral aid organizations (Japan and France). The National Maternal and Child Health Center of Cambodia, Calmette Hospital and Bat Dambang Provincial Hospital are central forces in designing a comprehensive medical prevention service system. Currently, breastfeeding is generally recommended due to inadequate access to safe drinking water. Meanwhile, data regarding sexually transmitted diseases is limited to those obtained from the 21 facilities, due to the absence of compulsory testing of high risk groups (except the 100% condom prevalence campaign in Sihanoukville) and of screening at medical examinations of expectant and nursing mothers.[25]

Malaria control is implemented mainly by the National Malaria Center (renovation work completed in 1998 with funds from the World Bank), in accordance with the Roll Back Malaria campaign of WHO likewise for dengue fever. Activities include mosquito extermination, distribution of mosquito nets, and informative campaigning, with advisors from WHO and JICA.

3) Emergency medical care

An ambulance dispatch service aided by France, with state-of-the-art ambulances, is based in Calmette Hospi-

[25] UNAIDS (1999), UNAIDS (2000)

tal in Phnom Penh, but there is no national emergency system. Generally, what is referred to as an ambulance is a (van type) vehicle having space in the rear for installing a bedstead. Otherwise, wooden omnibus taxis pulled by motorcycles are chartered for transporting patients. In rural areas where road conditions are poor, the patient is carried on foot in a stretcher to a road where such transportation methods are available. As the telephone system coverage is only partial in Cambodia and only a small percentage of the population have cell phones, the general public has no means of calling an ambulance. In addition, there is no means, such as radio, for communication between the ambulance and medical facilities or between medical facilities. Patients are typically brought directly into the hospital without warning or information, and in some cases, problems occur such as the medical care providers demanding payment from the patient's family before commencing treatment, causing the patient to die. There are no physicians specializing in emergency care.

4) Blood transfusion system

There is a National Blood Transfusion Center in Phnom Penh, and 12 centers in the provinces.[26] As there is no existing blood bank network nor a blood collection/ distribution system, the blood transfusion center within each hospital collects is own blood. The volumes of blood stock vary between hospitals. For example, the Takaev Provincial Hospital, which has a mobile blood collecting team, stocks 20 packs or more constantly, while the National Blood Transfusion Center and many hospitals only have a stock of several packs. Blood component transfusions are not yet common as the separation of concentrated red cells and plasma started in 2000. In the present system, a patient requiring transfusion must bring a family member to the transfusion center where he or she is able to receive blood in return for the family member donating blood. Often, blood is sold on pretext of being a family member. Moreover, depending on the transfusion facility or the particular personnel in charge, money may be demanded from the patient's family to receive blood. Due to these conditions, there is an overall shortage of the total volume of blood. Transfusion is generally carried out if possible, even if ABO blood types are not matched exactly. For example, type O blood is transfused to other blood type patients. The blood for transfusion is usually tested for syphilis, HIV, hepatitis B, hepatitis C and malaria, but some facilities are known to omit the test for hepatitis C as the reagent is expensive.

5) Medical check-up

Medical check-up of expectant and nursing mothers and newborn infants is gradually becoming acknowledged mainly among urban residents, but generally as long as the mother feels she is healthy, she is not willing to pay money for a medical check. Cancer screening is not available as pathological testing and cytodiagnosis are usually not performed. The concept of medical check is not yet generally accepted.

6) Mental health

There is no clear national mental health policy at present, and no personnel particularly in charge of this area. The only fixed psychiatric treatment facilities are the Preah Bat Norodom Sihanouk Hospital in Phnom Penh, the Bat Dambang Provincial Hospital, and the Child Psychiatry Outpatient Division in the Kandal Provincial Hospital, with visiting rounds available in the provinces of Kampong Spueu and Kampong Cham. These services are provided mainly by NGO and international organizations. Psychiatrists are currently being educated with aid from the University of Oslo.[27]

7) Private sector

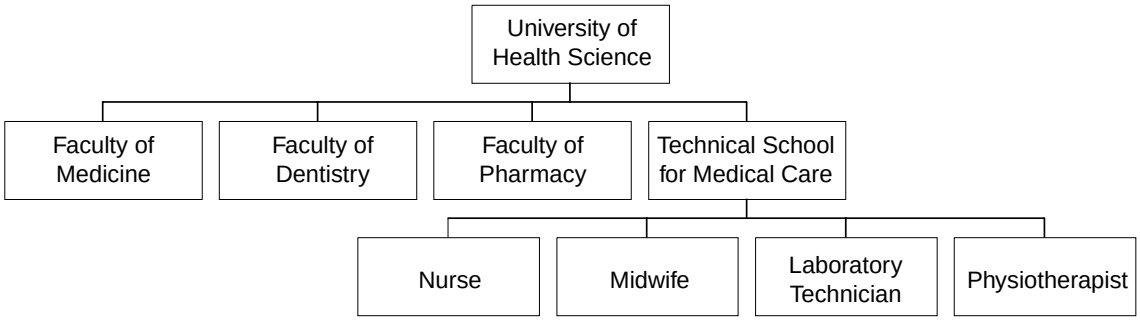
Small-scale private medical facilities are increasing rapidly and randomly. The number of clinics and laboratory facilities registered in 1998 reached 330, with a total of only 395 beds. The employed personnel are often workers from the public health sector. Many of the roughly 2000 existing pharmacies do not have Ministry of Health approval. Meanwhile, various traditional healers including traditional birth attendants (TBAs) practice in the villages, incorporating spiritual and herbal treatments.[28]

[26] Unknown (1999)

[27] Tebayashi (2000)

[28] Ibid., (1999a)

Figure 4-3 Faculty System at the University of Health Science



Source: Compiled by the author, based on independent interviews

8) Nutrition

UNICEF-supported Vitamin A supplementation and the sale of iodized salt is evident.

1-3-2 Personnel

The existing medical qualifications in Cambodia include Medical Doctor, Medical Assistant, Secondary Nurse, Secondary Midwife, Primary Nurse, Primary Midwife, Pharmacist and Pharmacy Assistant. In actual practice, however, the professional boundaries are not clear, with secondary nurses working in pharmacies, pharmacists working in clinical laboratories, and medical assistants, secondary nurses, secondary midwives or pharmacists working as clerks. As education in the field of health care continues to be conducted in French even following independence from France, the majority of the medical language is French or English, with very few technical terms in the Khmer language.

The medical education system consists of faculties of medicine, pharmacy and dentistry, and a technical school for medical care to train nurses, midwives, laboratory technicians and physiotherapists. There are also four regional nursing schools in the regional areas. There are no specialized training programs or qualifications for radiology technicians or dieticians (Figure 4-3). The figures regarding the number of medical professionals are 0.41 physicians per population of 1,000, and the ratio of nursing staff to doctors is 3.0, and these bear favorable comparison with neighboring countries, while the issues of appropriate distribution and quality still remain.[29]

For these reasons, formerly, medical doctors were trained over a 7-year course while medical assistants required a 5-year course, but presently, the training of medical assistants is limited to that for military personnel. The number of students accepted to medical school was also reduced from the former number of several hundred to one to two hundred per grade. Dissection training is not conducted in the medical school, while clinical training is also inadequate. As there is no university hospital, practical clinical training is conducted at the city hospitals, however, without prior discussion of what content the medical school expects to provide. As bedside teaching is not functioning appropriately, the practical clinical training is in fact impractical, and education relies on lectures, in addition student attendance is not monitored. Furthermore, the ethical standards and awareness of the medical care providers is generally low, reflected in the lack of determination in pursuing the cause of death, prioritizing money over life, or not recognizing the necessity of securing patient privacy and ensuring informed consent.

The training for nurses, which formerly consisted of a 2-year program for primary nurses (or midwives) and a 3-year program for secondary nurses or midwives, was changed to the present system of a 3-year course for secondary nurses with an additional year for a secondary midwifery qualification. However, as the number of candidates to become midwives decreased due to the length of the training program, the two courses are currently to be combined once more into a 3-year course (common for the first two years, then branching in the third year). Generally, only women are midwives, while nurses include a large number of men in addition. The qualifications are not obtained through national examinations, but are received upon graduation, however,

[29] Ibid.

even though cheating during exams is apparently common. Some anesthetic nurses, or nurses who have received anesthesia training, are more knowledgeable regarding anesthesia techniques than anesthetic doctors.

The faculty of dentistry is a 5-year course with only a low number of 30 trainees. The overall standard of dental care in Cambodia is low, with treatments limited to tooth extraction, cavity treatment using amalgam, and preparation of dentures. Besides the odontologist, there is also the traditional dentist, trained through an apprenticeship system. These traditional dentists formerly performed tooth extraction and cavity treatment, but recently their task has become limited to making dentures. In addition, some NGOs conduct training for some primary nurses to develop professionals called dental nurses. Dental hygiene education has recently begun in the schools as well.[30]

Regarding laboratory technicians, some of those educated formerly are competent. However, nurses who have not officially been educated in clinical laboratory testing also work at the laboratories, thus do not understand the basic techniques such as methods of dilution or quality control. The chief of the clinical laboratory is generally a pharmacist.

1-3-3 Supplies

(1) Drugs and medical supplies

Cambodia does not have the capacity to manufacture drugs and vaccines. Therefore, procurement of the required medicinal drugs and basic sanitation materials used in public hospitals is regulated and planned by the Essential Drug Division of the Ministry of Health. The drugs and supplies are then ordered and purchased by the Procurement Section, and stored, controlled, and distributed by a division called the Central Medical Store (CMS). Those provided by assisting countries are also usually collected in CMS for nationwide distribution. UNICEF dispatches an advisor to CMS, but orders are presently monopolized by SOKIMEX. The quantity and quality of the purchased drugs and supplies are often inadequate. There are frequent shortages of required drugs, or the delivery of drugs close to the expiry date or of poor quality. CMS, in an effort to avoid responsibility, often distributes excess drugs nearing the expiry date to facilities not requiring them. As the shortage of drugs is apparent, especially in the rural areas, there is the undeniable possibility of a leakage of stock somewhere along the distribution route from the central to regional centers. Meanwhile, drugs and supplies entering Cambodia from bordering countries are often sold in the street pharmacies, and some leakage from the national stock also seems to find its way to these pharmacies. Therefore, cases have been known of a certain drug disappearing nationwide, or a bogus antimalarial drug spreading in the market. Essential drugs are provided free of charge in public hospitals, while other drugs must be purchased by patients at the pharmacy.

(2) Medical equipment/facilities

While there are no medical equipment maintenance centers operated on a national level, the Cambodia Red Cross (an ancillary organization of the Ministry of Health) workshop, formerly aided by AusAID (Australia), is technically capable of performing the repair of medical equipment although the technical level is declining following the termination of aid. The maintenance management capabilities of the various medical facilities are all low, and even in the provincial hospitals, many donated items of medical equipment are left without being repaired. The majority of individuals trained in medical equipment maintenance seek employment in the private enterprises providing higher incomes, unfortunately leaving few competent technicians to work in the Ministry of Health. In addition, the majority of staff believe that equipment management is the task of repairing broken equipment, and do not conceive of the idea of managing and maintaining the equipment well to avoid failures. Thus, there are no maintenance management systems within the Ministry of Health or the individual medical institutions. For example, as facilities and equipment are generally not registered, the person in charge usually administers the key to the room containing the equipment. Moreover, consumables are often not changed in an attempt to save expenses, even when they reach the end of their period of use and lose their effectiveness. In some cases, the purchase and maintenance of equipment parts is managed by the two or three newly opened private agency offices, but the standards of these services are not yet high. Facility

[30] Ikeda (2000)

Table 4-2 Health Budget and Related Statistics

	1994	1995	1996	1997	1998	1999
Population[1]	9,937,151	10,195,517	10,460,600	10,732,576	11,011,623	11,297,925
Nominal GDP (in million US$)	$ 2,384.7	$ 2,923.3	$ 3,121.5	$ 3,033.3	$ 3102.9 [2]	$ 3600.0 [2]
Nominal GDP per capita (in US$)	$ 239.98	$ 286.72	$ 298.41	$ 282.63	$ 281.78	$ 318.64
Total national budget (plan) (in million US$)[3]	$ 248.0	$ 369.8	$ 375.3	$ 336.2	$ 298.4	$ 327.2
Exchange rate US$/Riel[4]	2,571	2,463	2,643	3,000	3,500 [2]	3,500 [2]
Health budget in million US$ (recurrent costs)	$ 14.96	$ 14.85	$ 22.85	$ 20.25	$ 17.82	$ 20.68
Health budget per capita in US$ (recurrent costs)	$ 1.51	$ 1.46	$ 2.18	$ 1.89	$ 1.62	$ 1.83
% of nominal GDP (in US$)	0.63%	0.51%	0.73%	0.67%	0.57%	0.57%
% of total government budget	6.0%	4.0%	6.1%	6.0%	6.0%	6.3%
Marginal propensity to budget for health[5]	n/a	-0.02%	4.0%	[3.0%]	-3.5%	0.6%
Consumer price index (Riel) (1994=100)	100.00	103.37	110.76	119.34	130.99 [6]	135.99 [6]
Consumer price index for medical care (1994=100)	100.00	113.09	114.20	123.21	153.15 [6]	

Note 1 Baseline of the population estimates is the 1995 Health Coverage Plan with an assumed annual increase rate of 2.8%
2 MoEF estimate
3 Budget funds planned to be distributed by the National Treasury Including repsyments of domestic and foreign loans. Excluded is all externally financed capital expenditure (project aid).
4 MoEF exchange rates (annual average).
5 Increase in the national health budget as percentage of increase in nominal GDP (in US$ terms): dHB/dY.
6 Average January-May 1998.

Source: Ministry of Health (1998)

management is of a similar level. Procurement of parts is a difficult task, and a contract together with advance payment is generally required except where the donor is mediating, especially in purchasing expensive equipment or parts, since the nation has no credibility. Furthermore, the transportation charges often exceed the cost of the parts.

1-3-4 Finance

The budget of the Ministry of Health constitutes 7.0% of the national budget (1999), and 0.6% of the GDP. However, there is a notable inconsistency and time lag between the budget and its actual execution (especially at the provincial level, the executed budget constitutes only 30-50% of the budget approved in the assembly). After complaints from the MSF in 1999, budget execution was hastened. The budget expenditure amounts to 1.83 US dollars (1999) per capita, a figure that is as low as in other developing countries (the WB set 12 US dollars as the target). The breakdown shows approximately 20% spent for personnel costs, 35% for operational fees, and 40% for drugs and medical supplies expenditure. The cost of facilities and medical equipment has been financed as lump sum payments by the Ministry of Finance since 1997 (Tables 4-2 and 4-3).[31] As of 2000, budget execution is partially and gradually being handed over to the regional health offices, and this attempt is still in the trial phase. Consultation fees were formerly free officially, but in practice, the patients paid the medical care providers directly. Thus, these paid fees varied between patients, and poor patients had to spend what little money they had. Further, as the hospital office workers had no means of access to this extra income, they had a low incentive to work. In 1997, a consultation fees system was implemented in a pilot facility. However, as the salaries are low, the staff work only during the mornings, then earn money by private means in the afternoons. In the middle of 1999, a 30% raise was approved for public officials salaries, which is nevertheless low at 15 dollars a month. Thus the tendency for personnel to demand money directly from patients to supplement their low incomes still remains, leading to problems such as emergency patients being refused treatment until the fees are paid in advance. There is as yet no insurance system.

1-3-5 Information

Medical information such as numbers of personnel, birth spacing, EPI-related statistical information and basic disease statistics seem to be conveyed from the dis-

[31] Ministry of Health (1999c), Ministry of Health (1998)

Table 4-3 Health Budget Summary

Budget Chapter	Description	1994 Budget Plan	1995 Budget Plan	1996 Budget Plan	1997 Budget Plan	1998 Budget Plan	1999 Budget
10	Salaries	10,635	10,560	11,985	11,065	12,160	13,200.00
11	Operating costs excluding drugs	17,794	16,764	23,228	23,931	21,496	29,200
11	Drugs & medical supplies	9,685	8,361	22,422	23,069	25,260	25,500
13	Special Programme Agreement (ADD)	-	-	2,040	2,040	2,640	3,000
31	Social-allowances	346	255	615	640	808	812
32	Transfers to International organizations[1]	-	640	110	centralized in MoEF	centralized in MoEF	300
Sub-to	Recurrent Expenditure (Plan)	38,460	36,580	60,400	60,745	62,364	72,012
50.1	Investment (construction & equipment)	4,000	3,900	11,600	centralized in MoEF	centralized in MoEF	centralized in MoEF
50.2	Counterpart contributions to loans	-	250	625	centralized in MoEF	centralized in MoEF	centralized in MoEF
Sub-to	Capital Expenditure (Plan)	4,000	4,150	12,225	centralized in MoEF	centralized in MoEF	centralized in MoEF
TOTAL	National Health Budget	42,460	40,730	72,625	60,745	62,364	72,012
51	Project aid[3]	3,900	21,400	49,500	92,715	106,675	N/A

Note 1 Annual regular budget contributions (paid to international organizations).
2 Excluding externally financed capital expenditure.
3 MoEF projections of all external assistance (loans, grants) to the public health sector including UN, ADB, WB and bilaterals

Source: Ministry of Health (1998)

trict or province to the national level, although they are not always accurate. The data especially related to donor-aided programs are relatively well organized, while the registration of basic information related to population trends such as birth and death certificates, and medical statistics that determine disease structure, are not organized. Furthermore, although this information is collected for the Ministry of Health, it is doubtful whether it is utilized for regional problem-solving measures or planning.

1-4 Trends in aid provision

The Ministry of Health is currently in the midst of discussions including with donors regarding the phased implementation and the target year for completion of the Sector Wide Approach (SWAP). In the CoCom of September 2000, the target implementation commencement date was officially set as July 2002. Many donors basically agree to the concept of running the various projects and programs in collaboration instead of on an individual basis. However, some donors, including JICA, are being prudent regarding the idea of establishing a basket fund for common use. According to the plan, preparations within the Ministry of Health, formulation of the master plan, and discussions with the World Bank should currently (as of September 2000) be in progress.[32]

1-4-1 International organizations

The United Nations organizations are engaged in various activities, for example, the World Health Organization (WHO) in health center reform and health financing, management of the personnel division in the Ministry of Health, education of nurses, and malaria control, UNICEF in the issues of EPI, nutrition and CMS, UNFPA in birth spacing and reproductive health, the World Bank in tuberculosis control and SWAP, etc., and the Asian Development Bank in the construction of new health centers and renovation of referral hospitals.

1-4-2 Bilateral aid

France has close ties with Cambodia in the form of bilateral aid, through French cooperation with the medical schools and Calmette Hospital (emergency general hospital), and also with the Pasteur Institute, which corresponds to an NGO. However, the number of staff dispatched to the medical school is only two, an insuffi-

[32] Ministry of Health (2000b)

cient number to strengthen medical education as a whole.

The United States has frozen direct aid to the Cambodian government following the armed conflict of July 1997 and limits its aid to indirect means through NGOs (many, including RACHA, RHAC and WV) but covers diverse issues. It is reportedly considering resuming aid to the government soon. However, there are several problems such as headhunting by the US of many of the capable individuals from other governmental organizations through the NGOs.

Germany is engaged in the construction of the National Institute of Public Health and advisor dispatch and training provision for strengthening regional health management in cooperation with the Mahidol University in Thailand. In addition, it is planning to send a medical equipment advisor to the Ministry of Health.

Australia was previously involved in infection control at the former National Maternal and Child Health Center and in the implementation of a medical equipment maintenance project at the Cambodia Red Cross, but is presently providing aid to the National Health Promotion Center and rehabilitation departments in some provincial hospitals. Unfortunately, the National Health Promotion Center is not yet capable of the planning or production of health promotion materials, nor has it adjusted its coordination of informative campaigns, and currently limits its activities to collecting information on the outcomes yielded by other agencies.

Switzerland seems to be giving extensive support to an NGO that runs the Kuntha Bopha Hospital (free consultations, and staff salaries provided by the NGO). This NGO is reported to be recently requesting partial coverage of administrative expenses from the Ministry of Health, who, however, in the present financial situation, finds difficulty in paying any amount exceeding 300 million yen (over 700 million yen is spent in expenses for the three hospitals in Kuntha Bopha).

The EU is apparently providing aid for syphilis control, maternal and child health care, and malaria control, while Norway is providing aid for psychiatric treatment. In addition, England has apparently recently become involved as well.

Japan is engaged in diverse aid activities through JICA, including the implementation of the maternal and child health project and the tuberculosis project. It is also providing grant aid for the construction of the National Maternal and Child Health Center of Cambodia and the Tuberculosis Center, as well as contributing medical equipment to several hospitals, providing vaccines through UNICEF and providing emergency drugs for dengue fever. In addition, it is supporting the health centers through grassroots grant assistance from the Japanese Embassy, and a mental health NGO is introducing group counseling techniques for social workers through the JICA Development and Welfare Support Scheme.

1-4-3 NGO

Numerous organizations are active as NGOs. Many of the NGOs in the field of health care (99 organizations) belong to a liaison organization called MEDICAM whose head is a member of the CoCom of the Ministry of Health.[33] These NGOs cover a diverse range of activities. The fields listed in the MEDICAM directory include AIDS (prevention, patient care), advocacy, advice to management teams, blindness prevention/ophthalmology, building construction, community health, CPA, drug management, EPI, first aid, health care within prisons, health education/promotion, health training, human resources development, Integrated Management of Childhood Illness (IMCI), clinical laboratory testing, leprosy control, malaria/dengue fever control, mental health, maternal and child health, MPA, nutrition/food aid, oral hygiene, reproductive health, safe motherhood, schistosomiasis/ parasite control, sexually transmitted disease control, support to the private sector, surgery, user fees, traditional birth attendants, traditional remedies, tuberculosis control, village health volunteer, and water/sanitation. Generally, NGOs are active in the rural areas, often as far as the district-level hospitals. On the other hand, NGOs are often seen in the main organizations. For example, a one-man NGO from Switzerland is stationed in the Kuntha Bopha Pediatrics Hospital, the Swiss Red Cross is in charge of hospital management at the Takaev Provincial Hospital, World Vision, which has been receiving aid from the US is stationed in the National Pediatric Hospital, MSF is involved in the Technical School for Medical Care to train laboratory technicians, and ICRC was active in the National Blood Transfusion

[33] MEDICAM (2000)

Center and later the Italian Red Cross was. Among Japanese NGOs, SHARE (Kampong Cham), JOCS (Takaev), 24-hour Television (Kandal) and the Association for Aid and Relief, Japan (AAR) (Siem Reab) are involved in carrying out local health measures. In addition, the AAR is engaged in rehabilitation in Phnom Penh, Friends without Borders in a project following the construction of the pediatrics hospital in Siem Reab, FIDR in the pediatrics surgery department of the National Pediatric Hospital, and the Japanese Red Cross is stationed (although currently withdrawing) in the district level hospital in Phnom Penh City.

1-4-4 Cooperation/coordination

The aid organizations mentioned above, including NGO representatives, gather at a monthly aid coordination meeting with the Ministry of Health called the CoCom. Subordinate to the CoCom is an advisory organization called the Sub-CoCom, which covers the diverse issues of health ethics, oral hygiene, medical equipment, blindness prevention, blood safety, capacity development, surgery, and maternal and child health. In addition, members from each aid organization are cooperating as a Working Group in addressing AIDS, nursing education, tuberculosis and HIV issues.[34]

2. Identifying the main issues and problems

The Ministry of Health functions relatively well compared to the other ministries, although it is still weak and without fundamental designs for policies concerning education, qualifications, blood transfusions, emergency care and vital statistics (possibly due to problems within the Ministry of Planning). In addition, there are no practical guidelines for the salary system, especially to deal with the low level of pay. Furthermore, work regulations are undeveloped. These problems are more evident in regional areas, and the magnitude of these problems differs between the provinces. Furthermore, besides the clear task of reestablishing the organizations and systems in order for them to properly function, great difficulty is expected in the elimination of reported complications such as inappropriate drug purchasing and corruption among staff.

Among the various aid activities, some have adverse effects, such as those in which the aid providers are subjected to dangerous situations when they try to reduce corruption for instance, those that put Cambodia in a totally dependent state (e.g. the personnel salaries at the Kuntha Bopha Hospital are financed entirely by NGOs), or those that threaten existing organizations or functions that are relatively appropriate. For example, there have been reported instances of the headhunting of capable personnel from existing organizations (e.g. headhunting of National Tuberculosis Center staff by an NGO aided by USAID), or establishing a facility similar to an existing one, thereby depriving the latter of its patients (e.g. as the Kuntha Bopha Hospital performs unnecessarily expensive treatment for free, the National Pediatric Hospital is suffering the effects). Other aid activities take the form of putting resources into one particular department of a provincial hospital instead into the hospital as a whole. In this case, the particular department receiving their salaries from the donor (e.g. MCH clinics at the provincial hospitals aided by EU and UNFPA) may be sound, while the provincial hospital as a whole does not function. This department, however, may be expected to stop functioning once the donor withdraws. This type of aid has a high risk of increasing dependency on aid.

Part of the responsibility for these problems lies in the aid receivers themselves. They tend, for example, to have inadequate basic and specialized education, with weak planning and proposal capabilities and a strong sense of perverted equality and jealousy, and are mainly concerned with securing an income to live on rather than promoting their nation.

3. Direction of development

Although Cambodia is presently in the process of transferring the discretion in executing the budget in part to the regional governments to encourage the development of regional governing capacity, the central government itself is not yet adequately competent. Therefore, a developmental direction from a long-term perspective, unaffected by immediate conditions, is required. This includes strengthening the administrative and management capabilities of the central government, as well as promoting next-generation and regional human resources development, organizing the fundamen-

[34] Ministry of Health (2000)

tal national systems, and reestablishing them as a whole.

4. Direction of Japan's assistance

The form of aid is currently undergoing a transition from an emergency phase to a developmental phase. Most countries are strongly inclined to contribute to fields where direct results can be expected in the indicators, and stay away from steady, step by step activities. In addition, often new organizations are established where one already exists, on the grounds that it does not function. However, it is a fact that there are some extremely competent leaders within Cambodian organizations, although insufficient in number, thus cooperation should take a form that will fully develop the capabilities, enthusiasm, and self-confidence of such individuals. The existing organizations and systems that are appropriate should be strengthened functionally, without creating other new ones. Moreover, even in periods when there is an apparent lack of progress, somebody must forge ahead. There are several areas of potentially effective aid that do not overlap with the interests of other aid providers. Aid in developing human resources is especially difficult at the beginning and does not show immediate results but holds promise for the future. Some donors tend to simply present guidelines and recommendations, thus leaving the Ministry of Health confused as to the actual process of implementation. Therefore, aid that resolves problems in cooperation with the Cambodian people is essential. The specific fields are outlined below.

4-1 Strengthening of central government functions

This includes the establishment of work regulations, reform of the salary system, and improvement in planning capabilities.

4-2 Establishing national systems

(i) Implementing a registration system for birth and death certificates (may possibly require prior incorporation of resident cards)

(ii) Establishment of national examinations and implementation of a system of licenses for medical professionals

(iii) Establishing a blood transfusion system including blood donation
Formerly, the ICRC and Italian Red Cross intervened in the National Blood Bank. They are presently engaged in activities to secure safe blood, in relation to AIDS. It is not decided whether the Japanese Red Cross, which constitutes the main organization for Japanese aid, will be involved.

(iv) Establishing an emergency system
France has implemented part of the system in Phnom Penh.

(v) Establishing a National Reference Laboratory and systematizing quality control
France is providing aid to the Pasteur Institute, GTZ to the National Institute of Public Health, and Japan to the National Maternal and Child Health Center of Cambodia, each on an individual basis.

(vi) Establishing a national workshop for medical equipment and facilities management, and constructing an equipment management network
Formerly, AusAID was involved with the Cambodian Red Cross. Currently, GTZ is planning to dispatch experts to the Ministry of Health. Japan is responsible for the National Maternal and Child Health Center of Cambodia, and provides free advisory services.

(vii) Others
Other areas include the strengthening of food sanitation administration, establishment of waste disposal including medical wastes, water supply, sewage and raw sewage disposal systems.

4-3 Human resources development

(i) Strengthening medical education including education within the medical school as well as clinical training
The current involvement by France is not sufficient.

(ii) Reinforcement of technical schools for medical care for nurses, laboratory technicians and physiotherapists
WHO is presently involved as an advisor, but does not support work on a practical level. MSF was formerly involved but is presently in the process of withdrawing.

(iii) Development of other paramedics such as radiology technicians and dietitians or nutritionists

(iv) Development of comedics such as social workers

and psychologists

(v) Re-education/training of local personnel
Many organizations are involved, including Japan, USAID, WHO, UNICEF and UNFPA.

(vi) Strengthening medical care professional ethics

4-4 Reinforcement of regional areas

(i) Strengthening the administrative and management capacities of provincial health departments
Consultants of WHO and UNICEF are stationed in some provinces as advisors.

(ii) Strengthening the administrative and management capacities of provincial hospitals
Japan is conducting hospital management seminars.

(iii) Raising the clinical standards of provincial hospitals

(iv) Clarification regarding the role of referral hospitals, and reinforcement of their functions
NGOs are present in some areas.

(v) Expansion of the outreach activities of health centers

(vi) Cooperation between government aid and NGOs in regional areas

4-5 Strengthening of education and information activities

This includes activities such as promoting school health education (such as hygiene and AIDS) and medical check-up campaigns for expectant and nursing mothers and children.

4-6 Other individual operations

(i) Disease control projects
Tuberculosis: Currently in progress. WPRO sets it as a high priority item
Malaria: Priority of WHO headquarters

(ii) Field-specific projects
Maternal and child health care: Currently in progress.
Mental health: Support in planning and implementing basic mental health policies, in cooperation with PHC.

(iii) Projects in the form of facility aid
The “Hospital of Japan”: This request was reportedly presented by Prime Minister Hun Sen to former Japanese Prime Minister Obuchi during his visit to Cambodia in 2000. If a new hospital is built according to this request, there is a risk of deterioration in the existing medical facilities, as in the case of Kuntha Bopha Hospital. If a new hospital is not to be built, then an existing one, such as Sihanouk Hospital could be supported and strengthened instead, but this gives rise to the issue of the distribution of roles between Sihanouk Hospital and the Calmette Hospital aided by France.

(iv) Emergency aid
Natural disasters: Such as floods
Diseases: Such as dengue fever (hemorrhagic fever)

4-7 Summary

In terms of short-term aid, EPI and tuberculosis control can be expected to achieve results. As these projects cannot be executed independently by Cambodia at present, they must be undertaken through Japanese or other donor aid.

Among mid- to long-term aid, the strengthening of central government functions and the establishment of national systems should be the priority. Existing systems and facilities that are appropriate should be augmented functionally, so as to avoid unnecessary competition between new and existing facilities. Furthermore, aid in a form in which makes it possible for funds and supplies to be wrongfully diverted should be strictly avoided, and thorough monitoring should be implemented.

Human resource development is essential to long-term aid. Although it may seem a tedious process, this type of aid is essential to future independent development. The Cambodian people must be made aware of this fact so as to encourage a commitment by Cambodia as well.

Meanwhile, in the light of the experience of Japanese schemes, in countries such Cambodia with scarce human resources, equipment and facility engineers tend to lack basic education. Therefore, in cases of either grant aid or the supply of equipment and materials, it is difficult for the receivers to understand and learn operation procedures, maintenance and repair through a short-term training program. The training should not be lim-

ited to a program prior to delivery, but should include an additional program following delivery, and a follow-up scheme for the facilities and equipment not only for the first year of use after donation but on a more frequent and long-term basis. Further consideration must be given to measures for procuring various types of facilities and equipment parts in small quantities as a package, and the difficulties in procurement due to the lack of credibility of the nation. In project type technical collaboration, progress cannot be expected to proceed at the pace of other moderately developed nations, as a longer period of time is required to achieve the same outcome. The schemes should therefore be designed flexibly. As in the case of social security issues, methods in which several schemes are combined and coordinated to strengthen a certain field must be considered. Moreover, as there is evidence that some contributions are not effective, thorough monitoring is required and, where necessary, the conditions of use and the situation regarding target achievements need to be fully examined and monitored year by year so that measures such as extending the contributions over several years can be employed.

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Attachment: Social Security Issues[35]

1-1 Background

It is estimated that formerly, an informal social security system consisting of mutual support within the family or community, or patronage of the village chief had been the general form of social security. However, the Pol Pot era resulted in the breakdown of such informal systems and customs, which were replaced by more formal means or systems assisted by external support such as aid.

1-2 The social security situation

Nearly 40% of the Cambodian population is at or below the poverty line. There are no pension or medical insurance systems, thus presently only some of the socially vulnerable are eligible to receive any benefits. The target groups include the extremely poor (natural disaster victims, street people), children (orphans and street children), women (victims of forced prostitution and domestic violence), the disabled, and the unemployed, while issues of the aged are not serious. Making the problems more complicated are issues such as trafficking in women and children, the prevalence of AIDS and drug abuse, and discrimination against the disabled and AIDS patients.[36]

According to surveys, a large 2 to 3% of the total population is estimated to be physically disabled, due to various factors such as the recent war and conflicts, international isolation, the collapse of numerous basic services, destruction of national infrastructure, countless landmine accidents, insufficient basic medical services, shortage of safe food, and the large proportion of the population in poverty. Regarding orphans, in some cases children who are blood relatives and those related in law or children with no relations are taken in and raised. In addition, there are public facilities equivalent to orphanages, where these children are not only accommodated, but arrangements made for adoption by foreigners. There are also several NGO organizations that accommodate and educate street children.

Meanwhile, approximately 600 to 800 women and children migrate back from Thailand monthly. As there are no resources or systems to meet the needs of these people, they are often re-trafficked. Other recognized problems include the absence of a system or resources to support orphans over the age of 18 to work in society, the rapidly emerging issue of orphans affected by HIV/AIDS, and the lack of trained staff in the districts.[37]

1-3 Government action

The Ministry of Social Affairs, Labor, Vocational Training and Youth Rehabilitation (MOSALVY) oversees welfare and labor issues. It consists mainly of a Social Welfare and Youth Office, Labor and Vocational Training Office, General Affairs and Finances Office, and a Supervising Office. Its main objectives are poverty relief and human resources development. The activities of 1999 are listed below.[38]

- Physical care of orphans at governmental centers
- Establishment of a committee for assessing and monitoring the needs and problems of street people
- Establishment of an inter-ministry committee for addressing issues of the elderly
- Assessment and counseling of poor women and widows
- Assessment of women and children victims of trafficking
- Prevention workshops for trafficking
- Protection and monitoring of young women from brothels in Phnom Penh and the provinces
- Education of prostitutes and referrals for medical care
- Establishment of a prevention committee for HIV/AIDS
- Public HIV/AIDS education to the police, military,

[35] The report on social security issues are based mainly on information provided by an expert, Tamio Hayashi (social welfare administration advisor), who has been dispatched to the Ministry of Social Welfare, Labor, and Veterans.

[36] Hayashi (2000)

[37] MOSALVY (2000)

[38] MOSALVY (2000)

and students
- Attendance in workshops on the sexual abuse of children and women in Cambodia
- Promoting awareness regarding the basic human rights of children
- Monitoring of rehabilitation services for the disabled
- Development of a community-based rehabilitation program
- Rehabilitation and vocational training for young criminal offenders
- Aid to victims of hardship such as food shortages
- Implementation of a social security plan
- Preparation of a draft for adoption regulations
- Training for direct service providers in the provinces

In the meantime, regional and local offices of MOSALVY have been established at the provincial and commune level, and other ministries, such as the Ministry of Women's and Veteran's Affairs, are also involved in many issues. However, the budget of MOSALVY for example was a mere 1.1% of the national budget, the majority of which was used for personnel expenses and pensions for public officials, leaving only a small amount for the welfare services budget. The opportunity for donor assistance is thus very great, as orphanages, rehabilitation centers for the disabled, and vocational training facilities are established through the cooperation of the UN and NGOs.[39] There are numerous programs for the physically disabled among activities for the socially vulnerable (the situation regarding the mentally disabled is as mentioned in Section 4 Improvement of Health Care). The Cambodian government has signed the Proclamation on the Full Participation and Equity of People with Disabilities in the Asian and Pacific Region (ESCAP), and established the Disability Action Council (DAC) in 1997, mainly promoted by MOSALVY. Members of the Ministry of Education, Ministry of Health, NGOs, and international NGOs are included in the DAC Executive Board, whose main objective is to ensure coordination among the various organizations.[40]

1-4 Directions for future aid

(i) Promoting the establishment of a foundation that promotes economic development, and implementation of well-coordinated measures to assist the socially vulnerable

(ii) Re-examination of priority areas
Of the Japanese aid activities to Cambodia, those related to support of the socially vulnerable are limited to the "removal of landmines and support to landmine victims". Therefore, the object of aid could be extended to the socially vulnerable as a whole including landmine victims, and to vocational training facilities that can contribute to social development, including advisory support.

(iii) Transition in the priority from NGO-centered activities to human resource development
Activities that will raise the management and administrative capabilities of the government with regard to human resource development, with a nationwide perspective, are desirable.

(iv) Examination of an administrative expenses assistance system (cost reductions)
Coverage of administrative expenses cannot be expected from the national budget for the time being with regard to the establishment of facilities provided through grant aid.

(v) Establishment of a scheme for a comprehensive welfare support including JICA support and grassroots grant assistance from the Japanese Embassy (employing policy advisors)

[39] Hayashi (2000)

[40] DAC-Secretariat (1999)

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