



# Report and Recommendation of the President to the Board of Directors

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Project Number: 45009  
November 2012

## Proposed Loan Mongolia: Fifth Health Sector Development Project

Asian Development Bank

## CURRENCY EQUIVALENTS

(as of 22 October 2012)

Currency unit – togrog (MNT)

MNT1.00 = \$0.000723

\$1.00 = MNT1,384

## ABBREVIATIONS

ADB	–	Asian Development Bank
EIRR	–	economic internal rate of return
EMP	–	environmental management plan
GASI	–	General Agency for Specialized Inspection
IEE	–	initial environmental examination
IPC	–	infection prevention and control
MDG	–	Millennium Development Goal
MOH	–	Ministry of Health
NTC	–	National Transfusiology Center
O&M	–	operation and maintenance
PAM	–	project administration manual
PIU	–	project implementation unit
SDR	–	special drawing rights
WHO	–	World Health Organization

## NOTE

In this report, “\$” refers to US dollars.

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## PROJECT AT A GLANCE

<b>1. Project Name:</b> Fifth Health Sector Development Project		<b>2. Project Number:</b> 45009-002	
<b>3. Country:</b> Mongolia		<b>4. Department/Division:</b> East Asia Department/Urban and Social Sectors Division	
<b>5. Sector Classification:</b>			
<b>Sectors</b>		<b>Primary</b>	<b>Subsectors</b>
Health and social protection		√	Health systems
<b>6. Thematic Classification:</b>			
<b>Themes</b>		<b>Primary</b>	<b>Subthemes</b>
Social development		√	Human development
Capacity development			Institutional development
<b>6a. Climate Change Impact</b> No Climate Change Indicator available.		<b>6b. Gender Mainstreaming</b>	
		Gender equity theme (GEN)	
		Effective gender mainstreaming (EGM)	√
		Some gender elements (SGE)	
		No gender elements (NGE)	
<b>7. Targeting Classification:</b>		<b>8. Location Impact:</b>	
<b>General Intervention</b>	<b>Targeted Intervention</b>		
	<b>Geographic dimensions of inclusive growth</b>	<b>Millennium development goals</b>	<b>Income poverty at household level</b>
		√ MDG4, MDG5, MDG6, MDG7	
		National	Medium
		Rural	Medium
		Urban	Medium
<b>9. Project Risk Categorization:</b> Low			
<b>10. Safeguards Categorization:</b>			
		Environment	B
		Involuntary resettlement	C
		Indigenous peoples	C
<b>11. ADB Financing:</b>			
	<b>Sovereign/Nonsovereign</b>	<b>Modality</b>	<b>Source</b>
	Sovereign	Project loan	Asian Development Fund
	Total		30.00
<b>12. Cofinancing:</b>			
	<b>Financier</b>	<b>Category</b>	<b>Amount (\$ Million)</b>
	German Federal Ministry of Health	Official-Grant	0.19
	World Health Organization	Official-Grant	0.48
	Total		0.67
<b>13. Counterpart Financing:</b>			
	<b>Source</b>	<b>Amount (\$ Million)</b>	
	Government	7.71	
	Total	7.71	
<b>14. Aid Effectiveness:</b>			
Parallel project implementation unit		No	
Program-based approach		No	

## I. THE PROPOSAL

1. I submit for your approval the following report and recommendation on a proposed loan to Mongolia for the Fifth Health Sector Development Project.<sup>1</sup>

2. The project will improve patients' and health workers' safety in hospitals in Mongolia. It will (i) improve the safety of blood transfusions, (ii) strengthen medical waste management, and (iii) prevent and control hospital-acquired infections.<sup>2</sup> It complements previous Asian Development Bank (ADB) initiatives in the health sector in Mongolia.

## II. THE PROJECT

### A. Rationale

3. Mongolia's economic outlook is bright, but the country is experiencing severe shortages in the provision of social services. The cost of reforming the hospital sector in Ulaanbaatar alone is estimated at \$450 million.<sup>3</sup> At the same time, international support to the health sector is shrinking. Capacity is inadequate to implement reforms to improve the accessibility and service quality of hospital services. Poorer segments of the population have limited access to private hospitals because of the high cost of care and limited health insurance coverage. The safety of patients and health workers is compromised by lapses in hospital hygiene, blood transfusion practices, and medical waste management in the public and private sectors.

4. The government seeks to strengthen blood safety in hospitals and improve preparedness for emergencies in case of natural disasters. Deficiencies in *aimag* (province) blood banks impact on patients' and health workers' safety. Inadequate facilities, equipment, and testing materials; inadequate capacity of personnel involved in blood safety; lack of confidentiality; poor registration and reporting of adverse reactions; lack of readiness for emergencies; and lack of measures to reduce inappropriate blood transfusions are among the major deficiencies, which can result in unintentional transmission of HIV, syphilis, and hepatitis B and C.

5. Efforts are under way in Ulaanbaatar and in medium-sized cities such as Darkhan and Erdenet to improve hospital medical waste treatment and disposal, but the situation in the *aimags* is far from ideal. Management of liquid hazardous waste produced by hospitals and laboratories is inadequate. Liquid hazardous waste, when poorly disposed of, causes harm to people and the environment, as it contains chemical substances, drugs, and pathogens. Hospital sewerage systems are not always of good quality, resulting in environmental and public health risks.

6. Infection control in Mongolian health care facilities is poor and hospital-acquired infections are thought to be underreported.<sup>4</sup> In March 2010, Mongolia experienced 28 hospital-acquired infections among newborns, of whom five died, as a result of poor infection control clinical practices. The prevalence of hepatitis B and C among health care workers in Mongolia is

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<sup>1</sup> The design and monitoring framework is in Appendix 1.

<sup>2</sup> The Asian Development Bank (ADB) provided project preparatory technical assistance (\$700,000) funded by the Japan Fund for Poverty Reduction. ADB. 2011. *Technical Assistance to Mongolia for Preparing the Fifth Health Sector Development Project*. Manila.

<sup>3</sup> Communication from consultant team of ADB. 2009. *Technical Assistance to Mongolia for the Fourth Health Sector Development: Improving Sector Governance*. Manila (TA 7309-MON).

<sup>4</sup> Mongolia declared 85 cases of hospital-acquired infections in 2010 (Ministry of Health. 2011. *Health Indicators*. Ulaanbaatar) against World Health Organization (WHO) estimates of 3.5%–10.0% of treated cases in hospitals in the Asia and Pacific region; WHO estimates imply 21,000–70,000 expected cases of hospital-acquired infections in Mongolia.

one of the highest in the world and points to breaches in health care safety.<sup>5</sup> Sterilization facilities and practices in hospitals are poor, and basic hygiene measures, such as hand washing, are not commonly implemented. The surveillance system currently implemented in hospitals consists of passive reporting of hospital-acquired infections. Several aspects prevent the current passive surveillance system in hospitals from being effective: (i) the disincentive associated with reporting of hospital-acquired infection cases; (ii) the widespread preventive use of antibiotics for surgery and other procedures, including for newborn babies; and (iii) the lack of microbiology capacity to detect infections and sensitivity to treatment.

7. The government has established a legal and regulatory framework to address the above shortcomings. However, it lacks investment funding; financing of operational costs; and human resources capacity to implement regulatory measures, guidelines, and plans. Several international partners are supporting the government in these areas but significant gaps exist, primarily investments, development of monitoring and surveillance systems, and institutional and human resources capacity development.<sup>6</sup> Private investors are entering the hospital market, intending to offer higher standards of care for more affluent patients.<sup>7</sup> Public hospitals (with a greater bed capacity) lag behind and remain a serious threat to the safety of patients and health workers. This perpetuates discrimination between poorer and more affluent population groups. A central facility for the treatment and disposal of medical wastes was established as a public-private partnership in Ulaanbaatar in 2007 and has been operational since 2010. This initiative, although requiring major investments, is a solid foundation for improved medical waste management in the capital where almost half of the Mongolian population lives. Ulaanbaatar's National Transfusiology Center (NTC), which provides blood transfusion services of acceptable quality, can play an important role in capacity development and monitoring of hospital transfusion activities in Ulaanbaatar and in the *aimags*.

8. The project builds on hospital sector reforms initiated under previous ADB-funded operations in Mongolia. The Health Sector Development Program focused on hospital planning and licensing; the Second Health Sector Development Project supported hospital financing; hospital efficiency and governance is supported by the ongoing Third Health Sector Development Project; and the Fourth Health Sector Development Project, including additional financing is engaged in restructuring the hospital sector, especially in Ulaanbaatar, to rationalize hospital capacity and services.<sup>8</sup> Hospital rationalization needs to be complemented with

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<sup>5</sup> Various publications since 1998 report a wide range of the prevalence of hepatitis B and C carriers in various population groups in Mongolia (blood donors, health care workers, general population, males, and outpatients). The reported proportions vary from 8% to 29% for hepatitis B and from 2% to 48% for hepatitis C carriers.

<sup>6</sup> The Global Fund to Fight AIDS, Tuberculosis and Malaria; the Millennium Challenge Account; and the WHO support the government in blood safety, medical waste management, and infection prevention and control. The ADB-funded Third Health Sector Development Project (ADB. 2007. *Report and Recommendation of the President to the Board of Directors: Proposed Grant to Mongolia for the Third Health Sector Development Project*. Manila) is supporting the government, especially in medical waste management, and is closely coordinating with all other partners in the sector to avoid duplications.

<sup>7</sup> Songdo Hospital, a private Republic of Korea investment, opened in 2007 and provides secondary and partly tertiary medical care. Since early 2011, Gurvan Gal Private Hospital, a 110-bed hospital, provides quality care based exclusively on out-of-pocket expenses. MSC, a private Mongolian group operating in the mining and other sectors, will start operating a 100-bed hospital with international standards from early 2013.

<sup>8</sup> ADB. 1997. *Report and Recommendation of the President to the Board of Directors: Proposed Loans and a Technical Assistance Grant to Mongolia for the Health Sector Development Program*. Manila; ADB. 2003. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to Mongolia for the Second Health Sector Development Project*. Manila; ADB. 2007. *Report and Recommendation of the President to the Board of Directors: Proposed Grant to Mongolia for the Third Health Sector Development Project*. Manila; ADB. 2010. *Report and Recommendation of the President to the Board of Directors: Proposed Grant to Mongolia for the Fourth Health Sector Development Project*. Manila; and ADB. 2012. *Report and Recommendation of the President to the*

increased quality and safety of hospital services to provide effective care and lower resistance to sector reforms. Major lessons learned described in para. 12 of the sector assessment<sup>9</sup> have been incorporated in the design of the project by continuing to support the hospital sector to see reform come to fruition, engaging in a wide consultation process on hospital restructuring, ensuring proper baseline data collection and defining meaningful indicators, and providing continuous capacity building of the executing agency on ADB policies. The project will deliver tangible benefits to women by ensuring higher safety standards to protect staff, the majority of whom are women, against hospital-acquired infections and improving the safety of blood transfusions in hospitals.

9. ADB is the largest external financier of the health sector in Mongolia, and plays a key role in assisting the government to formulate and implement health sector reforms. Support from other partners focuses on assisting the government to address particular diseases or develop certain programs. ADB works in close consultation with these partners to support the coordinated implementation of the Health Sector Master Plan, 2006–2015. The World Health Organization (WHO), with global expertise in all three focus areas of the project, will assist the project mainly by providing consulting services. The German Federal Ministry of Health, which is supporting a small-scale hospital hygiene project in Mongolia, will support the project by providing advisory services for policy development, monitoring and evaluation, and training activities in Mongolia and Germany.

10. The project builds on previous ADB health sector development initiatives and policy reforms under the Social Sectors Support Program<sup>10</sup> to reform the Mongolian health sector in line with (i) the National Development Strategy in achieving Millennium Development Goals (MDGs) 4 (child health) and 5 (maternal health), and more directly MDG 6 (HIV/AIDS and tuberculosis) and MDG 7 (environmental health and sanitation); and (ii) the government's Health Sector Master Plan, 2006–2015 for improving hospital services. The project is included in the country operations business plan, 2012–2014<sup>11</sup> and is consistent with the country partnership strategy, 2012–2016,<sup>12</sup> which emphasizes social development through efficient delivery of health services.

## **B. Impact and Outcome**

11. The impact of the project will be improved quality of health services in Mongolia. The outcome will be improved patient and health worker safety in project-supported hospitals in Mongolia. The project's geographical focus will include secondary and tertiary hospitals in Ulaanbaatar, *aimags*, and *soum* (administrative subdivision of the *aimag*) centers.

## **C. Outputs**

12. The project will have three components with the following outputs:

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*Board of Directors: Proposed Loan to Mongolia for Additional Financing of the Fourth Health Sector Development Project.* Manila.

<sup>9</sup> Sector Assessment (Summary): Health and Social Protection (accessible from the list of linked documents in Appendix 2).

<sup>10</sup> ADB. 2009. *Report and Recommendation of the President to the Board of Directors: Proposed Loan, Grant, and Technical Assistance Grant to Mongolia for the Social Sectors Support Program.* Manila. The program implemented a set of policy measures in the social welfare, health, and education sectors to provide essential social services, and to initiate longer-term reforms to improve the targeting of social assistance and health insurance, and living conditions of the poor.

<sup>11</sup> ADB. 2012. *Country Operations Business Plan: Mongolia, 2012–2014.* Manila.

<sup>12</sup> ADB. 2012. *Country Partnership Strategy: Mongolia, 2012–2016.* Manila.

- (i) **Component 1: Safe blood transfusion.** The project will assist in establishing the new NTC in Ulaanbaatar<sup>13</sup> by providing equipment, improving management systems, implementing capacity building measures, and seeking international accreditation of the new NTC. A model maintenance unit will be developed in the NTC, which will serve as a basis to strengthen maintenance systems and capacities in hospitals covered by the project. The project will also improve blood safety in *aimag* general hospitals and *soum* health centers, providing equipment, training to personnel concerned, and organizing blood donor management systems, including public awareness-raising.
- (ii) **Component 2: Medical waste management.** The central medical waste management facility in Ulaanbaatar will be upgraded to meet internationally accepted standards by funding minor civil works, procuring equipment, improving management systems, and providing capacity building for personnel. The monitoring and inspection capacity of the Ministry of Health (MOH) and the General Agency for Specialized Inspection on medical waste will be strengthened. Medical waste management systems, including liquid hazardous waste, will be improved to meet national standards in hospitals in Darkhan, Erdenet, and Ulaanbaatar, and *aimag* general hospitals by providing basic equipment, raising awareness and training personnel, and ensuring recurrent funding for medical waste is sustained via proper costing and inclusion in the MOH budget.
- (iii) **Component 3: Hospital hygiene and infection prevention and control.** Microbiology laboratories in hospitals in Erdenet, Darkhan, Ulaanbaatar, and *aimag* general hospitals will be provided with equipment to ensure effective infection prevention and control, and existing policies and guidelines will be reviewed and upgraded. In hospitals, basic infrastructure and equipment will be developed, maintenance capacity will be strengthened, and adequate funding of recurrent costs for infection prevention and control will be institutionalized. An effective surveillance system for hospital-acquired infections will be developed by improving policies and guidelines, assigning responsibilities, developing incentives for proper reporting, and pilot testing the system. The awareness, knowledge, and capacity of health authorities, health care workers, and administrative staff on infection prevention and control will be strengthened. Infection prevention and control will be incorporated in hospital quality management systems, and an improved inspection module for infection prevention and control will be used by the General Agency for Specialized Inspection to promote infection prevention and control.

#### D. Investment and Financing Plans

13. The project is estimated to cost \$38.38 million, including physical and price contingencies, and total taxes and duties of \$0.65 million (Table 1).

**Table 1: Project Investment Plan**  
(\$ million)

Item	Amount <sup>a</sup>
<b>A. Base Cost<sup>b</sup></b>	
1. Component 1: Safe blood transfusion	14.59

<sup>13</sup> The new NTC will be located within the compound of the National Hospital 2 in Bayanzurkh District in Ulaanbaatar. It will be built on government land, it does not require any resettlement, it will be entirely government-funded, and it is expected to be established by the end of 2014.

Item	Amount <sup>a</sup>
2. Component 2: Medical waste management	3.92
3. Component 3: Hospital hygiene and infection prevention and control	15.41
4. Project management	0.74
5. Recurrent cost	2.50
<b>Subtotal (A)</b>	<b>37.16</b>
<b>B. Contingencies<sup>c</sup></b>	<b>0.36</b>
<b>C. Financing Charges During Implementation<sup>d</sup></b>	<b>0.85</b>
<b>Total (A+B+C)</b>	<b>38.38</b>

Note: Numbers may not sum precisely because of rounding.

<sup>a</sup> Includes taxes and duties of \$0.65 million to be financed by the government and the Asian Development Bank.

<sup>b</sup> In mid-2012 prices.

<sup>c</sup> Physical contingencies computed at 1% for civil works and 1% for equipment. Price contingencies computed at minimum escalation rate.

<sup>d</sup> Includes interest charges. Interest charges have been computed at the Asian Development Fund loan-offered rate. Interest charges during construction of the Asian Development Fund loan are calculated at 1% per annum.

Source: Asian Development Bank estimates.

14. The government has requested a loan equivalent to SDR19,483,000 from ADB's Special Funds resources to help finance the project, including recurrent costs, and taxes and duties.<sup>14</sup> The loan will have a 32-year term, including a grace period of 8 years, an interest rate of 1.0% per annum during the grace period and 1.5% per annum thereafter, and such other terms and conditions set forth in the loan agreement.

15. The financing plan is in Table 2. The total project cost of \$38.38 million will be financed by an Asian Development Fund loan of \$30 million equivalent, WHO in-kind parallel cofinancing of \$480,000 equivalent, German Federal Ministry of Health in-kind parallel cofinancing of \$186,000 equivalent, and the Government of Mongolia will fund the remaining \$7.71 million equivalent. The government has assured ADB that it will provide additional counterpart funding for any shortfall of funds or cost overruns to ensure the success of the project. Total physical and price contingencies amount to \$364,000. ADB provided grant financing of \$700,000 equivalent for project preparation from the Japan Fund for Poverty Reduction (footnote 2).<sup>15</sup>

**Table 2: Financing Plan**

Source	Amount (\$ million)	Share of Total (%)
Asian Development Bank	30.00	78.17
World Health Organization <sup>a</sup>	0.48	1.25
German Federal Ministry of Health <sup>b</sup>	0.19	0.50
Government	7.71	20.09
<b>Total</b>	<b>38.38</b>	<b>100.00</b>

<sup>a</sup> The World Health Organization cofinances \$420,000 for consulting services; \$20,000 for training; and \$40,000 for equipment.

<sup>b</sup> The German Federal Ministry of Health cofinances \$118,000 for consulting services and \$68,000 for training.

Source: Asian Development Bank estimates.

<sup>14</sup> Mongolia: Cost Sharing Ceiling and Other Financing Parameters; memorandum approved by the ADB President on 2 June 2010. The project includes taxes and duties of \$0.65 million to be financed by the government and ADB. The following principles were followed in determining the amount of taxes and duties to be financed by ADB: (i) it is consistent with the current country partnership strategy, (ii) the amount does not represent an excessive share of the project investment plan, (iii) the taxes and duties apply only to ADB-financed expenditures, and (iv) the financing of the taxes and duties is material and relevant to the success of the project.

<sup>15</sup> The project preparatory technical assistance became effective on 4 November 2011 and was physically completed on 30 September 2012. A consulting firm provided 17 person-months of international consulting services and 30 person-months of national consulting services with expertise in blood safety, medical waste management, infection prevention and control, finance and economics, environmental assessment, and poverty and social safeguards.

## E. Implementation Arrangements

16. The implementation arrangements are summarized in Table 3 and described in detail in the project administration manual (PAM).<sup>16</sup>

**Table 3: Implementation Arrangements**

Aspects	Arrangements		
Implementation period	June 2013–June 2018		
Estimated completion date	30 June 2018		
<b>Management</b>			
(i) Oversight body	The role of the project steering committee of the Fourth Health Sector Development Project will be expanded to cover the Fifth Health Sector Development Project. It is chaired by the vice minister of health and composed of senior officials from the Ministry of Health; the Ministry of Finance; the Ministry of Social Welfare and Labour; the Ministry of Nature, Environment and Tourism; the State Social Insurance General Office; the Ulaanbaatar City Mayor's Office; the General Agency for Specialized Inspection; the Health Sciences University of Mongolia; the Pharmaceutical Association; the Hospital Association; the Mongolian Consumer Association; and the Mongolian Association of Family Doctors. A representative of the NTC and a representative of the National Center for Communicable Diseases will be added to the current list of members.		
(ii) Executing agency	The Ministry of Health will be the executing agency of the project and the implementing agency for outputs 2 and 4.		
(iii) Key implementing agencies	The NTC will be the implementing agency for the establishment of the new transfusiology center (output 1 of the DMF) and will be closely associated to the implementation of project activities related to output 2. The Ulaanbaatar City Mayor's Office will be the implementing agency for strengthening the Ulaanbaatar waste management facility (output 3 of the DMF) and will be closely associated to the implementation of project activities related to the district hospitals of Ulaanbaatar City. The National Center for Communicable Diseases will be the implementing agency for strengthening infection prevention and control (outputs 5, 6, 7, 8, and 9 of the DMF).		
(iv) Implementation unit	On behalf of the executing agency, the implementation unit will be responsible for the day-to-day management of the project. The responsibility of the PIU of the Fourth Health Sector Development Project will be expanded to include implementation of the Fifth Health Sector Development Project. The contract period of the current PIU staff, except for the hospital services development coordinator and the drug safety coordinator, will be extended to the end of the Fifth Health Sector Development Project. A technical coordinator for the Fifth Health Sector Development Project will be added to the PIU.		
Procurement	International competitive bidding	7 contracts	\$22,197,000
	National competitive bidding	14 contracts	\$3,544,960
	Shopping	2 contracts	\$73,200
Consulting services	Quality- and cost-based selection	129 person-months	\$1,674,750
	Consultants' qualifications selection	3 contracts	\$310,120
	Individual consultant selection	33 person-months	\$156,100
Advance contracting	Advance contracting was approved to engage three consulting service contracts.		
Disbursement	The loan proceeds will be disbursed in accordance with ADB's <i>Loan Disbursement Handbook</i> (2012, as amended from time to time) and detailed		

<sup>16</sup> Project Administration Manual (accessible from the list of linked documents in Appendix 2).

Aspects	Arrangements
	arrangements agreed upon between the government and ADB.

ADB = Asian Development Bank, DMF = design and monitoring framework, NTC = National Transfusiology Center, PIU = project implementation unit.

Source: Asian Development Bank.

### III. DUE DILIGENCE

#### A. Technical

17. All project components will be designed taking into account local conditions and in accordance with relevant national guidelines. The equipment to be supplied for the new NTC and *aimag* blood banks, microbiology laboratories, and sterilization services is standard. The project plans to procure similar equipment, which will minimize operation and maintenance (O&M) risks. Maintenance services included in the supply contracts, and strengthening of maintenance services planned under the project, will enhance local capacities for O&M of supplied equipment.

#### B. Economic and Financial

18. The economic analysis evaluated the economic viability of the project as a whole. The economic analysis covers the macroeconomic context to review the potential for the government to continue to finance project activities in the longer term following project completion. The analysis covers the quantifiable economic costs and benefits of the three components and provides a qualitative analysis of the improved safe blood transfusion component and the medical waste management component. The economic impact of safe blood transfusion and medical waste management components includes a number of variables that cannot appropriately be given a monetary value (e.g., years of life saved by reducing transfusion-transmitted infections and improved treatment facilitated by greater availability of blood for transfusion). The economic impact of the medical waste management component is partially quantified (savings on energy consumption). Using conservative estimates of project implementation, the baseline results show an economic internal rate of return (EIRR) of 17.51%. The EIRR was tested through sensitivity analysis using a 20% decrease in economic benefits as the worst-case scenario for all economic benefits. Under these assumptions, the EIRR is 13.76%. The project is considered economically viable.

19. The project has no revenue-earning component, hence financial costs and benefits were not analyzed. The financial sustainability of the project was assessed at the fiscal and project levels. An analysis of recent and projected government expenditures was undertaken to evaluate the potential impact of the project on the budget of the MOH. The MOH will contribute counterpart funding and shoulder the project's O&M costs during implementation. The government's annual share of project costs will average about \$1.5 million or less than 0.6% of the health sector annual budget in 2011. The recurrent costs of the project, to be borne by the Government of Mongolia, are estimated to be about \$0.4 million per annum and include O&M and consumable costs of the project facilities. The annual recurrent costs to be borne by the executing agency will not exceed 0.15% of its current expenditure. Considering an average depreciation value of \$2 million per annum for the equipment, the recurrent cost impact will be \$2.4 million per annum, which represents about 1% of the total recurrent costs of 2011. The counterpart funding and O&M costs are considered both financially sustainable and affordable. A loan covenant makes provision for adequate counterpart funding (Table 4).

### C. Governance

20. The MOH is a long-term partner of ADB, and has been actively involved in implementing health sector development projects since 1991. A project implementation unit (PIU) was established as part of the ongoing Third and Fourth Health Sector Development Projects and this arrangement will be expanded to incorporate implementation of the Fifth Health Sector Development Project.

21. A procurement capability assessment conducted for the executing agency and the PIU confirmed their general ability to conduct procurement in compliance with ADB policy and procedural requirements and the relevant national laws and regulations on public procurement. The implementing agencies have no or limited procurement experience using ADB policies and procedural requirements. Therefore, all procurement under the project will be carried out by the executing agency and coordinated by the PIU.

22. Financial management assessments have been conducted for the MOH, Ulaanbaatar City Mayor's Office, the NTC, and the National Center for Communicable Diseases. The assessments for the MOH, the Ulaanbaatar City Mayor's Office, and the PIU, carried out as part of project preparation of the Fourth Health Sector Development Project in 2010, were updated, and assessments of the NTC and the National Center for Communicable Diseases were carried out for preparation of the Fifth Health Sector Development Project. All four agencies have adequate accounting professionals and have computerized financial accounting and reporting systems. Procedures on the flow of accounting, financial, and project physical progress related to their current project activities are available. All the agencies have clearly defined responsibilities, with accountability assigned to different units at different levels of authority.

23. Annual audits for the project will be arranged by the Ministry of Finance. In general, the financial management assessment concluded that the current financial management system in the executing and implementing agencies meets government requirements in terms of staffing, accounting, and internal control. The PIU will recruit an additional technical coordinator to strengthen its capacity to implement the project in compliance with the policy, operation, and procedural requirements of ADB.

24. ADB's Anticorruption Policy (1998, as amended to date) was explained to and discussed with the Government of Mongolia, the MOH, and implementing agencies. The specific policy requirements and supplementary measures are described in the PAM (footnote 16).

### D. Poverty and Social

25. The project will improve patients' and health workers' safety in hospitals in Mongolia. Improving the safety of blood transfusions will be applied nationwide and will reach a large proportion of the Mongolian population. The components on improving medical waste management and prevention and control of hospital-acquired infection will reach about 1,850,000 beneficiaries. About 13,500 health workers will also benefit directly, especially those with professions that put them at occupational risk because of insufficient and unsecure blood products and processes. The project will provide gender and culturally sensitive information, education, and communication on voluntary blood safety for the public to help address the deficit in blood donations and fears of infections from the procedures.

26. **Gender benefits.** The project is designed to be effective gender mainstreaming. Women make up 82% of the health care workforce. Women are commonly responsible for blood processing, infection prevention and control, waste management and handling, cleaning, and

disinfection; and are most exposed to hospital-acquired infections and transfusion-transmitted infections. Women also constitute the majority (about 80%) of hospital patients. A gender action plan has been developed for the project to ensure that gender is mainstreamed. The plan ensures the collection of sex-disaggregated data for planning and decision support; gender sensitivity for information, education, and communication campaigns; participation in training events; promotion of career development; and attention to training that addresses high-risk groups.

## **E. Safeguards**

27. **Environment.** The project is classified category B. An initial environmental examination (IEE), including an environmental management plan (EMP), was prepared in compliance with ADB's Safeguard Policy Statement (2009) and the Mongolia regulatory framework, and was posted on the ADB website on 21 August 2012. The IEE assesses and addresses environment impacts and risks related to (i) the Ulaanbaatar central medical waste management facility; (ii) the new NTC; (iii) smaller blood safety, infection prevention and control, and medical waste facility installations in project *aimags*; and (iv) project-associated facilities. The main adverse impacts and risks during the construction and operation phase include limited standard construction impacts, and risks related to unsafe collection, storage, treatment, and disposal of medical and chemical liquid waste generated by health facilities. These impacts and risks will be addressed through implementation of the EMP, which includes adequate mitigation and monitoring arrangements, responsibilities for EMP implementation and supervision, environmental training and capacity building, and budgets for EMP implementation.

28. The EMP will be updated based on the final design and will be submitted to ADB for review and approval prior to awarding the civil works contract. Contractors during construction, and facility operators as well as the MOH during operation, will implement these measures. The effectiveness of these measures will be regularly evaluated in the framework of the environmental monitoring program, and corrective actions defined as required. The Government of Mongolia, through the MOH, is committed to manage identified environmental risks and agreed on a comprehensive set of loan covenants. Relevant environment information was disclosed to potentially affected people, and the results and findings of the consultation process were used to modify the IEE and the project design. Consultation and participation will continue throughout project implementation and any environmental complaints or disputes will be handled in accordance with the grievance redress mechanism established for the project. The project will have significant environment, health, and safety benefits. Mongolia's medical waste management system, including liquid hazardous waste, will be significantly strengthened through improving medical waste management systems within health care facilities, by upgrading the central medical waste management facility in Ulaanbaatar to meet international standards.

29. **Involuntary resettlement and indigenous peoples.** No involuntary resettlement effects are foreseen and the project is classified category C. The new NTC will be established on existing government land and will not affect local residents or residential buildings. Therefore, a resettlement plan and a resettlement framework are not required. Should there be any change in scope or other changes with unanticipated resettlement impacts during project implementation, land acquisition and resettlement activities will be implemented in accordance with ADB's Safeguard Policy Statement. The project is classified category C for indigenous peoples. The assessment determined that no negative impacts will exist for indigenous peoples. The project will carry out an assessment of and implement effective ways to design and deliver information, education, and communication activities to the public to ensure social inclusiveness and effective communication.

## F. Risks and Mitigating Measures

30. The overall benefits and impacts are expected to outweigh the costs and risks involved. Major risks and mitigating measures are summarized in Table 4 and described in detail in the risk assessment and risk management plan.<sup>17</sup>

**Table 4: Summary of Risks and Mitigating Measures**

<b>Risks</b>	<b>Mitigating Measures</b>
Delayed establishment of the new national transfusiology center caused by lack of government investment, late assignment of staff, and insufficient allocation of recurrent funds	ADB and the PIU will monitor inclusion of adequate investment and recurrent funding in the MOH budget, 2013–2014. A loan covenant makes provision for the government's timely establishment of the new national transfusiology center.
High inflation and appreciating local currency caused by the booming economy result in escalating project costs.	Plan for sufficient contingency funding. Include an assurance in the project that the government will pay for any shortfall of funding.
Corruption practices and risks in financial management and procurement	Support strengthening audit systems, implement spot reviews of procurement and financial procedures, make procurement awards public, and provide procurement and financial management training to staff concerned

ADB = Asian Development Bank, MOH = Ministry of Health, PIU = project implementation unit.

Source: Asian Development Bank.

## IV. ASSURANCES AND CONDITION

31. The government and the MOH have assured ADB that implementation of the project shall conform to all applicable ADB policies, including those concerning anticorruption measures, safeguards, gender, procurement, consulting services, and disbursement, as described in detail in the PAM and loan documents.

32. The government and the MOH have agreed with ADB on certain covenants for the project, which are set forth in the loan agreement.

33. The government has also agreed that no withdrawals will be made from the loan account for the procurement of equipment for the NTC under output 1 until ADB is satisfied that the MOH's budget allocation in 2013 and 2014 will have included the required cost of construction of the NTC.

## V. RECOMMENDATION

34. I am satisfied that the proposed loan would comply with the Articles of Agreement of the Asian Development Bank (ADB) and recommend that the Board approve the loan in various currencies equivalent to SDR19,483,000 to Mongolia for the Fifth Health Sector Development Project, from ADB's Special Funds resources, with an interest charge at the rate of 1.0% per annum during the grace period and 1.5% per annum thereafter; for a term of 32 years, including a grace period of 8 years; and such other terms and conditions as are substantially in accordance with those set forth in the draft loan agreement presented to the Board.

Haruhiko Kuroda  
President

12 November 2012

<sup>17</sup> Risk Assessment and Risk Management Plan (accessible from the list of linked documents in Appendix 2).

## DESIGN AND MONITORING FRAMEWORK

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks
<b>Impact</b> Improved quality of health services in Mongolia	The incidence of hospital-acquired infections in patients for tracer conditions has decreased by 2021 compared to 2014 (sex and urban–rural disaggregated). <sup>a</sup>	MOH 1-day prevalence study for hospital-acquired infections	<b>Assumption</b> The government invests in the public hospital system and promotes private sector investments.
<b>Outcome</b> Improved patient and health worker safety in project-supported hospitals in Mongolia <sup>b</sup>	<p>At least 95% of blood collected for transfusions in 27 blood banks is screened with polymerase chain reaction, ELISA, or rapid test methods by 2018 from estimated 70% tested by ELISA and rapid test methods in 2010.</p> <p>The number of hospitals complying with national standards for hazardous solid and liquid medical waste treatment in 5 tertiary and 16 secondary project-supported hospitals increases from 5 in 2012 to 19 in 2018 for solid hazardous medical waste and from 0 to 14 for hazardous liquid medical waste.</p> <p>By 2018, at least 90% of health care workers (82% women) in project-supported hospitals are vaccinated against hepatitis B (2011 baseline: 10%, sex, job tier, urban, and rural disaggregated).</p>	<p>MOH and external audit report</p> <p>MOH and external audit report (GASI)</p> <p>MOH statistics</p>	<b>Assumption</b> Sustained political will for hospital reforms  <b>Risks</b> Lack of incentives for hospitals to comply with regulation on medical waste and IPC  Lack of external monitoring and supervision for medical waste and IPC
<b>Outputs</b>			
<b>Component 1: Safe Blood Transfusion</b>			
1. The new national transfusiology center is established in Ulaanbaatar and internationally accredited.	<p>Hospitals in Ulaanbaatar are provided with safe blood by the new national transfusiology center by 2017.</p> <p>International accreditation of the National Transfusiology Center is acquired by 2018.</p> <p>Model maintenance unit at the National Transfusiology Center is operational by 2016.</p>	<p>Study using standard WHO methodology</p> <p>Official accreditation body</p> <p>MOH report</p>	<b>Risk</b> The government is late or short of funds to build the new national transfusiology center, assign the required personnel, and allocate sufficient operational funds for the proper functioning of the new center.
2. <i>Aimag</i> (province) general hospitals and <i>soum</i> (administrative subdivision of the <i>aimag</i> ) health centers transfuse safe blood.	<p>100% of donors are tested for transfusion-transmitted infections by 2016 (i.e., syphilis, HIV, hepatitis B, and hepatitis C).</p> <p>Proportion of voluntary blood donors is increased from 0.8% of the total population in 2011 to 1.2% by 2017 (sex-disaggregated).</p> <p>100% of health workers (82% women) in maternity and trauma units are trained on blood safety according to national standards.</p>	<p>Reports of the National Transfusiology Center</p> <p>MOH training records</p>	<b>Risk</b> Lack of recurrent funding jeopardizes sustainability of the implementation of blood safety measures in the longer run.
<b>Component 2: Medical Waste Management</b>			
3. The central medical waste management	Detailed technical and environmental assessment of the central medical	Independent environmental	<b>Risk</b> Underperformance of

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks
facility is expanded and meets international standards.	waste facility is performed in 2017 showing compliance with international standards.	assessment by international entity (2017)	the company operating central medical waste management facility
4. The national medical waste management system is strengthened and the project hospitals meet the requirements of national standards.	<p>The number of hospitals complying with national standards for medical waste management in the 5 tertiary and 16 secondary project-supported hospitals increases from 5 in 2012 to 19 in 2017.</p> <p>100% of recommended actions of MOH human resources development policy on occupational safety are implemented.</p>	<p>Study using standard WHO methodology</p> <p>Project monitoring reports</p>	<p><b>Risk</b> Lack of recurrent funding jeopardizes sustainability of medical waste management practices in the longer run.</p>
<b>Component 3: Hospital Hygiene and Infection Prevention and Control</b>			
5. Microbiology laboratory capacity of project-supported hospitals meets national requirements.	<p>Five tertiary and 16 secondary hospitals follow updated standard operating procedures for antimicrobial susceptibility testing by 2017.</p> <p>Microbiology laboratories provide information on hospital-acquired infection microbes and their susceptibility patterns in 5 tertiary and 16 secondary hospitals by 2017.</p>	Assessment on laboratory compliance	<p><b>Risk</b> MOH neglects funding for maintenance and replacement of equipment in the long term.</p>
6. Basic infrastructure and equipment for ensuring IPC in the project-supported hospitals are available.	<p>Sterilization services of 5 tertiary hospitals and 16 secondary hospitals are upgraded by 2017.</p> <p>Five tertiary hospitals and 16 secondary hospitals allocate adequate funding to cover recurrent costs to ensure IPC can be implemented in accordance with national guidelines by 2017.</p>	<p>Project survey of infrastructure and equipment</p> <p>Actual MOH budget matches cost projections</p>	
7. An effective surveillance system for hospital-acquired infections is operational.	Active surveillance for hospital-acquired infections of tracer conditions is pilot tested and introduced in 5 tertiary hospitals and 16 secondary hospitals by 2017 (risk factors are sex and location disaggregated in the facility).	Reports of the National Center for Communicable Diseases	
8. Awareness, knowledge, and capacity of health authorities, health care workers, and administrative staff on IPC have substantially improved.	<p>Awareness, knowledge, and skills on IPC are increased from 2013 (baseline) and 2017 (follow-up survey).</p> <p>Results from disaggregated data are used to improve targeting in training, performance monitoring, and planning decisions.</p>	<p>Knowledge, attitude, and practice surveys (baseline in 2013; follow-up in 2017)</p> <p>Project training and planning reports</p>	<p><b>Risks</b> Shortfall of budget for hospitals for IPC does not allow putting knowledge into practice.</p> <p>Lack of leadership in hospitals for IPC</p>
9. IPC is ensured by strengthening the quality management system in hospitals and developing the capacity of GASI.	<p>IPC is part of the continuous quality management system of hospitals by 2017.</p> <p>GASI has adopted an improved supervision module for IPC by 2017.</p> <p>Use of sex and job category data on compliance with protective gear guidelines to correct staff behavior.</p>	<p>MOH reporting</p> <p>Order issued by GASI</p> <p>Project training and planning reports</p>	

Activities with Milestones	Inputs	
1.1 Finalize the quality management system of the National Transfusiology Center and train key personnel in the use of the quality management handbook (2013–2018). 1.2 Equip the new national transfusiology center (2014). 1.3 Set up a model maintenance unit and ensure sustained maintenance and operation (2013–2018). 1.4 Strengthen the <i>aimag</i> blood banks monitoring system supervised by the National Transfusiology Center (2013). 1.5 Scale up culturally sensitive training for voluntary non-remunerated blood donations and training for medical institutions on transfusion medicine (2013–2017). 1.6 Ensure international accreditation of the new national transfusiology center (2018).	<b>Asian Development Bank: \$30 million Asian Development Fund loan</b>	
	<b>Item</b>	<b>Amount (\$ million)</b>
	Civil works	0.94
	Consulting services	1.66
	Training	0.40
	Equipment	25.08
	Other investment support	0.91
Management	0.78	
Contingencies	0.28	
2.1 Equip <i>aimag</i> blood banks and train personnel (2013–2016). 2.2 Strengthen the voluntary non-remunerated blood donation system and availability of blood test kits (2013–2018).	<b>Cofinanciers: 1. WHO: \$0.48 million</b>	
3.1 Develop the capacity of the central medical waste treatment plant in Ulaanbaatar, including recycling capacity (2013–2018). 3.2 Develop a collection, treatment, and storage system for chemical and pharmaceutical medical waste for the cities of Darkhan, Erdenet, and Ulaanbaatar (2013–2016).	<b>Item</b>	<b>Amount (\$ million)</b>
	Consulting services	0.42
	Training	0.02
	Equipment	0.04
4.1 Strengthen the legal and administrative medical waste management system and medical waste management in hospitals (2013–2018). 4.2 Develop standards and a testing and validation system for steam-based decontamination plants (2013–2015).	<b>2. German Federal Ministry of Health: \$0.19 million</b>	
5.1 Improve staff capacity and guidelines in microbiology testing (2014–2015). 5.2 Improve microbiology laboratories in project facilities (2013–2017).	<b>Item</b>	<b>Amount (\$ million)</b>
	Consulting services	0.12
6.1 Improve infrastructure and equipment of central sterilization service departments in project facilities (2013–2017). 6.2 Institutionalize routine sterilization testing and validation (2014–2015).	Training and workshop	0.07
7.1 Develop an innovative approach for active hospital-acquired infections surveillance system; pilot test and evaluate (2013–2014). 7.2 Develop guidelines for secondary and tertiary level hospitals (2014). 7.3 Implement active surveillance gradually at selected sites (2014–2018). 7.4 Recommend replication if successful (2014–2018).	<b>Government: \$7.71 million</b>	
	<b>Item</b>	<b>Amount (\$ million)</b>
	Civil works	4.46
	Equipment	0.03
8.1 Revise guidelines for IPC (2013–2014). 8.2 Provide training for health care personnel in IPC-related areas, overseas and in-country training (2014–2016). 8.3 Institutionalize IPC module for undergraduate training programs (2014–2016). 8.4 Formulate and implement communication activities for behavior change including knowledge, attitude, and practice studies (2013–2017).	Recurrent cost (operation and maintenance)	2.28
	Contingencies	0.08
	Financing	0.85
9.1 Incorporate IPC indicators into quality management tools of hospitals (2014–2015). 9.2 Review and revise the inspection module for IPC and orient GASI and hospital staff (2014–2015).	Note: Numbers may not sum precisely because of rounding.	
10.1 Implement and report on the gender action plan and indigenous peoples plan (2013–2018). 10.2 Implement and report on the environmental management plan (2013–2018). 10.3 Establish a project website that is accessible to the public (2014–2018).		

ELISA = enzyme-linked immunosorbent assay, GASI = General Agency for Specialized Inspection, IPC = infection prevention and control, MOH = Ministry of Health, WHO = World Health Organization.

<sup>a</sup> The baseline will be determined in 2014.

<sup>b</sup> Interventions in safe blood transfusion will have a nationwide impact, as all 27 blood banks in Mongolia will be supported (i.e., National Transfusiology Center in Ulaanbaatar, 20 *aimags'* general hospitals, 3 district hospitals of Ulaanbaatar, and 3 *soums*). Measures to strengthen medical waste management and infection prevention and control will be implemented in 4 tertiary hospitals in Ulaanbaatar City; 1 tertiary hospital in Erdenet City; and 16 secondary hospitals, including Darkhan City, 7 *aimag* centers (Bulgan, Dornogovi, Khentii, Khovd, Selenge, Umnugovi, and Uvs), and 8 district hospitals in Ulaanbaatar. The MOH selected the *aimags* for implementation of the medical waste management and infection prevention and control to ensure fair geographical distribution across Mongolia and selected the hospitals generating most medical waste.

Source: Asian Development Bank.

### **LIST OF LINKED DOCUMENTS**

<http://www.adb.org/Documents/RRPs/?id=45009-002-3>

1. Loan Agreement
2. Sector Assessment (Summary): Health and Social Protection
3. Project Administration Manual
4. Contribution to the ADB Results Framework
5. Development Coordination
6. Financial Analysis
7. Economic Analysis
8. Country Economic Indicators
9. Summary Poverty Reduction and Social Strategy
10. Gender Action Plan
11. Initial Environmental Examination
12. Risk Assessment and Risk Management Plan

### **Supplementary Documents**

13. Subsector Analysis (Summary): Safe Blood Transfusion
14. Subsector Analysis (Summary): Medical Waste Management
15. Subsector Analysis (Summary): Hospital Hygiene and Infection Prevention and Control
16. Economic Analysis (Complementary Information)