

Data Collection Survey on Health Sector

Country Report Republic of Tajikistan

October 2012

Japan International Cooperation Agency
(JICA)

KRI International Corp.

TAC International Inc.

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<p>(JICA rate, July, 2012)</p>

This report is prepared to support JICA's country operation in health through strategic programming. The contents, however, may need to be supplemented with the latest and more detailed information by the readers since the report is mainly based on literature review and not on field study, with the exception of some countries.

Foreword

Background

The current situation surrounding the health sector in developing countries has been changing, especially at the start of the 21st century. Based on the recommendations from the concept of “Macroeconomics and Health”¹, development assistance for health has greatly increased to accelerate efforts to achieve the Millennium Development Goals (MDGs) by 2015. The development assistance for health has risen sharply from USD 10.9 billion to USD 21.8 billion in 2007². Moreover, development assistance was harmonized by the common framework developed at the three consequent high-level forums in Rome (2003), in Paris (2005) and in Accra (2008).

Regardless of such favorable environmental changes for the health sector in developing countries, the outcomes do not seem to reach the level of expectation in many countries. Many developing countries, particularly Sub-Saharan African countries, will not achieve some of their MDGs 4 (Reduce child mortality), 5 (Improve maternal health) and 6 (Combat HIV/AIDS, malaria and other diseases) by 2015. Therefore, while raising more money for health is crucial for lower-income countries striving to move closer to universal coverage³; “More Money for Health”⁴, it is just as important to get the substantial health gains out of the resources available; “More Health for Money”⁵. Efficiency is a measure of the quality and/or quantity of output of services for a given level of input, and improving efficiency should also be seen as a means of extending coverage for the same cost and the improved health outcomes.

Considering this situation surrounding the health sector in developing countries, in a recent movement of its development assistance work, JICA has been working on country-based analytical work. This consists of macro level and sector wide analytical work aiming to clarify JICA's aid direction in each country by looking at priority areas of concern and aid mapping. The purpose of the Data Collection Survey on Health Sector is to contribute to JICA's analytical work efforts. In the past, JICA's analytical efforts were concentrated on the project planning purpose, as a consequence, information gathered in such analytical works were naturally limited to be around the particular projects. It is therefore thought to be important for JICA to conduct a country-based health sector review to gather complete information and analyze the whole sector to learn about the situation of the country and identify high priority problems and issues to be tackled in the health system.

Objectives of the Study

The key to the formulation of a good project is having conducted thorough sector reviews. Good sector reviews and analyses help us to understand the health situation and its determinants, and the capacity for health project implementation in the countries. They also help us to contribute to the countries for identifying the feasible projects in the context of priorities and developing the necessary policies and strategic planning for the health service delivery. It is also necessary to conduct such health sector review studies on a regular basis in order to develop and implement effective and efficient health projects. Based on this concept, JICA decided to carry out the sector review studies of 23 selected countries. The objectives of the sector review are to give recommendations to JICA on the aid direction for the health sector in each country, and to improve strategic approaches and the efficiency of aid cooperation.

Structure of the Report

The health sector study country report consists of seven chapters. Chapter 1 is the summary of the socio-economic situation of each country. Chapter 2 is an analysis of the national health policy, strategic approaches, and plans. Chapter 3 describes the health situation of each country to show the priority health problems by using health information and data. Chapter 4 is an analysis of the health service delivery function of each country, while Chapter 5 is an analysis of other functions of the country's health system namely: human resources for health, health information systems, essential medical products and technologies including the health facilities, health financing, and leadership and governance. Chapter 6 is an analysis of the development partners' assistance and cooperation. Based on the above analysis, Chapter 7 provides recommendations to JICA on the strategic areas of cooperation and its approaches.

¹ WHO announced “Macroeconomics and Health: Investing in Health for Economic Development” in December, 2000. This regards Health is an intrinsic human right as well as a central input to poverty reduction and socioeconomic development and the process helps place health at the centre of the broader development agenda in countries.

² Ravishankar N., Gubbins P. Cooley J.R., et. al; June 2009; Financing of global health: tracking development assistance for health from 1990 to 2007; the Lancet 373:2113-2132

³ According to WHO, Universal coverage (UC) is defined as ensuring that all people have access to needed promotive, preventive, curative and rehabilitative health services, of sufficient quality to be effective, while also ensuring that the use of these services does not expose the user to financial hardship.
(http://www.who.int/health_financing/universal_coverage_definition/en/index.html)

⁴ In the World Health Report 2010 (WHO), the report advocates it with the following concrete three suggestions as the requirements; 1) Increase the efficiency of revenue collection, 2) Reprioritize government budgets, and 3) Innovative financing. As the forth suggestion, it advocates increasing development aid and making it work better for health.

⁵ The World Health Report 2010 also suggests the needs of improving the efficacy in the health systems and eliminating the inefficiency/waste will enable the poor countries to improve the availability and quality of the services.

Abbreviation and Acronyms

ANC	Antenatal Care
ARI	Acute Respiratory Infection
BCG	Bacille Calmette Guerin
CIS	Commonwealth of Independent State
DOTS	Directly Observed Therapy Short-course
EPI	Expanded Programme on Immunization
GDP	Gross Domestic Product
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
GNI	Gross National Income
HIV	Human Immunodeficiency Virus
IMCI	Integrated Management of Childhood Illness
JICA	Japan International Cooperation Agency
KfW	Kreditanstalt für Wiederaufbau
MDG	Millennium Development Goal
MICS	Multiple Indicator Cluster Survey
MOH	Ministry of Health
PHC	Primary Health Care
PRSP	Poverty Reduction Strategy Paper
TBA	Traditional Birth Attendant
UNDP	United Nations Development Programme
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WB	The World Bank
WHO	World Health Organization



Source: [Http://www.freemap.jp/blankmap/](http://www.freemap.jp/blankmap/) (access on March 16, 2012)

Republic of Tajikistan

Summary

1. Tajikistan became independent in 1991, but suffered from a devastating civil war for five years. After a ceasefire, the country is now on a road to economic recovery, but it is still the least developed country in the Commonwealth of Independent States (CIS). About half of the people still live in poverty and its economy depends on the remittances from the migrant workers. Poverty and migrant workers are the factors affecting malnutrition and infectious diseases. Also, insufficient access to clean water and low social status of women influence the health sector.
2. The National Development Strategy until 2015 aims at the improvement of basic social services and development of human resources. The government has worked on the health sector reform after the independence because the Soviet type health system cannot be financially maintained, but the pace of the reform is slow in Tajikistan. The National Health Strategy 2010-2020 covers all health problems, and priorities which respond to the limited health resources in the country are not yet set.
3. Comparing the health index with Central Asian countries, infant and under-five mortality rate is the worst in the region. Sixty percent of the cause of death is attributed to noncommunicable disease, and the epidemiological transition has already occurred. There is a gap between the government statistics and the real situation and health data is said to be inaccurate.
4. Maternal mortality rate is relatively high in Central Asia due to high home delivery which accounted for more than 40%, the low contraceptive prevalence rate, and the difficult access to health care. Child mortality is in the decreasing trend.
5. As for infectious diseases, prevalence of malaria and tuberculosis are still high as reemerging infectious diseases. Incidence of tuberculosis is the highest in Central Asia though its peak was over. People inflicted with HIV is said to exceed 20,000, and the predominant transmission route is through sexual intercourse by migrant workers and the sharing of contaminated needles among drug users. The circulatory organ disease occupies the majority in non-communicable diseases.
6. Regarding MCH, the actual ANC rate was estimated to be 60-70%, and diagnosis of high risk pregnant women were insufficient, and availability of EmOC services were low. There is a problem in the management of cold chain and staff's knowledge on EPI which caused the outbreak of polio that was projected to be eradicated in 2002. Participation rate of training on IMCI was 50% and services improvement at primary level is necessary. The utilization of services was low, only 1-3 times a year per person in rural areas.
7. The MOH manages hospitals and medical colleges at the central level while health departments of local government manage health programs and facilities in the provinces. The Soviet type hospital system still remains and the transition to an efficient health system is not advanced. The referral system seems functioning within the provinces, but the referral from a province to the central level is hardly done.
8. As for the common feature of the Soviet type system, the number of doctors is quite high while midwives fall short. The quality of human resources is a serious problem because their motivation is low due mainly to low salary. The conversion from specialist to family doctor who is responsible for the primary healthcare is advanced, as this is one of the priorities of the sector reform, and the number has increased gradually. Shortage of health budget is serious, it is said that 70% of health expenditure is entirely private, out-of-pocket expenses.
9. A lot of development partners are acting in the health sector, and the frame of donor coordination has already functioned. Support especially for MCH, health promotion, and PHC have increased.
10. The priority issues in the health sector of Tajikistan are: (1) delay of the health sector reform, (2) services to correspond the disease structure, and (3) low quality of health service and personnel. Cooperation in the field of improvement of the administrative ability, non-communicable disease measures, and improving the quality of training will be important to solve these problems. As for MCH which Japan has supported as a priority area, service provision of EmOC is necessary.

JICA Data Collection Survey on Health Sector

Country Report Republic of Tajikistan

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Chapter 1 Country Situation

1.1 Natural Condition, Politics, and Economy

The Republic of Tajikistan (hereinafter referred to as Tajikistan) is a mountainous landlocked country with a land area of 143,100 km², covered by the Pamir Plateau. It has a population of 7.5 million, 79% of which belongs to the Persian-speaking Tajik while 17% belongs to Uzbek. After its independence in 1991, just after the collapse of the Soviet Union, Tajikistan suffered from a devastating civil war for five years. In 1997, a ceasefire was reached with estimated deaths of over 50,000. After the civil war, Tajikistan was in a state of complete devastation and its social infrastructure including the health system was in a state of near-collapse. Severe economic decline decreased the per capita GNI from US\$1050 in 1991 to US\$150 in ten years. With the return to peace and political stability, Tajikistan is now on the road to economic recovery depending upon its exports of aluminum and cotton. Still, Tajikistan is the poorest country in the Commonwealth of Independent State (CIS), and overall levels of poverty remain very high. The following Table 1-1 indicates the major socioeconomic indicators of Tajikistan.

Table 1-1 Major Socioeconomic Indicators of Tajikistan

Indicators		Year
Population ¹	7.5 million*	2010
Population growth rate	1.5%	2000-2009
Literacy rate	99.7%	2009
Life expectancy at birth (years)	67	2009
Crude birth rate (per 1,000 population)	28	2009
Crude death rate (per 1,000 population)	6	2009
Infant mortality rate (per 1,000 live births)	52	2009
Under-5 mortality rate (per 1,000 live births)	64	2009
Maternal mortality ratio (per 100,000 live births)	64	2009
Per capita GNI	US\$800	2010
GNI growth rate	4.2%	2010
Total enrollment, primary	107%	2009
Human development index rank ²	127	2011
Population living below the poverty line	46%	2009

Source : HNP Stats, World Bank [1]

1. Republic of Tajikistan Health Statistics Data 2010 [2]

2. Human Development Report, UNDP [3]

The country has five administrative divisions such as three provinces (Sogd, Khatlon, and Gorno-Badakhshan Autonomous Oblast: GBAO), Dushanbe City and RRS (Rayons of Republican Subordination) under the central government. Each province is divided into several districts (*rayon*) and subdivided into villages (*jamoats*).

1.2 Social Situation

Social economic factors that influence the health sector of Tajikistan includes the deterioration of the economic situation by the independence of the Soviet Union, the infrastructure collapse and damage to the economy by the civil war. The result of this situation caused severe poverty, the inflow of the infectious disease such as HIV by migrant workers, and the decline in woman's social status.

1.2.1 Poverty and Labor Migration

Half of the population still lives under the poverty line though the poverty population ratio decreased gradually from 72% (2003) to 46% (2009) as a result of the economic growth after the civil war. The poverty causes malnutrition and infectious diseases (Table 1-2). Two million people (91% are men) out of the 7.52 million total population migrate because of poverty, and 70% of all households have at least one migrant. It is estimated that the remittances from migrants correspond to 45% of GDP. Many migrants (92% migrated to Russia) were infected with HIV and tuberculosis and brought infectious diseases in Tajikistan [4].

Table 1-2 Population Below the Poverty Line (2007)

	Dushanbe City	Khatlon Province	Sogd Province	RRS	GBAO	Total
Below poverty line	43%	47%	68%	48%	43%	53%
Below extreme poverty line	16%	8%	31%	14%	9%	17%

Source: Tajikistan Living Standards Measurement Survey 2007, UNICEF [5]

1.2.2 Woman's Social Status

During the Soviet era, the ratio of female doctor was 46% but it decreased to 38% (2010) after the independence. Moreover, the Islam became more important as the national identity, and many women in rural areas lost their jobs and just helped in farm works as housewives. As a result, political and social status of women declined. The percentage of women who make decision for themselves whether to go to health facility when they get sick is only 12%. More than 70% of cases are decided by husbands (Table 1-3). Moreover, when the husband migrates, it is said that the mother-in-law greatly influences the decision. Such situation significantly influences the utilization of maternal care [6].

Table 1-3 Woman's Decision Making When Getting Sick (2005)

	By Wife Only	Only by Husband	By Husband and Wife	Someone Else	Others
Dushanbe City	36%	27%	32%	4%	1%
Khatlon	8%	35%	43%	12%	1%
Sogd	12%	38%	37%	10%	3%
RRS	11%	36%	38%	14%	0%
GBAO	16%	32%	42%	9%	-
National average	12%	36%	39%	11%	1%

Source: Multiple Indicator Cluster Survey Tajikistan 2005, State Committee on Statistics, UNDP, UNFPA, and UNICEF [7]

1.2.3 Insufficient Access to Water

There is a problem in water supply and 25% of the residents use water from the river, though Tajikistan is one of the wealthiest states in terms of water resources ranking third in the world in terms of the amount per person. There is a gap between the regions regarding access to improved water sources, that it is 52% in Khatlon Province and 41% in GBAO while it is 62% for the national average [5]. Tajikistan has many water-borne diseases like typhoid fever, as only 60% of water provided to the people fulfills the standard for safe drinking water. Also there are regions where enough service cannot be provided due to shortage of water in health facilities. The shortage of budget for the repair of old water pipes built during the Soviet era and freezing of these water pipes during winter when temperatures drop to minus 25 degrees because of continental climate are the factors affecting this situation [8].

Chapter 2 Development Policies and Plans

2.1 National Development Policy

In the Tajikistan's Poverty Reduction Strategy Paper 2002 (PRSP), the government indicated the strategy to reduce poverty and achieve sustainable growth in ten priority areas including health, education, social security, and agriculture. The PRSP incorporated the MDGs into its strategy and indicated the following nine targets for the 1990-2015 periods:

- Reduce the poor population;
- Increase the coverage of primary education;
- Reduce infant mortality rate;
- Reduce maternal mortality ratio;
- Increase the population who have access to health services;
- Increase the share of private sector in GDP;
- Increase the population who have access to safe drinking water;
- Increase employment rate in the working population; and
- Increase the number of telephone per population.

In the National Development Strategy (2007), priority areas were indicated and the Poverty Reduction Strategy (PRS2) was developed as an action plan. The National Development Strategy indicated the following issues: 1) Development of administrative system to cope with market economies, 2) Promotion of private economic activities and investments, and 3) Improvement of basic social infrastructure and human resource development.

2.2 Health Sector Development Plan

2.2.1 Health Sector Reform

The government started the health sector reform since its independence aiming to avoid irrational health expenditure for hospital-based, highly specialized secondary care which was inherited from the Soviet Union. This Soviet health care system does not fit the modern concept of a cost-effective and patient-centered health care. The overall aims of the reform were shifted to an increase share of primary health care and develop the health system based on the needs of the population. During 1990s, the government identified the key elements of the reform strategy but did not achieve the envisaged goals due to the absence of sufficient financial resources. Since 2001, the MOH, with the support of development partners such as WHO, the World Bank, UNICEF, GIZ, and USAID, started to implement projects for strengthening health services, and positive changes have occurred in the health sector in recent years.

The Health Reform 2010 (1999) proposed the reduction of hospital beds by 30%, training of family doctors, strengthening of PHC, and improvement of health budget allocation. The present aims of the health reform are based on the Conception of Health Sector Reform 2002, which are: 1) Review of the role of the state, 2) Strengthening of PHC, 3) Provision of services based on the needs of the people, 4) Improvement of health financing and reducing informal payment, 5) Rationalization of hospitals, 6) Improvement of quality of services, 7) Development of management capacity, and 8) Development of human resources.

Table 2-1 Key Steps of Health Sector Reform in Tajikistan

1996	Health care reform in the Republic of Tajikistan for 2001 was adopted.
1997	Private medical practice was legalized.
2002	"Poverty Reduction Strategy Paper" and "Conception of Health Sector Reform" were announced.
2004	The National Drug Procurement Agency is established to ensure quality management of imported medicine.
2005	Co-payment was introduced.
2008	A health reform unit was set up in the MOH.

Source: Health Systems in Transition, 2010, WHO [8]

2.2.2 National Health Strategy

In the "National Health Strategy 2010-2020" launched in 2010, the following goals are set for the successful implementation until 2020: 1) Health system reform, 2) Improvement of the accessibility, quality, and efficiency, and 3) Development of the health system resources. This strategy has several priorities both for disease control and health system development as indicated in the following table 2-2.

Table 2-2 Priority Issue and Target of the National Health Strategy

Priority Issues	Targets until 2020
1. Strengthening the health of mothers, newborn children, and adolescents	<ul style="list-style-type: none"> • Strengthening of the reproductive perinatal health for healthy childhood • Ensuring of safe maternity
2. Prevention and control of infectious diseases	<ul style="list-style-type: none"> • Prevention of water-borne diseases such as hepatitis • Counteraction of HIV/AIDS • Improvement of tuberculosis services • Prevention and reduction of malaria • Prevention of infections by vaccination
3. Reducing the burden of noncommunicable and chronic diseases	<ul style="list-style-type: none"> • Ensuring access to health care for cardiovascular diseases • Early detection and timely treatment of cancer
4. Healthy lifestyle	<ul style="list-style-type: none"> • Timely care for injuries • Monitor the safety of drinking water • Reducing the prevalence of behavioral risk factor such as smoking, drinking, and obesity, etc. • Increasing public awareness
5. Governance strengthening	<ul style="list-style-type: none"> • Health system strengthening • Creation of a unified health information system • Modernization of regulatory acts on sanitary
6. Improving the quality and accessibility of disease-prevention service	<ul style="list-style-type: none"> • Strengthening the role of PHC • Accreditation of educational institutions • Standardization of treatment and preventive care • Increasing utilization of services
7. Development of human resources	<ul style="list-style-type: none"> • Providing qualified personnel responding to the needs of the society • Creating effective training system
8. Drug supply	<ul style="list-style-type: none"> • Introduction of new models of drug supply • Improvement of quality of medicine
9. Modernization of hospital system	<ul style="list-style-type: none"> • Improvement of hospital network and introduction of new planning approach • Restructuring of the hospital sector • Rationalization of the public health network with priority development of PHC
10. Strengthening of health finance	<ul style="list-style-type: none"> • Increased funding for health • Improvement of procurement system • Introduction of co-payment

Source: National Health Strategy 2010-2020, MOH [9]

2.2.3 Progress of the National Health Strategy and Health Sector Reform

The national health strategy covers all health issues as stated above, and the priority issue that corresponds to health resources in Tajikistan that can be used was not presented. The progress and issues of the National Health Strategy that the MOH showed, as of November 2011 are the following [10]:

< Progress >

- Establishment of a district (rayon) health department
- Decrease in the maternal mortality ratio: 45 (2010)→39 (2011) in government statistics.
- Ratio of health staff who participated in the ANC training: 10%→50%

< Problem >

- Capacity development of MOH
- PHC service strengthening (shortage of budget, low motivation of staff, and lack of activity for community awareness)
- Lack of budget for health service provision
- Staff deployment plan that responds to health sector reform

The outcomes of the reform are the following; reduction of hospital beds, reduction of average length of stay, and service improvement due to the increase of private rooms. However, the pace of health reform in Tajikistan has been slow, falling behind reform efforts with other central Asian countries. The Soviet model health system developed in long years seems to be a common problem in Central Asia that resistance to the reform is deep-rooted on the organization, personnel, and psychology aspects, and the model and the knowhow of the reform are insufficient.

WHO repeatedly chaired the Development Coordination Council, discussed the sector reform with MOH in Tajikistan. Reasons on the delay of the reform in Tajikistan are attributed to the following:

- Negative impact of the civil war, poverty due to lack of resources and industry, and insufficient health funds;
- Brain drain due to economic deterioration (low salary and poor equipment etc.) after independence, and decrease of staff motivation;
- Insufficient capacity of management (both in the health facilities and health administration);
- Conservative nationality and low motivation for reform;
- Low commitment of provincial governments who provide health services; and
- Corruption in the government.

Chapter 3 Health Status of the People

3.1 Overview

Table 3-1 shows the result of comparing health indicators with Central Asian countries. Tajikistan has the worst figures regarding infant mortality rate, under-five mortality rate, and total fertility rate. However, there is a large wealth gap between Tajikistan and Kazakhstan and the differences on the health indexes were comparatively small.

Table 3-1 Comparison of Health Indexes with Central Asian Countries (2009)

	Life Expectancy	Infant Mortality Rate	Under-five Mortality	Maternal Mortality Ratio (2008)	Total Fertility Rate	GNI per Person (US\$)
Tajikistan	67	52	61	64	3.4	700
Kirgiz	68	32	37	81	2.5	870
Uzbekistan	68	32	36	30	2.2	1,100
Turkmenistan	65	42	45	77	2.4	3,420
Kazakhstan	65	26	29	45	2.3	6,740

Source: The State of The World's Children 2011, UNICEF [11]

In Tajikistan, 60% of the cause of death is attributed to noncommunicable diseases, and the majority of cause of death is due to cardiovascular diseases so that epidemiological transition seems to happen (Table 3-2) [12]. Unbalanced diet, smoking, and low ability of medical doctors to diagnose and treat hypertension are influencing factors.

Table 3-2 Leading Causes of Death (2010)

	Cause of Death	Number of Cases	Number of Death per 100,000 population
1	Circulatory disease	16,085	212.4
2	Cancer	2,498	33.0
3	Respiratory disease	2,258	29.8
4	Accident and poisoning	1,653	21.8
5	Digestive diseases	1,470	19.4
6	Infectious and parasitic diseases	1,204	15.9
	Total	33,327	440.1

Source: Health Sector in Tajikistan 2011, Republic Statistics Center [13]

According to the statistics of MOH, infant and under-five mortality have decreased and reached the target of MDGs while the target attainment is difficult for maternal mortality ratio (Table 3-3) [13]. The big gap of data between government statistics and the current situation in Tajikistan was observed. Statistics of UNICEF showed three times higher than the government data including infant mortality rate of 52, under-five mortality rate of 61, and maternal mortality ratio of 64. According to UNICEF data, Tajikistan's mortality of children is the highest in Central Asia that enters the high rank 30 percent in developing countries.

Table 3-3 Trend of MDG Indicators

MDG	Indicators of MDG	1990	2000	2009	Targets in 2015	Achievement Possibility	Statistics of UNICEF*
4	Under-five mortality rate	116	93	21	39	High	63
	Infant mortality rate	91	75	17	29	High	52
5	Maternal mortality ratio	120	120	46	30	Low	64
	Birth assisted by medical personnel (%)	79	-	88	90	Middle	-

Source: Health Sector in Tajikistan. Republic Statistics Center, 2011 [13]

*The States of World Children 2011, UNICEF [11]

Different statistical definition with the WHO definition and introduction of charges (US\$2-3 is paid) for birth and death registration after the independence caused the low registration. Only 45% of births were registered in 2005 [7] and the rate increased to 88% due to price decrease on registration in 2007. Only 42% of infant mortality was reported in 2010. It is said that health staff were reluctant to report the death of patients [14] and that a lot of deaths at home were not reported [15].

3.2 Maternal and Child Health

3.2.1 Mother's Health

The main causes of maternal death are hemorrhage (32%), hypertensive disorder (20%), and rupture of the uterus (6%) [16]. The maternal mortality rate of Tajikistan is high in Central Asian countries due to the following reasons: a) 40-60% of deliveries are conducted at home, b) difficult access to services, c) woman's limited knowledge on pregnancy, and d) low contraceptive prevalence rate (38%). About 40% of all deliveries took place at home and medical personnel assisted 83% of these deliveries, and deliveries assisted by traditional birth attendant (TBA) and by relatives were less than 10%, according to MICS 2005 (Refer to Table 3-4). However, there was a significant difference between regions on facility delivery from 42% in Khatlon to 88% in Sogd. During the Soviet era, 90% of women gave birth in the hospitals, and facility delivery decreased after independence due to unofficial charge and low quality of services.

Table 3-4 Place of Delivery and Person Assisting at Delivery (2005) (unit: %)

	Facility Delivery	Person Assisting at Delivery					Home Delivery
		Doctor	Nurse/ Midwife	Medical personnel total	TBA	Relative	
Dushanbe	68	75	12	87	6	5	32
Khatlon	42	44	29	75	12	11	58
Sogd	88	86	8	94	3	1	12
RRS	60	55	27	82	10	6	40
GBAO	45	51	23	77	16	1	55
TOTAL	61	61	21	83	9	7	39

Source: Multiple Indicator Cluster Survey Tajikistan 2005, State Committee on Statistics, UNDP, UNFPA, UNICEF [7]

The following reasons made home delivery popular according to interviews conducted at health facilities in Khatlon Province:

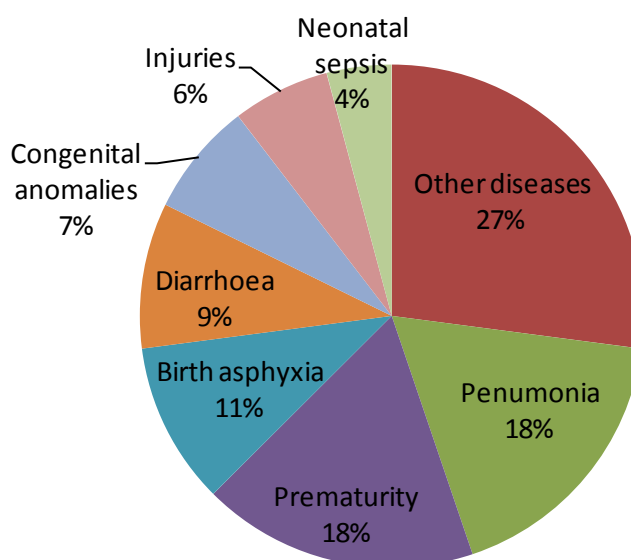
- Patients have a hard time travelling long distances to the health facilities, and only few people have cars.

- Hospitals have no ambulance, and many patients cannot afford to pay for taxi fare just to get to the hospital.
- It is difficult for a pregnant woman to go to the hospital by herself because the husband is working in Russia as a migrant worker.

Experienced birth attendants assist deliveries at home when they get telephone calls from pregnant women, but some midwives never assist home delivery because they are not skilled in treating complications such as hemorrhage. In such case, experienced elderly women who live in the vicinity occasionally assist in the delivery.

3.2.2 Child Health

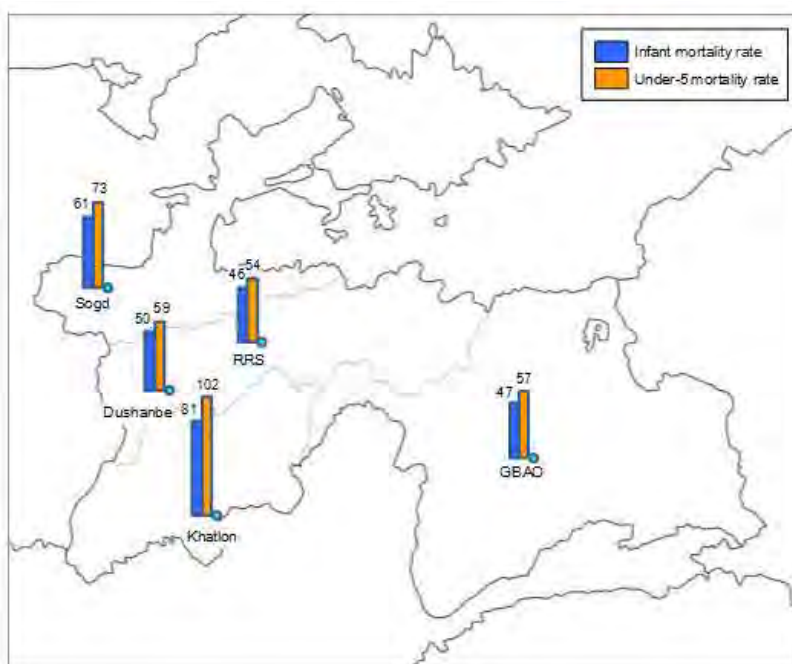
Infant and child death is in the downward trend though it is still the highest in Central Asia. Around 70% of infant mortality is neonatal mortality, and the main causes of death are low birth weight, infectious diseases such as acute respiratory infections (ARI) and diarrhea (Figure 3-1). Poverty, limited access to safe water, malnutrition, insufficient knowledge of parents regarding child illness, and the lack of community support to children are the affecting factors.



Source: Tajikistan Health Profile, WHO [17]

Figure 3-1 Causes of Deaths in Children Under-five (2010)

Child mortality rate is different among regions, which is highest in Khatlon Province, and it differs also on mother's educational level according to MICS 2005 (Figure 3-2 and Table 3-5).



Source: MICS, Tajikistan 2005, State Committee on Statistics, UNDP, and UNFPA and UNICEF [7]

Figure 3-2 Difference of Child Mortality Rate by Region (2005)

Table 3-5 Difference of Child Mortality Rate by Mother's Educational Level (2005)

	Infant Mortality Rate	Under-5 Mortality Rate
None/primary	75	95
Uncompleted secondary	73	91
Complete secondary	63	76
Secondary Special school	56	67
Higher education	13	14
TOTAL	65	79

Source: MICS, Tajikistan 2005, State Committee on Statistics, UNDP, and UNFPA and UNICEF [7]

3.3 Communicable Diseases

3.3.1 HIV/AIDS

It is said that the actual HIV-infected persons exceeded 20,000 [2] though HIV-positive was only 1004 as recorded in 2010 Government Statistics (Table 3-6) [8]. The main infection routes are needle sharing among intravenous drug users (54%), sexual intercourse (28%) by migrant workers from Russia, and infection transmitted from mothers to children. The trafficking of drugs from Afghanistan is increasing.

Table 3-6 Number of HIV-positive and AIDS Patients by Province (2010)

	No of HIV-positive	No of HIV-positive per 100,000	1991-2010 Total No of HIV-positive	No of AIDS Patients	1991-2010 Total No of AIDS Patients
Dushanbe	478	65.7	1189	27	55
Khatlon	171	6.4	529	3	20
Sogd	182	8.1	558	41	57
RRS	132	7.6	354	18	26
GBAO	41	19.9	173	2	6
TOTAL	1004	13.2	2857	91	164

Source: Tajikistan republic health statistics data 2010, Republic health statistical information center 2011 [2]

3.3.2 Malaria and Tuberculosis

Malaria and tuberculosis are re-emerged diseases that were almost eradicated in the Soviet era. Malaria morbidity increased because Tajik refugees returned from Afghanistan after the civil war, and rice fields and irrigation canals increased though the peak has exceeded in 1997. As for morbidity rate of tuberculosis, 2007 year was the peak (382 per 100,000) and began to decrease, but still the highest in Central Asia (Figure 3-3). The living standard deteriorated by the civil war, increase of immigrant workers, increase in drug-resistant tuberculosis, and shortage of effective medicine are factors causing high morbidity. The case detection rate did not reach 70% of the targeted value of the national tuberculosis program, and it stayed in a low level.

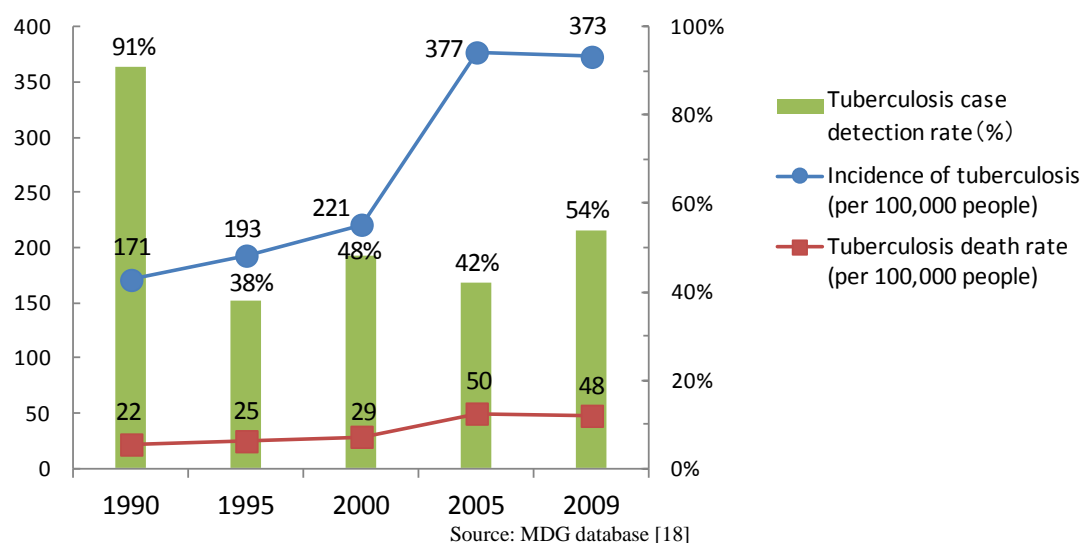


Figure 3-3 Trends in Indicator Related to Tuberculosis

3.4 Noncommunicable Diseases (NCDs)

According to the data compiled by WHO, noncommunicable disease occupies the majority cause of death since the independence in 1991 though Tajikistan does not have the statistics that shows the detailed name of disease. Also with infectious diseases, which was originally the minor cause of death, is decreasing (Table 3-7). Though it is common in Central Asia that cardiovascular disease is the major cause of death, detailed disease pattern cannot be understood because health statistics with individual disease name were not developed. Moreover, it is pointed out that under-reporting of death and inappropriate specific death classification make accurate analysis difficult way back then.

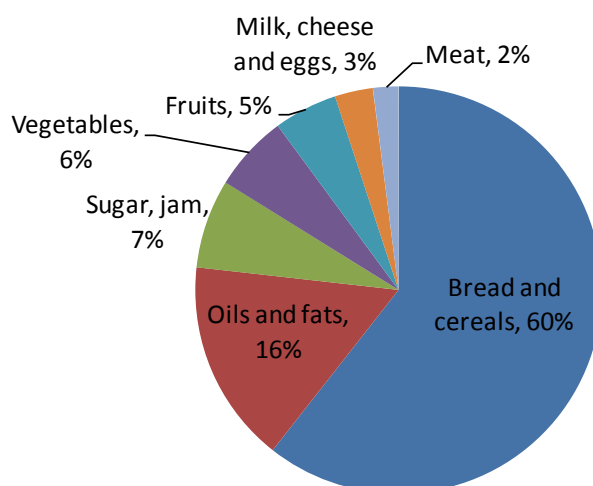
Table 3-7 Trends in Leading Causes of Death (per 100,000)

Cause of Death	1990	1995	2000	2005
1.Circulatory disease	480	628	601	561
2.Respiratory disease	139	188	116	79
3.Cancer	113	69	78	73
4.Digestive diseases	39	50	47	46
5.Injury and poisoning	57	59	36	33
6.Infectious and parasitic diseases	43	62	36	29
7.Psychological illness	7	14	10	11

Source: European Health for All, WHO Regional Office for Europe (online database), and 2010 [19]

3.5 Nutrition

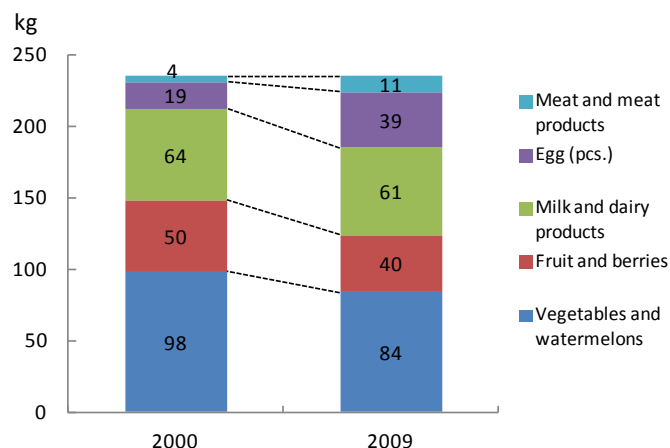
After the independence, only 33% of household consumed three meals a day according to the National Nutrition Survey in 2003. Micronutrient deficiencies were prevalent due to limited intake of high quality food and iodized salt. The bread and cereals accounted for 60% of intake calorie, and intake of meat, vegetables, and fruits were very little so that the diet was not balanced. Since independence, the prevalence of disease caused by iron-deficient anemia and Vitamin A deficiency has increased (Figure 3-4) [5].



Source: Tajikistan Living Standard Measurement Survey 2007, UNICEF [5]

Figure 3-4 Composition of Food of Poor Children (calories)

Moreover, the vegetable and fruit intake decreased though the intake of meat and egg increased after 2000 during the transition of the intake of main food (Figure 3-5).



Source: MDG Tajikistan Progress Report 2010, Republic of Tajikistan [16]

Figure 3-5 Transition of Intake of the Main Food (kg per person per year)

Prevalence of anemia among pregnant women brings low birth weight infants. About 20-30 % of under-five children have chronic malnutrition and prevalence of anemia was also high. Nutrition indicators were the worst in Central Asia such as 39% of children were stunted, 18% have low body weight, and 7% were wasted. Malnutrition is a risk factor of death among pregnant women and children [20].

Chapter 4 Health Services

4.1 Maternal and Child Health

4.1.1 Policy and Actions on MCH

The Strategic Plan for Reproductive Health (2005-2014), identifies the following priorities: (1) Improved access to family planning services and contraceptives, (2) Improved access to antenatal care and safe deliveries, and (3) Decreasing mortality and morbidity during pregnancy and improved perinatal outcomes. Also, the strategic plan has set targets for 2014 such as ANC coverage (80%) and skilled attendance at home deliveries (75%). The National Plan for Safe Motherhood aims to promote ANC, improved access to obstetric care, and the establishment of EmOC monitoring system. National standards and training guidelines of newborn care and EmOC were developed by the support of development partners.

4.1.2 Service Provision and Utilization for Maternal Care

One reason for high maternal mortality ratio in Central Asia is the high rate of unsafe deliveries at home (Refer to Chapter 3.2). In addition, low contraceptive prevalence rate (Table 4-1) and limited access to EmOC are influencing factors.

Table 4-1 Use of Contraception (2005)

	Contraception availability (total)	IUD	Injection	Pill
Dushanbe	35%	29%	1%	3%
Khatlon	31%	24%	3%	2%
Sogd	36%	28%	2%	2%
RRS	28%	24%	2%	1%
GBAO	39%	31%	4%	3%
TOTAL	38%	26%	2%	2%

Source: MICS Tajikistan 2005, State Committee on Statistics, and UNDP, UNFPA, and UNICEF [7]

About 85% of women used ANC at least once based on the government statistics, but only 60-70% of women were estimated to receive ANC due to high rate of home deliveries without birth registration [16]. Majority of antenatal care providers are medical doctors and many women receive specific care including blood test, blood pressure, and ultrasound during ANC. However, quality of ANC is said to be poor due to the poor and inadequate training of health personnel [21].

Table 4-2 ANC Care Provider (2005)

	Doctor	Nurse/Midwife	Any Skilled Personnel	TBA	No ANC Received
Dushanbe	82%	5%	87%	0%	10%
Khatlon	50%	13%	65%	2%	32%
Sogd	86%	5%	91%	1%	7%
RRS	70%	4%	74%	1%	24%
GBAO	63%	15%	78%	2%	19%
TOTAL	68%	8%	77%	1%	21%

Source: MICS, Tajikistan 2005, State Committee on Statistics, UNDP, and UNFPA and UNICEF [7]

The percentage of deliveries in EmOC facilities was 12%, and Cesarean-section from the total number of births in EmOC facilities was only 2% because the capacity of hospitals to provide basic EmOC services was low [16]. Experienced medical personnel left the country during the civil war and only a few staff can

provide appropriate EmOC care at present. The national guideline of EmOC has just developed with the support of development partners such as GIZ and even Dushanbe City Maternity Hospital, which is the top referral maternity hospital, could not provide appropriate EmOC services until recently. Therefore, skill improvement of medical staff is necessary to prevent maternal death.

4.1.3 Service Provision and Utilization for Child Care

The MOH has initiated the Expanded Programme on Immunization (EPI) after 1994 with the National Immunization Program. In 1996 the EPI center was established and vaccinations of BCG, measles, diphtheria, whooping cough, tetanus, polio, and Hepatitis B have been promoted. The coverage of measles in 2005 was 94% by the government statistics while 85% by MICS. This figure is the worst in Central Asia due to shortage of budget and insufficient capacity of staff.

Table 4-3 Immunization Coverage for Infant (2009)

BCG	Measles	Polio	DPT1	DPT3
82%	89%	93%	96%	93%

Source: The State of World's Children 2011, UNICEF [11]

Mass outbreak of polio, which was eradicated in 2002, took place with more than 400 patients in 2010. This indicates inadequate skills and knowledge of health workers such as skill shortage on stock management, insufficient power, and refrigerators to maintain the cold chain, public ignorance of immunization issues, low performance of family doctors, and shortage of budget. Immunization coverage of polio was said to be over 90% according to the government, but it was around 70% only in reality. This result clearly shows the low quality of health services in Tajikistan [16].

The MOH introduced IMCI in 2001, established the National IMCI Center with branches in 65 districts. Staff at health centers visit homes, explains the treatment of IMCI, and provides medicine. The rate of participation in the IMCI training was 58% in Dushanbe City, which was the highest, and 45% in Sogd, which was the lowest. Main target of this training were doctors while the participation of nurses, who are more important for IMCI activities, was low [22].

4.2 Communicable Disease Control

4.2.1 Tuberculosis

Long-term hospitalization of tuberculosis patients was common during the Soviet era, and the DOTS was introduced after independence and was strengthened and expanded to health facilities in the whole country in 2007. However, qualified health personnel and effective pharmaceutical are generally lacking, and hospitalization of tuberculosis patients remains common [8].

4.2.2 HIV/AIDS

The National Coordination Committee (the vice premier is top) established in 1997 plays an important role towards universal access to HIV prevention, treatment, and care. The government established 26 AIDS centers which have the responsibility for HIV/AIDS surveillance, treatment, and care with financial support from the Global Fund to Fight AIDS, Tuberculosis, and Malaria (GFATM). There are four AIDS centers in Khatlon Province and one of which covers three districts including Rumi District, and provides laboratory

test, treatment, counseling, and health education by four doctors. When HIV-positive patients develop clinical tuberculosis, they will be hospitalized in the infectious ward of another hospital due to lack of beds in the center. Due to the limited capacity of the health system, sufficient care and treatment of HIV/AIDS is not provided nationwide.

4.3 Noncommunicable Disease Control

The National Health Strategy 2010-2020 announces the main tasks for the prevention and treatment of noncommunicable diseases as follows: (1) Conduct the survey and analyze the present situation, (2) Strengthen the rehabilitation centers, (3) Develop the palliative care system, (4) Implement the national programs on prevention and combat of ischemic heart diseases, cancer, and diabetes, and (5) Establish day-care centers for treatment. Though the policy that health care will shift its focus from acute care episode at tertiary level hospitals to the management of chronic illness at primary level has been set forth, standardization of treatment and cross-sectional care at primary health facilities are not implemented yet.

4.4 Health Care Seeking Behavior

The number of outpatient visits per person per year was 4.8 times as the national average in 2010. The utilization rate in Dushanbe City was extremely high while the residents in Khatlon Province use health facilities only once a year. It seems that the service utilization in rural areas is especially low.

Table 4-4 Number of Outpatient Visit per Year per Person

	2009	2010
Dushanbe	21.7	24.6
Khatlon	1.3	1.7
Sogd	3.8	3.9
RRS	2.5	2.7
GBAO	1.7	2.0
TOTAL	4.2	4.8

Source: Tajikistan Republic Health Statistics data 2010, Republic Health Statistical Information Center, 2011 [2]

Among those who reported their needs but did not use health care services, financial barriers presented the greatest obstacle in accessing health services. According to Tajikistan Living Standards Measurement Survey in 2003, some 50% of the population did not receive medical care due to lack of money, and 33% decided to self-medicate, and 11% expected the health problem will be cured by itself (Table 4-5) [5]. These rationalizations are typically associated with poverty, and contribute to the underutilization of health services among the poor. Households from Dushanbe and RRS most frequently identified the lack of affordability due to high cost of services in the Dushanbe area.

Table 4-5 Reasons for Not Seeking Health Care When Needed (2003)

Reason	Total	Dushanbe City	Khatlon	Sogd	RRS	GBAO
Could not afford	50%	65%	36%	40%	65%	35%
Self-medication	33%	22%	44%	35%	22%	57%
Believed problems will be cured by itself	11%	1%	7%	18%	9%	6%
Too far	3%	7%	7%	3%	2%	0%
Facility closed	1%	3%	0%	1%	0%	0%
Poor services	1%	2%	0%	2%	0%	3%

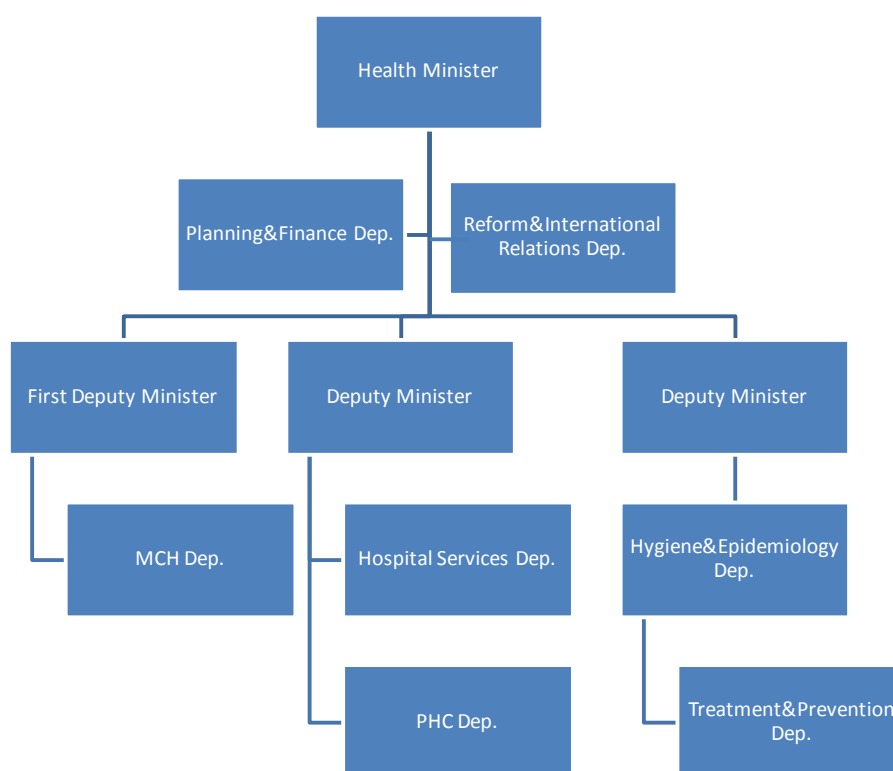
Source: Tajikistan Living Standards Measurement Survey 2003, UNICEF [5]

Chapter 5 Health System

5.1 Governance

5.1.1 Health Administration

The Ministry of Health is headed by the Minister, who is assisted by the First Deputy Minister and two deputy ministers. Each deputy minister manages one or two departments. Planning and Finance Department, and Reform and International Relation Department are placed directly under the Minister (Figure 5-1). Also the structure change was done frequently, and Planning Department and Finance Department were integrated recently.



Source: The Study Team prepared based on interviews.

Figure 5-1 Structure of the Ministry of Health

The MOH is responsible for the development, implementation, monitoring, and evaluation of a unified state policy in the health sector. It directly controls the limited number of health-related facilities such as specialized republican hospitals (14), the State Medical University (1), postgraduate medical institutions (2), medical colleges (14). All other health facilities are financed through local governments and are not directly controlled by the MOH. Each province has a health department which is responsible for health care provision, implementation of health programs, and management of health facilities.

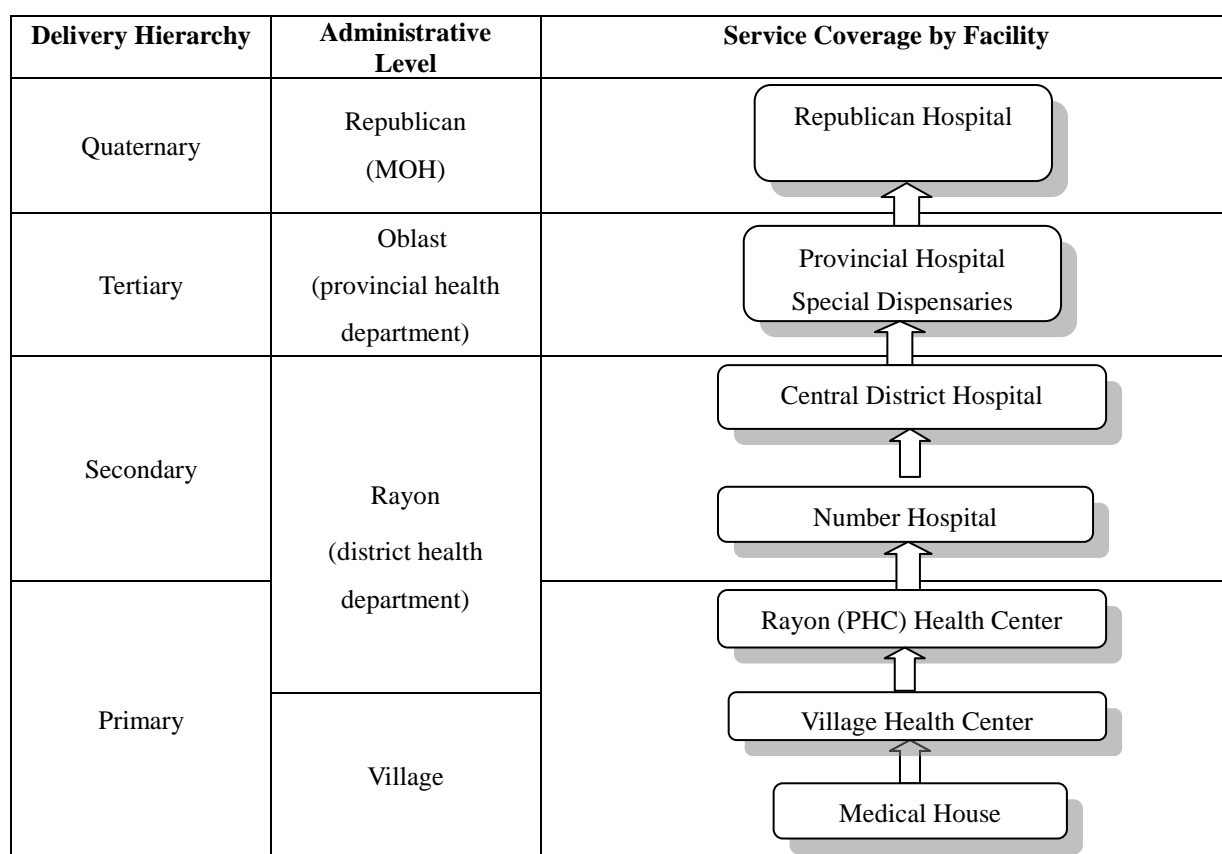
5.1.2 Service Provision

The Tajik health system is now undergoing a complex transition to a new health system, which comprises new mechanisms of management, financing, and functioning. The health system inherited from the former Soviet Union was comprehensive but inefficient. The sector reform is aiming to strengthen PHC, rationalize

the hospital sector and improve the quality of care. Consolidation of facilities is not progressing though the number of beds has been decreasing. Health service provision is organized according to the four levels of administration as shown in Figure 5-2.

In the Soviet model of health system, facilities for inpatient and outpatient were separate, and treatment of venereal disease, tuberculosis, and mental disease was isolated at dispensaries. Facilities of each hierarchy of the administration at the Soviet time have been left almost as it is (only the name was changed). In provincial hospitals inpatient and outpatient departments were integrated, while inpatient and outpatient are still separate in central district hospitals and PHC health centers. Patients initially go to the outpatient department and then to the inpatient department, if necessary. Both rayon (district) health centers and village health centers have three to five specialists and only the medical house has no doctors.

In Khatlon Province, number of hospitals which are close to central district hospitals are said to be closed or downgraded to health centers.



Source: Health Sector Note, World Bank, 2005 [21]
Project Forming Research on Maternal and Child health in republic of Tajikistan, JICA 2005 [23]

Figure 5-2 Health Service Provision of Tajikistan

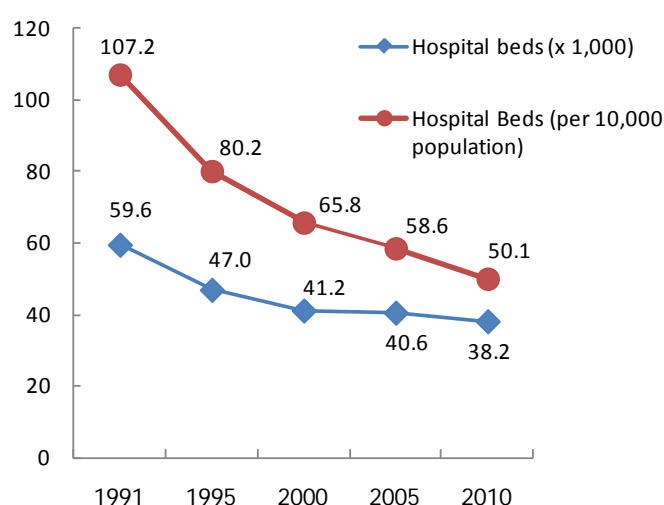
The number of medical houses at the primary level increases, and the hospitals at the higher level has decreased which is shown in Table 5-1.

Table 5-1 Trends in No. of Health Facilities (1992-2010)

	1992	2000	2009	2010
Medical House	1,535	1,676	1,695	1,701
Village Health Center	-	-	725	734
City Health Center	-	-	55	51
Number Hospital	164	217	193	194
Central District Hospital	50	56	56	55
Provincial/City Hospital	56	54	30	30

Source: Tajikistan Republic Health Statistics data 2010, Republican Health Statistical Information Center, 2011 [2]

There has been a significant decline in the number of hospital beds by 40% in real number. The number of beds per 10,000 decreased from 107 in 1992 to 50 in 2010 (Figure 5-3). In Khatlon Province, the number of beds at the provincial hospital decreased from 910 to 610 by more than 30%, while the number of beds had not decreased at all in Rumi District.



Source: Tajikistan Republic Health Statistics data 2010, Republic Health Statistical Information Center 2011 [2]

Figure 5-3 Trends in Number of Beds (1991-2010)

5.1.3 Referral System and Emergency Medical Care

The referral system does not function well. The decision of actual referral is up to each hospital, and it is basically decided by patients which hospital to go though there is a standard in which health facilities treat the patients according to patient's condition. Thus, many patients by-pass the primary level facilities and go directly to hospitals. For instance, hospitals have a kind of standard for which hospital is responsible for normal deliveries and Caesarian-section, but this standard seems to be not strictly followed by doctors of each hospital. There is little referral from Khatlon Province to the capital city though it takes only an hour and a half by car. Services are free of charge in theory, but gasoline and accommodation fees are charged to the patient. Therefore, only those who can afford this cost used the referral system.

The activity called sanitary-aviation that doctors from higher level hospitals go to lower level facilities for treatment still exists. When there is a serious patient, the doctor rushes to the lower health facility, and comes to the facility regularly to provide specialist care.

In addition, the emergency system call for ambulances by telephone is working in Dushanbe. Clinical Hospital of Emergency Medical Aid in Dushanbe City has 78 ambulances (only 20 are operational), and the hospital head tries to improve hospital management by introducing co-payment. The emergency medical care can be functioning in Dushanbe City and the surrounding area because of the high quality of the paved road.

About 20% of inpatients of Maternity Hospital No.3 in Dushanbe City come from outside Dushanbe but most are from the surrounding area, and few patients come from far places like Khatlon. This hospital has been conducting in-service training for doctors, nurses, and midwives since 1985, and conducts trainings for 1000 trainees per year as the largest training institution for maternity.

5.2 Human Resources for Health (HRH)

5.2.1 Present Situation

The ratio of doctors to population has declined from 2.4 in 1992 to 2.0 in 2010, while the real number of doctors keeps increasing since 2005. The number of nurses and midwives increases gradually (Table 5-2). There are many specialists in Tajikistan and they will be retrained to become family doctors. There is a region which has no midwife and the shortage of midwives is more serious than that of doctors.

Table 5-2 Number of Medical Personnel

	1992	2000	2005	2010
Doctor	13,071	12,922	13,268	15,412
Doctor's assistant	3,959	2,522	2,050	1,636
Nurse	26,417	22,105	19,764	25,720
Midwife	6,045	3,889	3,754	4,022

Source: Tajikistan Republic Health Statistics data 2010, Republic Health Statistical Information Center, 2011 [2]

The quality of the health system has suffered from a serious brain drain over the last decades, beginning with the civil war and continuing up to the present. Low pay and poor working conditions with old facilities and equipment lead to high turnover rate, and difficulties in retaining qualified personnel.

There were no performance tools used for the routine monitoring of clinical practices and the output of health workers was not evaluated. Therefore, it is pointed out that medical personnel's motivation including doctors was low, and the diagnostic ability was also low. The continuous education system that was in the Soviet age is not fully implemented due to the budget shortfall, and the opportunity to improve the knowledge of the specialized field has decreased. Moreover, there is no environment that can be used for skills training which was obtained through participation of training.

5.2.2 Human Resources Development

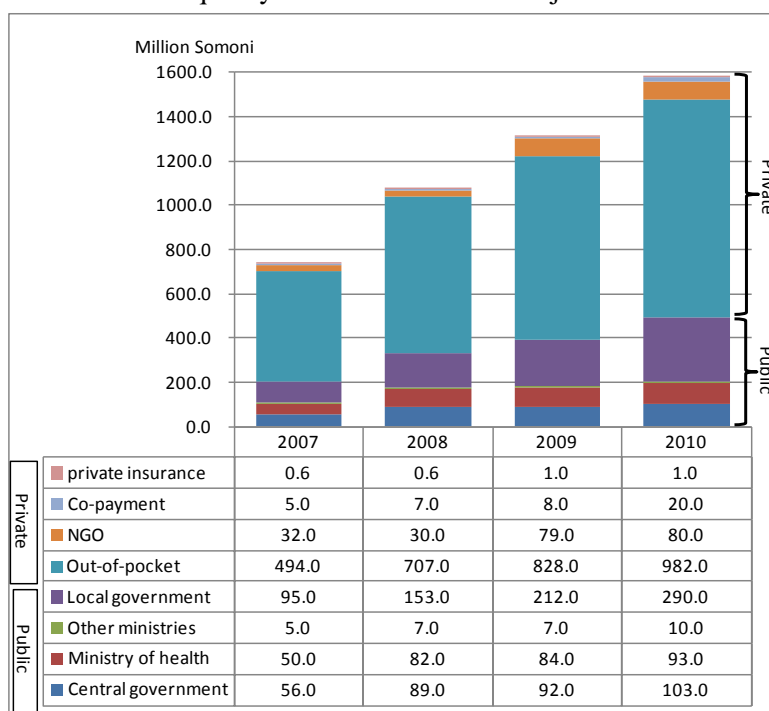
Training of family doctors, who are responsible for PHC, is one of the priority areas of the health sector reform. Department of family medicine have been established at the Tajik State Medical University and at eight medical education centers in 2004. The programme has started slowly, with only 11 students enrolling in family medicine at the Tajik State Medical University, though 40 students' positions were available. There was low interest among students for family medicine due to lack of financial incentives, as other specialists earned substantially more than family doctors.

Furthermore, two retraining centers for family doctors and nurses have been established in Dushanbe, and retraining is provided through a six-month medical education course. In 2005, only 442 doctors had undergone retraining programmes due to low interest for family medicine. Since then family medicine training has benefited from external assistance programmes and the number of health workers trained in family medicine had increased to 2400 doctors in 2009. The government has the plan to deploy one family doctor per 1000 residents and ANC and PNC will be responsible for family doctors in the future.

5.3 Health Financing

As public funding for health care collapsed in the period after independence, private expense including out-of-pocket payments has increasingly filled the health financing gap, accounting for more than 70% of total health expenditure as shown in Figure 5-4. The focus of health financing reform has been on diversifying sources of funding such as co-payment. Co-payment has been experimentally introduced since 2005, however, it is only implemented in eight districts of Sogd Province at present and there is no defined plan to expand this program to the whole nation.

The Health Financing Strategy 2005-2015 contains the objective to increase the government share of total health expenditure from 25% to 75%. The share of local government has increased while the share of out-of-pocket payment has decreased gradually. Still, the amount of health budget is absolutely low so that 80% of the budget is spent for the labor cost, and there is very low budget for health program and medicine. This is one of the reasons of the low quality of health services in Tajikistan.



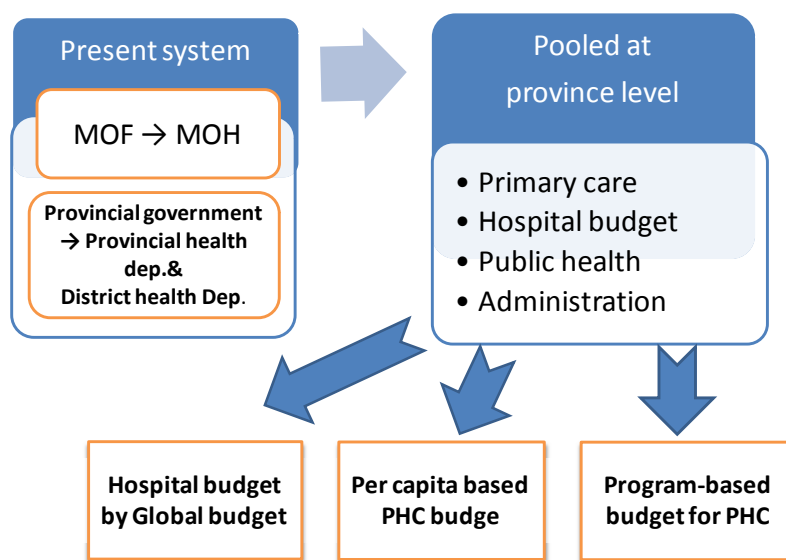
Note: Most of out-of-pocket payment is unofficial payment for doctors, and charges for medicine due to hospital budget shortage. Co-payment is experimentally introduced user fee system.

Source: Answers to the questionnaire

Figure 5-4 Trends in National Health Expenditure (2007-2010)

The allocation of health budget in Tajikistan follows the line-item budgeting process, allocating funds across facilities based on the number of beds. One of the priorities of the health sector reform was to introduce a

population-based budget allocation, but only Khatlon Province has changed the allocation, and Dushanbe City and Rumi District have not changed the allocation yet. The existing budget system is different between MOH and local governments therefore the nationwide reform is difficult to implement. Thus, the Health Financing Strategy 2005-2015 announces a conception to pool the health budgets under a single payer structure at the provincial level and allocate funds based on the population and needs (Figure 5-5) [21].



Source: Tajikistan Health Sector Note, World Bank, 2005 [21]

Figure 5-5 Tajikistan Health Finance Reform

5.4 Health Management Information System

The Republican Center for Medical Statistics and Information that exists under the MOH is responsible for health statistics and health information system. This center collects information on health status, health resources, and the performance of health facilities and provides the users information after processing. However, the disease surveillance system did not function appropriately, and was not integrated in the disease data into the health information system properly. The health index is assumed to be inaccurate from the background that doctor's diagnostic ability is insufficient, and diagnostic related groups are not following the international standard. Thus, a lot of aid agencies such as the World Bank, Asian Development Bank, and United States Agency for International Development (USAID) have supported this field up to now. However, the country still suffers from the lack of accurate information on critical aspects of the health system and health outcome because each aid agency implemented support in different regions and there is no positive response from MOH on this issue [21].

5.5 Health Facilities and Equipment

The government seems to have a course for training medical engineers at the medical college, but only few hospitals employ medical engineers. Most hospitals request agencies of medical equipment such as Siemens to dispatch engineers when equipment breaks down. The health department of Khatlon Province has a plan to establish the workshop department, but is not yet realized because the budget is very limited, and whenever medical equipment breaks down, the equipment is sent to Dushanbe City.

Chapter 6 Development Assistance and Partnership

6.1 Framework of Donor Coordination

As of 2010, 24 international development partners participated in the development of the health sector in Tajikistan and more than 31 projects were implemented. The donor coordination committee was established, and the sector-wide approach has been used since 2008 so as to coordinate health programs in line with the policy of the MOH. The total amount of foreign investment in the health sector for the period from 2004 to 2010 was US\$267.3 million. Major development partners in the health sector are shown in Table 6-1, and there are a lot of projects in the field of PHC, health promotion, and MCH.

Table 6-1 Main Development Partners and its Priority Areas

	Water & Hygiene	Child health	Maternal Health	Nutrition	TB Malaria	HIV/ AIDS	Human resources	PHC/ Community Health	Health promotion	Health Administration	Facility/ equipment	Quality enhancement
WHO		○			○	○	○	○	○	○	○	
GIZ		○	○			○	○	○	○	○		○
Kfw	○		○		○		○	○			○	
UNICEF		○	○	○		○		○	○			
USAID	○	○	○				○	○				
WB							○	○	○	○	○	

Source: Interviews with staff of the MOH and development partners

6.2 Activities of Major Development Partners

6.2.1 GIZ

The Support to the Healthcare Systems Development Project is implemented in Uzbekistan, Kyrgyzstan, and Tajikistan, and the second phase of the project started from 2008 with the target areas including 11 districts in Khatlon Province. The project components include the development of national standards and the training modules for health professionals such as newborn care, and to organize and conduct activities to raise awareness on safe motherhood. GIZ conducted trainings on EmOC at Maternity Hospital No.1 in Dushanbe City but that training was not yet conducted in Khatlon Province.

6.2.2 World Health Organization (WHO)

For a period of six years from 2008 to 2013, WHO sets the priority areas such as health system strengthening, development of the guidelines on IMCI and PHC, healthy life style, and noncommunicable diseases.

6.2.3 KfW

The project of infrastructure support in MCH field is implemented in 16 districts of Khatlon Province. Ninety percent of €10 million budget is spent for technical assistance and training. The training for equipment maintenance and hospital management is conducted with equipment provision, and it aims at

strengthening the hospital system. The tuberculosis care and polio measures (patient care management and laboratory technology improvement) are also conducted.

6.2.4 The World Bank

The World Bank now implements the Community and Basic Health Project (2008~) that supports the capacity development of the MOH, strengthening of PHC management, rehabilitation of primary level facilities, and training of family doctors.

6.2.5 U.N. International Children's Emergency Fund (UNICEF)

UNICEF started its assistance in 1992, and now supports the MCH services (development of the standards of child care and promotion of breast feeding), nutrition (provision of supplemental food) and EPI and so on.

6.3 Outline of Japanese Cooperation

6.3.1 Japan's Cooperation Policy to Tajikistan and Place of the Health Sector

The Japanese government aims at poverty reduction and nation-building enabling sustainable development based on the market economy. There are four priority areas such as (1) community development, industrial promotion, (2) transportation, (3) border control, and (4) basic social services development and the health sector is placed in forth priority area.

6.3.2 Cooperation of Japan in Health Field

The Japanese government started assistance for the health sector since 2001 such as providing medical equipment for Dyazkov Republic Clinical Hospital and health facilities through grant aid. Training programs to improve MCH knowledge and skills for health staff in Khatlon Province were conducted for six years. Also the MCH support project is implemented in the same province for four years since 2012 (Table 6-2).

Table 6-2 Past Health Programs by Japan's Cooperation (after 2005)

Modality	Name of Program/Project	Cooperation Period
Training program	Support for healthy mother and child	2005-2010
Technical co-operation project	Maternal and child health support project in Khatlon Province	2012-2016
Grass roots grant aid	Provision of medical equipment to central hospital of the Ministry of Interior	2007
	Provision of medical equipment to Dushanbe City dental surgery center etc.	2009
	Provision of medical equipment to the Institution of Tadzhikistan obstetrics & gynecology, and perinatal departments, etc.	2010

Source: ODA Countries Data Book, Ministry of Foreign Affairs [24]

Chapter 7 Priority Health Issues and Recommendations

7.1 Priority Health Issue

7.1.1 Serious Problems and Factors in the Health Sector

In Tajikistan, each component of the health system such as services, human resources, and financing has been encountering problems due to the delay in the health sector reform. Therefore the health system has not caught up with the epidemiological transition. The relation between difficulties and factors influencing such problem is summarized in Figure 7-1.

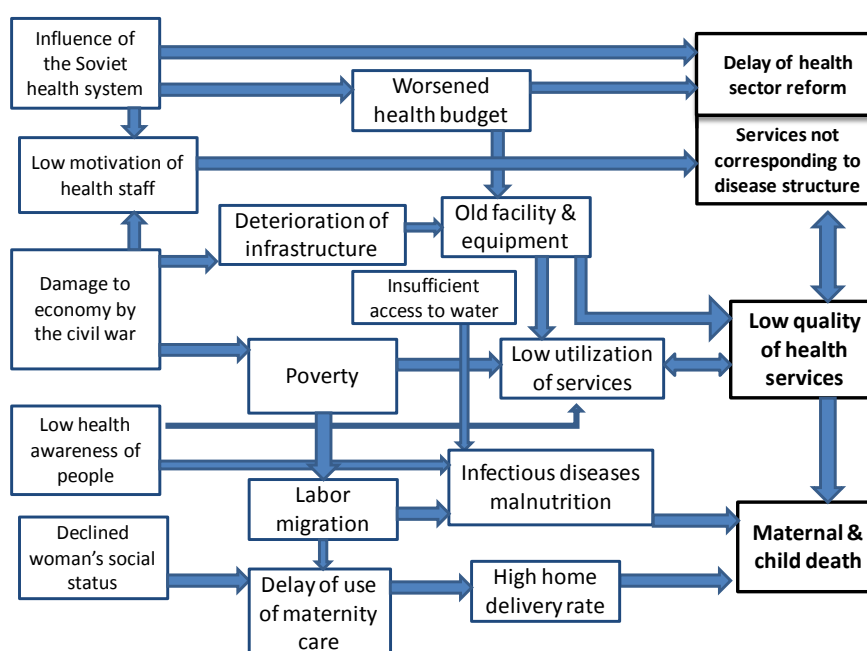


Figure 7-1 Problem Structure Analysis of the Health Sector in Tajikistan

Problem 1: Delay in the health sector reform

It is a common issue in Central Asia that both the MOH and health workers strongly resist to restructure the complex health system, excessive health infrastructure and medical doctors which were inherited from the Soviet Union. In Tajikistan, the pace of the reform has been slow because of specific reasons such as the civil war, brain drain, conservative character, and shortage of health budget.

Problem 2: Insufficient health services corresponding to the disease structure

Due to epidemiological transition, noncommunicable disease has been the leading cause of death from the time of independence. However, the hospital system and the national health strategy do not correspond to the disease structure and the needs of patients. In the Soviet hospital system which separates inpatient and outpatient, it is difficult to take the effect by treating the chronic disease. The right priority disease that should be the target in the national health strategy may not be selected because of inaccurate health statistics.

(3) Problem 3: Low quality of health services and personnel

Due to economic hardship after the independence and deterioration of infrastructure by the civil war, the hospital facilities and equipment were superannuated, and the top-class personnel's outflows continue because of low salary. In general, staff motivation and skill are low, and doctor's diagnostic capability is said to be insufficient. The quality of health services has been compromised because of fund shortage.

7.1.2 Actions by the Government and Development Partners with Problems, Strategy, and Support

The key problem of the health sector in Tajikistan can be summarized to three: (1) the delay of the sector reform, (2) insufficient health services corresponding to the disease structure, (3) low quality of health services and personnel. The delay of the sector reform has a significant impact on the low quality of services.

The MOH has announced specific goals to combat health issues, and the decrease of hospital beds and decline of the average length of stay are positive changes, though Tajikistan's health system from the Soviet model has evolved with few structural changes so far. The MOH and development partners have not necessarily worked ardently for noncommunicable disease measures though each aid agency implemented various cooperation such as capacity building and the policy support for MOH.

Considering these situations, strategies to solve problems and expected assistance by the Japanese government are summarized in Table 7-1.

Table 7-1 Problem, Strategy, and Assistance of the Health Field

Health Issue	Strategy to Solve Problems	Expected Assistance
Health sector reform	Change the financing system to pool the budget at the provincial level to manage services under the single payer.	<ul style="list-style-type: none"> - Administrative ability improvement (Problem analysis ability) - Management skills improvement (Hospital management and financial management)
Health services corresponding to the disease structure	Strengthen the analytical skill and improve health statistics so that the problem and the priority disease will be correctly selected.	<ul style="list-style-type: none"> - Analysis of cause of death - Noncommunicable disease measures (Health education and individual disease measures) - EmOC (Training and equipment provision) - Raising awareness of HIV prevention
Quality of services and personnel	Formulate the strategy to provide quality services utilizing limited health resources.	<ul style="list-style-type: none"> - Improvement of quality of training (Training lecturer and improvement of curriculum and materials) - Referral and emergency medical system (Training and equipment) - Maintenance of medical equipment (Engineer training)

Source: The Study Team

(1) Strategy and support for the health sector reform

It is desirable to change the financing system to utilize limited resources and to provide services based on the needs so that the health system outcomes can be achieved. The improvement of administrative ability is essential so that MOH and the provincial health department can first of all analyze the current situation and problems adequately, and prioritize the right issues. Also the improvement management skills are important.

(2) Strategy and support for services offer corresponding to the disease structure

The priority disease will be selected after an adequate situation analysis, and the services could be provided with limited health resources of Tajikistan. The analysis of the cause of death that other aid agencies have already supported is still insufficient in the local level. As for maternal care, support for EmOC so as to decrease maternal death is important.

(3) Strategy and support to improve services and human resources

Aiming to improve the service by utilizing limited health resource is important. Regarding human resources, quantitatively, Tajikistan has enough personnel but having highly qualified personnel is a problem. It is important to introduce the mechanism and environment that will improve the staff's motivation, and is assumed that the support for training will be necessary. Moreover, improvement of referral and emergency medical care can be realized considering the situation of high paved road ratio and the number of existing ambulances. It seems that the training for medical engineers and the introduction of the maintenance system are also important.

7.2 Recommendations

Japan, up to now, has implemented various health cooperation in Tajikistan, mainly in MCH field. In MCH field, the low availability of EmOC services, home delivery, and incomplete diagnosis of high risk pregnant woman at the ANC are serious problems. Moreover, Japan has considerable experience for medical equipment assistance, which Tajikistan government is strongly/highly requesting the need for support such as training for medical engineers and hospital management.

ATTACHMENTS

Attachment 1: Major Health Indicators

Attachment 2: References

Attachment 1: Major Health Indicators (Republic of Tajikistan)

Republic of Tajikistan				MDGs	Sources	1990	2000	Latest	Latest year	Latest in Region	(Latest year)	Region
0 General Information	0.1 Demography	0.1.01	Population, total		WDI	5,303,152	6,172,807	6,879,000	2010	405,204,000	(2010)	Europe & Central Asia (developing only)
		0.1.02	Population growth (annual %)		WDI	2.5	1.1	1.4	2010	0.4	(2010)	Europe & Central Asia (developing only)
		0.1.03	Life expectancy at birth, total (years)		WDI	62.9	63.8	67.3	2010	70.5	(2010)	Europe & Central Asia (developing only)
		0.1.04	Birth rate, crude (per 1,000 people)		WDI	39.1	30.8	27.9	2010	14.8	(2010)	Europe & Central Asia (developing only)
		0.1.05	Death rate, crude (per 1,000 people)		WDI	8.2	7.7	6.2	2010	11.0	(2010)	Europe & Central Asia (developing only)
		0.1.06	Urban population (% of total)		WDI	31.7	26.5	26.5	2010	64.1	(2010)	Europe & Central Asia (developing only)
	0.2 Economic · Development Condition	0.2.01	GNI per capita, Atlas method (current US\$)		WDI		170	800	2010	7,272.2	(2010)	Europe & Central Asia (developing only)
		0.2.02	GNI growth (annual %)		WDI		6.5	4.0	2010	5.7	(2010)	Europe & Central Asia (developing only)
		0.2.03	Total enrollment, primary (% net)	2.1	WDI		96.1	97.8	2010	93.5	(2009)	Europe & Central Asia (developing only)
		0.2.04	Ratio of female to male primary enrollment (%)	3.1	WDI		93.0	96.4	2010	98.8	(2009)	Europe & Central Asia (developing only)
		0.2.05	Literacy rate, adult total (% of people ages 15 and above)		WDI		99.5	99.7	2009	97.9	(2009)	Europe & Central Asia (developing only)
		0.2.06	Human Development Index		HDR		0.53	0.61	2011	0.75	(2011)	Europe and Central Asia
		0.2.07	Human Development Index (rank)		HDR		112/173	127/187	2011			
		0.2.08	Poverty gap at \$1.25 a day (PPP) (%)		WDI			1.2	2009	0.2	(2008)	Europe & Central Asia (developing only)
	0.3 Water and Sanitation	0.3.01	Improved water source (% of population with access)	7.8	HNP Stats		61	64	2010	96.0	(2010)	Europe & Central Asia (developing only)
		0.3.02	Improved sanitation facilities (% of population with access)	7.9	HNP Stats		90	94	2010	84.4	(2010)	Europe & Central Asia (developing only)
1 Health Status of People	1.1 Mortality and Morbidity	1.1.01	Age-standardized mortality rate by cause (per 100,000 population) - Communicable		GHO			229	2008	51	(2008)	Europe
		1.1.02	Age-standardized mortality rate by cause (per 100,000 population) - Noncommunicable		GHO			730	2008	532	(2008)	Europe
		1.1.03	Age-standardized mortality rate by cause (per 100,000 population) - Injuries		GHO			29	2008	63	(2008)	Europe
		1.1.04	Cause of death, by communicable diseases and maternal, prenatal and nutrition conditions (% of total)		HNP Stats			37.2	2008	6.3	(2008)	Europe & Central Asia (developing only)
		1.1.05	Cause of death, by non-communicable diseases (% of total)		HNP Stats			58.8	2008	84.3	(2008)	Europe & Central Asia (developing only)
		1.1.06	Cause of death, by injury (% of total)		HNP Stats			4.0	2008	9.4	(2008)	Europe & Central Asia (developing only)
		1.1.07	Distribution of years of life lost by broader causes (%) - Communicable		GHO			62	2008	11	(2008)	Europe
		1.1.08	Distribution of years of life lost by broader causes (%) - Noncommunicable		GHO			32	2008	72	(2008)	Europe
		1.1.09	Distribution of years of life lost by broader causes (%) - Injuries		GHO			6	2008	16	(2008)	Europe
	1.2 Maternal and Child Health	1.2.01	Maternal mortality ratio (modeled estimate, per 100,000 live births)	5.1	MDGs	120	120	64	2008	33.5	(2008)	Europe & Central Asia (developing only)
		1.2.02	Adolescent fertility rate (births per 1,000 women ages 15-19)	5.4	MDGs		33.2	26.8	2010	26.9	(2010)	Europe & Central Asia (developing only)
		1.2.03	Mortality rate, under-5 (per 1,000)	4.1	MDGs	116.4	93.4	62.6	2010	22.6	(2010)	Europe & Central Asia (developing only)
		1.2.04	Mortality rate, infant (per 1,000 live births)	4.2	MDGs	90.6	74.6	52.2	2010	18.8	(2010)	Europe & Central Asia (developing only)
		1.2.05	Low-birthweight babies (% of births)		HNP Stats		15.4	9.7	2005	7.0	(2010)	Europe & Central Asia (developing only)
		1.2.06	Fertility rate, total (birth per woman)		HNP Stats	5.2	4.0	3.3	2010	1.8	(2010)	Europe & Central Asia (developing only)
	1.3 Infectious Diseases	1.3.01	a) Prevalence of HIV, male (% ages 15-24)	6.1	MDGs			0.1	2009	0.1	(2009)	Europe & Central Asia (developing only)
			b) Prevalence of HIV, female (% ages 15-24)	6.1	MDGs			0.1	2009	0.2	(2009)	Europe & Central Asia (developing only)
		1.3.02	Notified cases of malaria per 100,000 population	6.6	MDGs Database			9	2008	0	(2009)	Caucasus and Central Asia
		1.3.03	a) Malaria death rate per 100,000 population, all ages	6.6	MDGs Database			0	2008	<0.5	(2009)	Caucasus and Central Asia
			b) Malaria death rate per 100,000 population, ages 0-4	6.6	MDGs Database			0	2008	<0.5	(2009)	Caucasus and Central Asia
		1.3.04	Tuberculosis prevalence rate per 100,000 population (mid-point)	6.9	MDGs Database	172	243	382	2010	208	(2009)	Caucasus and Central Asia
		1.3.05	Incidence of tuberculosis (per 100,000 people)	6.9	MDGs	93	125	206	2010	90	(2010)	Europe & Central Asia (developing only)
		1.3.06	Tuberculosis death rate (per 100,000 people)	6.9	MDGs	18	27	41	2010	15	(2010)	Europe & Central Asia (developing only)
		1.3.07	Prevalence of HIV, total (% of population ages 15-49)		HNP Stats	0.1	0.1	0.2	2009	0.6	(2009)	Europe & Central Asia (developing only)
		1.3.08	AIDS estimated deaths (UNAIDS estimates)		HNP Stats	100	200	500	2009			Europe & Central Asia (developing only)
		1.3.09	HIV incidence rate, 15-49 years old, percentage (mid-point)		MDGs Database							Caucasus and Central Asia
		1.3.10	Partial Prioritization Score by the Global Fund (HIV)		GF			8	2012			
			Partial Prioritization Score by the Global Fund (Malaria)		GF			6	2012			
			Partial Prioritization Score by the Global Fund (TB)		GF			10	2012			
	1.4 Nutrition	1.4.01	Prevalence of wasting (% of children under 5)		HNP Stats		9.4	6.7	2007			Europe & Central Asia (developing only)
2 Service Delivery	2.1 Maternal and Child Health	2.1.01	Births attended by skilled health personnel, percentage	5.2	MDGs Database		71.1	88.4	2007	97.0	(2009)	Caucasus and Central Asia
		2.1.02	Birth by caesarian section		GHO			3.4	2009	22.2	(2011)	Europe
		2.1.03	Contraceptive prevalence (% of women ages 15-49)	5.3	MDGs		33.9	37.1	2007	69.2	(2010)	Europe & Central Asia (developing only)
		2.1.04	Pregnant women receiving prenatal care (%)	5.5	HNP Stats		71.3	79.8	2008			Europe & Central Asia (developing only)
		2.1.05	Pregnant women receiving prenatal care of at least four visits (% of pregnant women)	5.5	HNP Stats			49.4	2007			Europe & Central Asia (developing only)
		2.1.06	Unmet need for family planning, total, percentage	5.6	MDGs Database					12.5	(2008)	Caucasus and Central Asia
		2.1.07	1-year-old children immunized against: Measles	4.3	Childinfo		88	94	2010	96	(2010)	Central and Eastern Europe
		2.1.08	1-year-old children immunized against: Tuberculosis		Childinfo		98	82	2010	96	(2010)	Central and Eastern Europe
		2.1.09	a) 1-year-old children immunized against: DPT (percentage of infants who received their first dose of diphtheria, pertussis and tetanus vaccine)		Childinfo		88	95	2010	97	(2010)	Central and Eastern Europe
			b) 1-year-old children immunized against: DPT (percentage of infants who received three doses of diphtheria, pertussis and tetanus vaccine)		Childinfo		83	93	2010	95	(2010)	Central and Eastern Europe
		2.1.10	1-year-old children immunized against: Polio		Childinfo		86	95	2010	96	(2010)	Central and Eastern Europe
		2.1.11	Percentage of infants who received three doses of hepatitis B vaccine		Childinfo			93	2010	94	(2010)	Central and Eastern Europe

Attachment 1: Major Health Indicators (Republic of Tajikistan)

Republic of Tajikistan				MDGs	Sources	1990	2000	Latest	Latest year	Latest in Region	(Latest year)	Region
	2.2 Infectious Diseases	2.2.01	Condom use with non regular partner, % adults (15-49), male	6.2	MDGs							Europe & Central Asia (developing only)
		2.2.02	Condom use with non regular partner, % adults (15-49), female	6.2	MDGs							Europe & Central Asia (developing only)
		2.2.03	Men 15-24 years old with comprehensive correct knowledge of HIV/AIDS, percentage	6.3	MDGs Database							Caucasus and Central Asia
		2.2.04	Women 15-24 years old with comprehensive correct knowledge of HIV/AIDS, percentage	6.3	MDGs Database		1	2.3	2005	20	(2005-2010)	Caucasus and Central Asia
		2.2.05	Ratio of school attendance of orphans to school attendance of non-orphans aged 10-14 years	6.4	MDGs Database							Caucasus and Central Asia
		2.2.06	Use of insecticide-treated bed nets (% of under-5 population)	6.7	HNP Stats		1.9	1.3	2005			Europe & Central Asia (developing only)
		2.2.07	Children under 5 with fever being treated with anti-malarial drugs, percentage	6.8	MDGs Database							Caucasus and Central Asia
		2.2.08	Tuberculosis treatment success rate under DOTS, percentage	6.10	MDGs Database		77	82	2008	74	(2008)	Caucasus and Central Asia
		2.2.09	Antiretroviral therapy coverage (% of people with advanced HIV infection)	6.5	MDGs			11.0	2009			Europe & Central Asia (developing only)
		2.2.10	People aged 15 years and over who received HIV testing and counselling, estimated number per 1,000 adult population		GHOr			77.6	2010			Europe
		2.2.11	Testing and counselling facilities, estimated number per 100,000 adult population		GHOr			6.5	2010			Europe
		2.2.12	Pregnant women tested for HIV, estimated coverage (%)		GHOr			62	2010			Europe
		2.2.13	Percentage of HIV-infected pregnant women who received antiretroviral drugs to reduce the risk for mother-to-child transmission (Mid point)	6.5	MDGs Database							Caucasus and Central Asia
		2.2.14	Tuberculosis case detection rate (all forms)		HNP Stats	50.0	36.0	44.0	2010	73	(2010)	Europe & Central Asia (developing only)
		2.2.15	Tuberculosis treatment success rate (% of registered cases)	6.10	MDGs		77.0	81.0	2009	65	(2009)	Europe & Central Asia (developing only)
	2.3 Nutrition	2.3.01	Vitamin A supplementation coverage rate (% of children ages 6-59 months)		HNP Stats			94.9	2010			Europe & Central Asia (developing only)
		2.3.02	Consumption of iodized salt (% of households)		HNP Stats			61.9	2009	42.9	(2000)	Europe & Central Asia (developing only)
	2.4 Quality and Coverage	2.4.01	Estimate of health formal coverage		ILO					46.7		Countries of high vulnerability
		2.4.02	Population not covered (%) due to financial resources deficit		ILO			94.9		61.1		Countries of high vulnerability
		2.4.03	Population not covered (%) due to professional health staff dificit		ILO			0.0		43.2		Countries of high vulnerability
3 Health System	3.1 Human Resources	3.1.01	Physicians (per 1,000 people)		HNP Stats	2.55	2.13	2.10	2009	3.23	(2010)	Europe & Central Asia (developing only)
		3.1.02	Midwives (per 1,000 people)		HNP Stats			0.61	2004	0.50	(2004)	Europe & Central Asia (developing only)
		3.1.03	Nurses (per 1,000 people)		HNP Stats			4.58	2003	6.40	(2003)	Europe & Central Asia (developing only)
		3.1.04	Dentistry personnel density (per 10,000 population)		GHO			1.67	2009	5.0	(2007)	Europe
		3.1.05	Density of pharmaceutical personnel (per 10,000 population)		GHO			1.1	2003	5.0	(2007)	Europe
	3.2 Health Financing	3.2.01	Health expenditure, total (% of GDP)		HNP Stats		4.6	6.0	2010	5.8	(2010)	Europe & Central Asia (developing only)
		3.2.02	Health expenditure, public (% of total health expenditure)		HNP Stats		20.4	26.7	2010	65.0	(2010)	Europe & Central Asia (developing only)
		3.2.03	Health expenditure, private (%) of total health expenditure)		HNP Stats		79.6	73.3	2010	35.0	(2010)	Europe & Central Asia (developing only)
		3.2.04	Out-of-pocket health expenditure (% of private expenditure on health)		HNP Stats		99.0	90.7	2010	91.9	(2010)	Europe & Central Asia (developing only)
		3.2.05	Health expenditure, public (% of government expenditure)		HNP Stats		6.5	6.1	2010	9.8	(2010)	Europe & Central Asia (developing only)
		3.2.06	External resources for health (% of total expenditure on health)		HNP Stats		2.3	6.1	2010	0.3	(2010)	Europe & Central Asia (developing only)
		3.2.07	Social security expenditure on health as a percentage of general government expenditure on health		GHO		0.0	0.0	2010	49.5	(2009)	Europe
		3.2.08	a) Health expenditure per capita (current US\$)		HNP Stats		6.5	49.1	2010	438.9	(2010)	Europe & Central Asia (developing only)
			b) Per capita total expenditure on health (PPP int. \$)		GHO		1	13	2010	2,218	(2009)	Europe
		3.2.09	Per capita government expenditure on health at average exchange rate (US\$)		GHO		40.0	128	2010	1,677	(2009)	Europe
	3.3 Facilities, Equipments and Supplies	3.3.01	a) Median availability of selected generic medicines (%) - Public		GHO			75	2005			Europe
			b) Median availability of selected generic medicines (%) - Private		GHO			85	2005			Europe
		3.3.02	a) Median consumer price ratio of selected generic medicines - Public		GHO			2.4	2005			Europe
			b) Median consumer price ratio of selected generic medicines - Private		GHO			2.3	2005			Europe
		3.3.03	Hospital beds (per 1,000 population)		HNP Stats	10.7	6.5	5.2	2009	7.4	(2006)	Europe & Central Asia (developing only)

WDI: World Development Indicators & Global Development Finance (<http://databank.worldbank.org/ddp/home.do>) (Accessed 07/2012)

HDR: Human Development Reports (<http://hdr.undp.org/>) (Accessed 07/2012)

HNP Stats: Health Nutrition and Population Statistics (<http://databank.worldbank.org/ddp/home.do>) (Accessed 07/2012)

GF: Global Fund eligibility list for 2012 funding channels, the Global Fund to Fight AIDS, Tuberculosis and Malaria (<http://www.theglobalfund.org/en/application/applying/ecfp/>) (Accessed 07/2012)

GHO: Global Health Observatory Country Statistics (<http://www.who.int/gho/countries/en/>) (Accessed 07/2012)

GHOr: Global Health Observatory Repository (<http://apps.who.int/ghodata/>) (Accessed 07/2012)

MDGs: Millennium Development Goals (<http://databank.worldbank.org/ddp/home.do>) (Accessed 07/2012)

MDG database: Millennium Development Goals Indicators (<http://mdgs.un.org/unsd/mdg/>) (Accessed 07/2012). Regional data is available on The Millennium Development Goals Report Statistical Annex 2011 (United Nations).

Childinfo: Childinfo UNICEF (<http://www.childinfo.org/>) (Accessed 07/2012)

ILO: World Social Security Report 2010/11: Providing coverage in times of crisis and beyond. International Labour Office Geneva: ILO 2010.

1.3.10 Partial Prioritization Score is composed of the income level score for the country and the disease burden score for the particular disease in the country. The minimum score is 3 and the maximum score is 12.

2.4.01 Estimate of health formal coverage is indicated as percentage of population covered by state, social, private, company-based, trade union, mutual and other health insurance scheme.

2.4.02 Population not covered (%) due to financial resources deficit (based on median value in low-vulnerability group of countries) uses the relative difference between the national health expenditure in international \$ PPP (excluding out-of-pocket) and the median density observed in the country group with low levels of vulnerability as a benchmark for developing countries. The rate can be calculated using the following formula:

Per capita health expenditure not financed by private households* out-of-pocket payments (PPP in int. \$) [A]

Population (in thousands) total [B]

Total health expenditure not financed by out of pocket in int. \$ PPP (thousands) [C = A x B]

Population covered by total health expenditure not financed by out-of pocket if applying Benchmark* (thousands) [D = C ÷ Benchmark]**

Percentage of the population not covered due to financial resources deficit (%) [F = (B - D) ÷ B x 100]

*Benchmark: Total health expenditure not financed by out-of-pocket per capita = 350 international \$ PPP.

**This formula was partially modified from the original in the source to suit an actual calculation.

2.4.03 Population not covered (%) due to professional health staff dificit uses as a proxy the relative difference between the density of health professionals in a given countries and its median value in countries with a low level of vulnerability. The rate can be calculated using the following formula:

Total of health professional staff [A = B + C]

Number of nursing and midwifery personnel [B]

Number of physicians [C]

Total population (in thousands) [D]

Number of health professional per 10,000 persons [F = A ÷ D x 10]

Total population covered if applying Benchmark* (thousands) [E = A ÷ Benchmark x 10]

Percentage of total population not covered due to health professional staff deficit [G= (D - E) ÷ D x100]

Benchmark: 40 professional health staff per 10,000 persons.

Attachment 2 : References (Republic of Tajikistan)

	TITLE	AUTHOR	URL	YEAR
1	Health Nutrition and Population Statistics	World Data Bank	http://databank.worldbank.org/ddp/home.do?Step=2&id=4&hActiveDimensionId=HNP_Series .	
2	Tajikistan Republic Health Statistics data 2010	Republic Health Statistical Information Center 2011		2011
3	Human Development Report	UNDP	http://hdr.undp.org/en/reports/global/hdr2011/	2011
4	The impact on migration and remittances on welfare in Tajikistan	Agency on statistics under the President of Tajikistan		2010
5	Tajikistan Living Standards Measurement Survey	UNICEF	http://www.tojikinfo.tj/en/download/files/UNICEF%20TLSS%20Report%20Eng.pdf	2007
6	Relevance of the cross cutting issues gender and conflict for the GTZ health program in Central Asia	Susanne Thiel		2010
7	Multiple Indicator Cluster Survey Tajikistan 2005	State Committee on Statistics, UNDP, UNFPA, UNICEF	http://www.childinfo.org/files/MICS3_Tajikistan_FinalReport_2005_Eng.pdf	2007
8	Health Systems in Transition Tajikistan 2010	WHO		2010
9	National Health Strategy 2010-2020	MOH		2010
10	Joint Annual Review on the progress of the NHS	MOH		Nov 2011
11	The States of The World's Children 2011	UNICEF	http://www.uis.unesco.org/Library/Documents/state-world-children-adolescence-age-opportunity-education-2011-en.pdf	2011
12	NCD country profiles	WHO	http://whqlibdoc.who.int/publications/2011/9789241502283_eng.pdf	2011
13	Health Sector in Tajikistan 2011	Republic Statistics Center		2011
14	Improving Statistics for Children's Births and Deaths	World Bank		2011
15	Results of survey on infant, child and maternal mortality in the Republic of Tajikistan	Tajikistan on statistics under the President of the Republic of Agency		2010
16	MDG Progress Report Tajikistan 2010	Republic of Tajikistan	http://www.undp.tj/files/WEB-MDG-Tajikistan-2010-Eng.pdf	2010
17	Tajikistan Health Profile	WHO	http://www.who.int/gho/countries/tjk.pdf	2012
18	Millennium Development Goals Indicators	United Nations	http://mdgs.un.org/unsd/mdg/Default.aspx	
19	European Health for All (online database)	WHO Regional office for Europe	http://www.euro.who.int/en/what-we-do/data-and-evidence/databases/european-health-for-all-database-hfa-db2	2010
20	Micronutrient Status Survey in Tajikistan	UNICEF		2009
21	Tajikistan Health Sector note	World Bank		2005
22	Quality of Child Health Service in Tajikistan	World Bank		2011
23	Project Forming Research for Mother and Child Health in Tajikistan	JICA		2005
24	ODA Countries Data Book [in Japanese]	Ministry of Foreign Affairs of Japan	http://www.mofa.go.jp/mofaj/gaiko/oda/shiryo/kuni/11_databook/pdfs/03-04.pdf	