



Grant Assistance Report

Project Number: 42059
August 2008

Proposed Grant Assistance Mongolia: Energy Conservation and Emissions Reduction from Poor Households (Financed by the Japan Fund for Poverty Reduction)

Asian Development Bank

CURRENCY EQUIVALENTS

(as of 8 August 2008)

Currency Unit	-	togrog (MNT)
MNT1.00	=	\$0.000867
\$1.00	=	MNT1,153

ABBREVIATIONS

ADB	-	Asian Development Bank
CBO	-	community-based organization
CDM	-	Clean Development Mechanism
CSP	-	country strategy and program
EA	-	executing agency
IA	-	implementing agency
JFPR	-	Japan Fund for Poverty Reduction
kton	-	1,000 tons
MOF	-	Ministry of Finance
MOFE	-	Ministry of Fuel and Energy
NCB	-	national competitive bidding
NGO	-	non-government organization
NO _x	-	nitrogen oxide
PDD	-	project design document
PIU	-	project implementation unit
PM _{2.5}	-	parts per million of particulate matter having a size of less than 2.5 micrometers
PM ₁₀	-	parts per million of particulate matter having a size of less than 10 micrometers
SO ₂	-	sulfur dioxide
SOE	-	statement of expenditure
t	-	ton
UNDP	-	United Nations Development Programme
UNICEF	-	United Nations Children's Fund

NOTE

In this report, "\$" refers to US dollars.

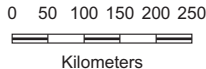
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MONGOLIA ENERGY CONSERVATION AND EMISSIONS REDUCTION FROM POOR HOUSEHOLDS

RUSSIAN FEDERATION



PEOPLE'S REPUBLIC
OF CHINA



- Project Area
 - National Capital
 - Provincial Capital
 - City/Town
 - Main Road
 - Provincial Road
 - Railway
 - River
 - Provincial Boundary
 - International Boundary
- Boundaries are not necessarily authoritative.

JAPAN FUND FOR POVERTY REDUCTION (JFPR)

JFPR Grant Proposal

I. Basic Data	
Name of Proposed Activity	Energy Conservation and Emissions Reduction from Poor Households
Country	Mongolia
Grant Amount Requested	\$2,000,000
Project Duration	2 years (2009–2010)
Regional Grant	<input type="radio"/> Yes / <input checked="" type="radio"/> No
Grant Type	<input checked="" type="radio"/> Project / <input type="radio"/> Capacity building

II. Grant Development Objective(s) and Expected Key Performance Indicators

<p>Grant Development Objectives:</p> <p>The impact of the Project will be improved quality of life in ger (traditional) housing areas resulting from air quality improvements in Ulaanbaatar. The outcome will be a 50% reduction in the coal and firewood consumption of target households by the end of 2010. The output will be improved ger insulation for about 4,000 target poor households by the end of 2010.</p> <p>The activities consist of (i) implementation of a pilot project (\$1.3 million) involving the addition of highly insulated ger blankets for about 4,000 households in the ger district in Ulaanbaatar; and (ii) consulting services (\$0.7 million), which will include baseline and impact surveys, household selection, training for local ger blanket manufacturers to improve the blanket quality while reducing production costs, business model development, Clean Development Mechanism (CDM) assessment, consultation and knowledge dissemination, workshops, and grant management.</p>
<p>Expected Key Performance Indicators:</p> <p>(i) Target ger household fuel consumption reduced by 50% by the end of 2010.</p> <p>(ii) Highly insulated blankets provided to about 4,000 households by the end of 2010.</p> <p>(iii) Suitable business model by the end of 2010 to provide ger blankets for the remaining households.</p> <p>(iv) At least one training program for selected ger blanket manufacturers in 2009 and 2010.</p> <p>(v) Indoor air quality of ger households improved and incidence of respiratory diseases decreased by the end of 2010.</p>

III. Grant Categories of Expenditure, Amounts, and Percentage of Expenditures

Category	Amount of Grant Allocated in \$	Percentage of Expenditures
1. Pilot Project	1,290,000	64.5
2. Equipment and Supplies	22,000	1.1
3. Training, Workshops, Seminars, and Public Campaigns	82,000	4.1
4. Consulting Services	524,600	26.2
5. Grant Management	53,000	2.7
6. Other Inputs	0	0.0
7. Contingencies	28,400	1.4
TOTAL	2,000,000	100.0
Incremental Cost	0	0

JAPAN FUND FOR POVERTY REDUCTION

**JFPR Grant Proposal
Background Information**

A. Other Data	
Date of Submission of Application	June 2008
Project Officer	Teruhisa Oi, Social Development Specialist
Project Officer's Division, E-mail, Phone	East Asia Department, Energy Division, teruhisaoui@adb.org , (632) 632 5706
Other Staff Who Will Need Access to Edit/Review the Report	1. Anthony Maxwell, Environment Specialist 2. Tuul Badarch, Assistant Project Analyst
Sector	Energy
Subsector	Energy sector development
Themes	Inclusive social development, environmental sustainability
Subthemes	Human development, urban environmental improvement
Targeting Classification	Targeted intervention (TI-G)
Was JFPR seed money used to prepare this grant proposal?	Yes [] No [X]
Have SRC comments been reflected in the proposal?	Yes [X] No []
Name of Associated ADB-Financed Operation(s)	Ulaanbaatar Heat Efficiency Project (Loan 1548-MON)
Executing Agency	Ministry of Fuel and Energy
Grant Implementing Agency(ies)	Project Implementation Unit, Ministry of Fuel and Energy Government Building-2, United Nation's Street-5/2 Ulaanbaatar, 210646, Mongolia Tel: 976-11-264379-111 Fax: 976-11-318169

B. Details of the Proposed Grant

1. Description of the Components, Monitored Deliverables and/or Outcomes, and Implementation Timetable

Component A	
Component Name	Business model development, household selection and training
Cost (\$)	305,600
Component Description	<p>A1. Business Model Development. A suitable business model will be developed based on the available data, lessons from other donor activities, and needs assessment. The main focus will be to conduct an affordability analysis to estimate the financial contribution from the ger households for purchasing highly insulated ger blankets, and recommend a sustainable approach for funding the cost gap.</p> <p>A2. Household Selection. The following criteria will be applied to select eligible target households:</p> <p>(i) the annual income of poor households, based on data from the Mongolian Statistics Office;</p> <p>(ii) the gender of household head—among poor households, those headed by women will be given priority;</p>

	<ul style="list-style-type: none"> (iii) the potential for cooperation with the project team, evidenced by a commitment letter from <i>horoo</i> (urban subdistrict) administration office; (iv) the potential for synergies with the World Bank’s proposed “Ulaanbaatar Clean Air Project”; (v) whether households form clusters, thus improving the Project’s environmental impact and monitoring; and (vi) location—priority will be given to ger areas located on the northeastern and western parts of Ulaanbataar, such as Songino Khairhan and Chinggetei subdistricts. <p>The following activities will be conducted to identify the pilot project sites and prepare procurement documents:</p> <p>A2.1. Identification of Target Households. Households will be identified in conjunction with <i>horoo</i> administration offices and the community-based organization (CBO) created under the World Vision and United Nation’s Children’s Fund (UNICEF) Convergent Basic Social Services Program.¹ The project team will work closely with the social worker assigned by the <i>horoo</i> administration office in ranking households for ger blanket replacement.</p> <p>A2.2. Collection of Baseline Data. Sample groups will be selected from ger households to conduct an analysis of with-and-without project scenarios; expenditure data will be collected to analyze the outcome of the Project (e.g., fuel consumption, fuel expenditure, and monthly and/or annual household expenditure). Data will also be collected regarding incidence of diseases and level of indoor pollution.</p> <p>A3. Clean Development Mechanism Assessment. Project eligibility for small-scale emissions reduction under the Clean Development Mechanism (CDM) will be reviewed. If considered eligible, necessary baseline data will be collected, and the project design document (PDD) will be prepared.</p> <p>A4. Preparation of Bidding Documents. Suitable documents will be prepared for economic procurement, inspection, storage and distribution of the highly insulated blankets. The Asian Development Bank (ADB) <i>Procurement Guidelines</i> (2007, as amended from time to time) will be followed.</p>
Monitorable Deliverables/Outputs	<ul style="list-style-type: none"> (i) Developed suitable business model. (ii) Selected about 4,000 target households for ger blanket replacement. (iii) Support letter from <i>horoo</i> administration. (iv) About 400 households will be identified as sample groups for data gathering and analysis. (v) Bidding documents acceptable to ADB.
Implementation of Major Activities: Number of months for grant activities	7 months of heating season (October–April) in 2009 and 2010.

¹ World Vision Mongolia and UNICEF Mongolia have kindly offered help to identify target households on a cost sharing basis.

Component B	
Component Name	Installation of highly insulated ger blankets
Cost (\$)	1,878,500
Component Description	<p>B1. Competitive Bidding, Evaluation of Bids, and Contract Award. After obtaining the consent of the Executing Agency (EA), the consultant will invite bids, evaluate the bids, and award contracts for supply of goods.</p> <p>B2. Training to Local Ger Blanket Manufacturers. The use of ADB procurement procedures with a margin of preference for goods manufactured in the county may result in selection of domestic manufacturers of ger blankets. Mandatory training will be given to ensure that the domestic winning bidders produce quality ger blankets.</p> <p>B3. Replacement of Ger Blanket. Existing blankets will be replaced with highly insulated blankets in around 4,000 selected households in the ger district in Ulaanbaatar.</p>
Monitorable Deliverables/Outputs	<ol style="list-style-type: none"> 1. Bid evaluation report acceptable to ADB. 2. At least one technical training provided each year to manufacturers; quality control system established. 3. Around 4,000 highly insulated ger blankets installed over the two non-heating seasons.
Implementation of Major Activities: Number of months for grant activities	5 months of non-heating season (May–September) in 2009 and 2010
Component C	
Component Name	Grant management, monitoring, auditing, and knowledge dissemination
Cost (\$)	306,500
Component Description	<p>The component will support the following activities: (i) overall project coordination, supervision, management, and reporting; (ii) preparation of work plans, implementation guidelines and procedures for grant financing; (iii) impact assessment; (iv) annual independent external auditing; and (v) final workshop.</p> <p>Impact Assessment. Impact assessment at the household level will be conducted during the heating season, and will be based on the survey of sample groups.</p> <p>Final Workshop. The final workshop will be held jointly with the World Bank. Representatives from concerned agencies will be invited to disseminate the outcomes of the project, and to recommend and seek consensus regarding further actions to attain the goal of the clean air initiative in Ulaanbaatar City. As an output of the workshop, a policy brief, technical note, or best practices note will be prepared as a knowledge product.</p>

Monitorable Deliverables/Outputs	(i) Comprehensive project work plan, implementation schedule and guidelines prepared that adhere to the grant implementation memorandum. (ii) Funds for each component utilized efficiently. (iii) Timely, high-quality reports prepared and submitted on time, including (a) inception, quarterly progress, and completion reports; (b) staff performance evaluations; and (c) financial and poverty impact assessments. (iv) Knowledge product prepared and final workshop held (at the end of the project period).
Implementation of Major Activities: Number of months for grant activities	24 months January 2009–December 2010

2. Financing Plan for Proposed Grant to be Supported by JFPR

Funding Source	Amount (\$)
JFPR	2,000,000
Government	132,000 (including in-kind contribution)
Other Sources (community/donors)	387,000
Total	2,519,000

3. Background

1. Mongolia has an extremely harsh winter climate with an 8-month heating season. Mid-winter (late December and early January) daytime temperatures are -10°C to -30°C , and can drop to as low as -40°C at night. Ulaanbaatar, where more than 60% of the population lives, is the coldest capital city in the world. There is severe winter air pollution in Ulaanbaatar, which is a major cause of the rise in serious respiratory problems among urban inhabitants. An estimated 23% of air pollution comes from ger areas, and is caused by burning low quality coal for space heating in inefficient stoves to heat minimally insulated ger.

2. There has been a major movement into Ulaanbaatar of rural families seeking job opportunities. They create informal settlements (the “ger district”) around the city, where about 60%² of the population (135,000 households) in Ulaanbaatar now live in a combination of small traditional nomadic ger (typically 25 square meters) and small houses (typically 24–32 square meters), which are mostly informally constructed. In 2006, the incidence of poverty in Ulaanbaatar was 20%, compared to the national average of 32%. The total population of Ulaanbaatar is about 1 million; most of its poor residents (204,000 people or 46,000 households) live in the ger district.

3. The Government has passed three resolutions³ relating to the reduction of air pollution in Ulaanbaatar, and improvement of ger insulation is a key activity. The country strategy and program (2006–2008)⁴ identifies inclusive social development as one of the two strategic pillars; better urban services, environment and housing for the poor are targeted as key outcomes.

² Statistics Office of Municipality of Ulaanbaatar, 2007.

³ Ikh Khural parliament resolution #46, 2007; resolution #218, 2007; and resolution #14, 2008.

⁴ ADB. 2005. *Country Strategy and Program (2006–2008)*: Mongolia. Manila.

4. Based on preliminary estimates in 2006, the key contributors to ambient concentrations of particulate pollution are the ger district (23%), power plants (mainly thermal power plant number 3, 34%), and heat-only boilers (16%).⁵ Concentrations of particulates less than 10 micrometers in diameter (PM₁₀, measured in parts per million) are attributable to the burning of about 650,000 tons (t) annually of lignite and other low quality fuels in the ger district. The households use rudimentary steel stoves with simple combustion chambers and short chimneys; the stoves contribute 40%–50% of winter PM₁₀ concentrations. Coal supplied to households is mined mainly from artisanal mines around Nalaikh city, some of which are unlicensed. Both urban ger and small private houses are estimated to use an average of about 5 t of coal (\$125–\$210)⁶ and 1.5 t of fuel wood per year,⁷ primarily for space heating in winter. Recent studies suggest that the energy use in ger and small private houses could be halved with optimal levels of insulation, and halved again with high-efficiency stoves.

5. Ger were traditionally insulated with only one layer of felt in summer and two or even three layers in winter. More recently, prior to 1990, most ger were insulated with either two layers of felt or one layer of felt and a winter insulation blanket of cotton from Central Asian countries. However, since the 1990 post-Soviet Union economic contraction in Central Asia and the adoption of market pricing for Central Asian cotton, this form of insulation is now no longer cost-effective. The existing cotton insulation blankets are now worn out and mostly ineffective. It is estimated that 30% of urban ger (about 41,000 households) are insulated in winter with just a single insulating layer (an R-value of 0.37 for one layer of felt). Ger are generally occupied by families with the lowest incomes and no savings, whose winter incomes are often limited. The poor insulation forces households to spend MNT1,000–MNT2,000 (\$1–\$2) daily to purchase about 25 kilograms (kg) of domestic fuel. This expense accounts for over 50% of average household income.

6. The air pollution-related health impacts are also on the rise in Ulaanbaatar. The particulates (PM₁₀, PM_{2.5}, and secondary PM due to sulfur dioxide and nitrogen oxide emissions) cause negative health effects when inhaled by people working and living indoors, where cooking and heating is done using coal. These health effects include premature death, acute respiratory illness, aggravated asthma, chronic bronchitis and decreased lung function. Those especially at risk include the poor, undernourished, very young and very old, and people with preexisting respiratory disease and other ill health. In ger areas where population density is high and there is a high concentration of coal combustion units, the concentration of indoor and outdoor particulate matter in winter greatly exceeds the World Health Organization standard, and the incidence rates for related health effects are much higher than in other areas.

7. The United Nations Development Programme (UNDP) pilot-tested highly insulated ger blankets⁸ in 440 ger under the Commercialization of Super-Insulated Buildings in Mongolia⁹ project in 2005 and 2006. It was rated as a very successful project according to an independent

⁵ Guttikinda, Sarath. 2007. *Urban Air Pollution Analysis for Ulaanbaatar*. New Delhi.

⁶ Cost of 1 t of coal ranges from MNT30,000 to MNT50,000 (\$25–\$42).

⁷ Mongolia Environment Monitor, 2004.

⁸ Sandwich-type coverings (roof, wall, door, and floor) consist of a waterproof cloth surface, 2 layers of synthetic cotton and carded wool. Heat transmission resistance is $R = 2.6 \text{ m}^2 \text{ K/W}$, and the frequency of air exchange $\text{ACH} = 20$. Current ger insulation value for a single layer is $R = 0.5 \text{ m}^2 \text{ K/W}$. The ger blanket technical standard was approved in November 2007. The variables used above are defined as follows: ACH = air exchange rate, K = Kelvin, m^2 = square meter, R = thermal resistance, W = watt.

⁹ United Nations Development Programme-Global Environment Facility (UNDP-GEF). 2000. *Commercialization of Super Insulated Buildings in Mongolia*. Washington, DC. Financed by UNDP-GEF with a total budget (including cofinancing) of \$1.8 million.

evaluation in February 2007.¹⁰ Household fuel consumption was lowered by a factor of between 2 and 3: households saved MNT110,000–MNT180,000 (\$90–\$150) annually in fuel expenditures, accounting for 30%–50% of their annual expenditures.¹¹ Households also reduced their solid wastes by 200 to 600 kg/year. The aggregate carbon dioxide emission reduction by the sample of 390 ger was 1,462.5 t/year, according to a survey by the Mongolian University of Sciences and Technology. However, it is estimated that there are still about 41,000 poor households living in under-insulated ger in Ulaanbaatar.

8. The proposed Japan Fund for Poverty Reduction (JFPR) Project will provide highly insulated ger blankets¹² to the poor households in Ulaanbaatar to reduce consumption of fuel for space heating, thereby reducing urban pollution during winter, and household expenditure on fuel, allowing the savings to be used for education and food. There are several domestic small- and medium-sized enterprises that produce highly insulated ger blankets, and the proposed JFPR Project will increase demand. Without the proposed Project, poor households will continue to live in under-insulated ger and use the same amount of coal in winter, thereby sustaining current urban pollution levels. The proposed Project complements the proposed World Bank's "Ulaanbaatar Clean Air Project", preparation of which started in 2007. The components of the World Bank's proposed project are: (i) stove replacement and support for a transition to cleaner fuels (briquettes) for 120,000 households in the ger district; (ii) retrofitting of small heat-only boilers; and (iii) institutional capacity strengthening for effective air quality management in Ulaanbaatar.

9. CBOs established by World Vision Mongolia and UNICEF's Convergent Basic Social Service Program will be involved in identifying the beneficiaries and mitigating the risk of reselling ger blankets. A further CDM application will be examined during Project implementation.

4. Sustainability

10. A current assessment of four sustainability criteria is described below.

11. **Technical Sustainability.** UNDP has pilot-tested the installation of highly insulated ger blankets in 440 ger under the Commercialization of Super-Insulated Buildings in Mongolia project in 2005 and 2006 (footnotes 8 and 9). It was rated as a very successful project and technically robust, according to an independent evaluation in February 2007; the fuel consumption in modified ger was reduced by a factor of between 2 and 3.

12. **Financial Sustainability.** Although people in the ger district appreciate the highly insulated blanket, poor households cannot afford to pay the full cost, and subsidies will need to be extended to target poor households. It is proposed that target households contribute some 30% of the cost of the blankets, with the remaining 70% subsidized under the proposed JFPR Project, to ensure ownership and improve replicability. The amount of the subsidy will be

¹⁰ United Nations Development Programme-Global Environment Facility (UNDP-GEF). 2007. *Final Independent Evaluation Report on the Commercialization of Super Insulated Buildings in Mongolia*. Washington, DC.

¹¹ The minimum level of standard of living per household in Ulaanbaatar is estimated by the government to be about \$2,644 per year (National Statistics 2007). Average annual income per household in one particular ger subdistrict is \$300, according to the field visit on 2 November 2007.

¹² One highly insulated blanket costs about \$323 (MNT376,000), compared with \$335 (MNT400,000) for a conventionally made felt blanket. The highly insulated blanket is also lighter than a conventional felt blanket. The Project will provide blankets, which have a lifespan of about 10 years, to about 4,000 households.

subject to review depending on actual affordability by households, with affordability assessed through a baseline survey. Contributions from the pilot households will be pooled as a special fund managed by the Ministry of Fuel and Energy (MOFE), with the fund used to provide ger blankets to additional households (outside the Project).¹³ The detailed guidelines for the fund will be determined at the beginning of project implementation, and mutually agreed upon by ADB, MOFE, and the Ministry of Finance.

13. **Environmental Sustainability.** Implementation of the Project will reduce the fuel consumption of and emissions from the target ger by 50%. The amount of solid waste produced by household will also be reduced (by 200 to 600 kg/year). The emission reductions from ger households will greatly contribute to improved air quality and public health in Ulaanbaatar.

14. **Scaling Up and Exit Strategy.** It is expected that this Project can be replicated using funds from the national budget and private banks, and foreign assistance. The business model developed under this Project will be based on a study of the requirements of local private banks (e.g., Xac Bank), and will recommend approaches for extending loans (i) to households in the ger area for the purchase of ger blankets, and (ii) to ger blanket manufacturers for business expansion. Towards the end of the Project, an information dissemination workshop will be held to market this model, with appropriate government officials and representatives of international donor agencies invited.

5. Participatory Approach

15. The project steering committee, represented by the concerned ministries, will be a decision-making body for project implementation. In order to extend the project benefits to the neediest households in Ulaanbaatar, target households will be identified by the project implementation unit (PIU) based on the aforementioned selection criteria (section B-1, A2). When selecting target households, the PIU, supported by the consulting team, will work closely with (i) the horoo administration office, and in particular the office's social workers, who has extensive knowledge about community situation; and (ii) CBOs established by the World Vision Mongolia. A needs assessment to plan the detailed project implementation at the community level will be conducted as part of the business model development activity, prior to replacement of the existing ger blankets.

Primary Beneficiaries and Other Affected Groups and Relevant Description	Other Key Stakeholders and Brief Description
<p>Ger Households Primary beneficiaries of the project are the poor ger households. Most migrants are from rural area looking for jobs in the city. They have remained economically disadvantaged, with annual incomes around \$300.</p>	<p>A Project Steering Committee The project steering committee is the decision-making body of the proposed Japan Fund for Poverty Reduction Project, which will be represented by relevant ministries.</p> <p>CBOs and Horoo Administration Office Community-based organizations (CBOs) will be represented by the local people; these were created in each district and are supported by World Vision Mongolia. The horoo administration office is part of the government administration system, and a social officer is assigned in each horoo. CBOs and the horoo administration office will assist in identifying beneficiaries.</p>

¹³ The budget for blankets under the proposed JFPR Project is \$1.29 million, which is sufficient for 4,000 blankets, given an estimated cost per blanket of \$323. It is assumed that targeted households will contribute 30% of the cost, which will be collected over a 1-year period. The money collected will be used to provide blankets to additional ger households, increasing the total estimated number of blankets distributed to about 5,700.

6. Coordination

16. Project preparation has involved field visits and interviews as well as consultations with the Ministry of Environment, Ministry of Construction and Urban Development, MOFE, Ulaanbaatar city government, Japan International Cooperation Agency, Energy Conservation Center (an NGO), the World Bank, UNDP, Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) and the Embassy of Japan in Mongolia.¹⁴ The other key external agencies involved in ger heating and insulation improvement in Ulaanbaatar are UNDP and the World Bank. UNDP has pilot tested the installation of highly insulated ger blankets in 440 ger under the Commercialization of Super-Insulated Buildings in Mongolia project in 2005 and 2006 (footnote 9). The World Bank has been preparing a project to introduce improved ger stoves with better combustion for ger residents. The proposed World Bank Mongolia Ulaanbaatar Clean Air Project will target 120,000 households for stove replacement in the ger district; it is expected that households included in the proposed JFPR Project will also be beneficiaries of the World Bank's project, maximizing the impact of the two projects.

7. Detailed Cost Table

17. The total cost of the Project will be \$2,519,000 equivalent. ADB will contribute \$2,000,000, financed on a grant basis by the JFPR and administered by ADB. The Government will finance \$132,000 in local currency costs through in-kind contributions, including office accommodation and facilities, counterpart staff and data and other information needed for the Project. Other sources, i.e., contributions from target households and donors, will contribute the remaining \$387,000. A summary cost table and detailed cost estimates are in Appendix 2 and the fund flow arrangement in Appendix 3.

C. Linkage to ADB Strategy and ADB-Financed Operations

1. Linkage to ADB Strategy

Document	Document Number	Date of Last Discussion	Objective(s)
Economic growth support and poverty reduction strategy		2003	The Government has identified that air pollution threatens people's right to live in a healthy and safe environment in Ulaanbaatar, and it is one of the main issues to be addressed in the economic growth support and poverty reduction strategy.
Country Strategy and Program (2006–2008)	Sec.M68-05	23 August 2005	The country strategy and program identifies inclusive social development as one of the two strategic pillars, and lack of civic amenities (including heating) as a constraint. A substantial improvement in the supply of heating is targeted as an outcome of the country strategy and program.
Country Operations Business Plan (2008–2010)	IN. 315-07	29 November 2007	Further, the country operations business plan seeks additional Japan Fund for Poverty Reduction resources to complement the program particularly in, inter alia, environment management and urban development.

¹⁴ The reconnaissance mission consulted Mr. Hiroyuki Kobayashi (counselor) and Mr. Takahiro Ishizaki (first secretary) of the Embassy of Japan, Mongolia in November 2007, who responded favorably.

2. Linkage to Specific ADB-Financed Operation

Project Name	Ulaanbaatar Heat Efficiency Project
Project Number	1548-MON(SF)
Date of Board Approval	25 September 1997
Loan Amount (\$ million)	40

18. The Ulaanbaatar Heat Efficiency Project provided improvements to the centralized district heating system, while the proposed JFPR Project will provide heating-related assistance for residents not connected to the centralized district heating, who use inefficient independent heating equipment and poorly insulated housing materials.

3. Development Objective of the Associated ADB-Financed Operation

19. Preliminary investigation for the Project was carried out by the Mongolian national technical expert team under an ADB-funded regional technical assistance project.¹⁵ The Ulaanbaatar Heat Efficiency Project was closed on 1 March 2007. It provided resources for improvement of district heating in Ulaanbaatar.¹⁶

4. List the Main Components of the Associated ADB-Financed Operation

a. Ulaanbaatar Heat Efficiency Project

No.	Component Name	Brief Description
1.	Conversion of the district heating system to variable flow operation.	1.1 Installation of variable speed pumps, substation heat exchanger units, pressure controllers for the ventilation system, a distribution pipeline, and hot water meters.
2.	Consumer-end heat control, and metering and billing improvement.	2.1 Installation of meters, allocators, and valves. 2.2 Design and implementation of a new billing system.

5. Rationale for Grant Funding versus ADB Lending

20. Although people in ger district, whose annual income is about \$300, appreciate the effectiveness of the highly insulated blankets, they are unable to afford the total cost of the blankets (\$323), which must be subsidized for low income households; use of the blankets will reduce the fuel expenditures and improve living conditions of ger residents, making grant financing appropriate.

D. Implementation of the Proposed Grant

1. Provide the Name of the Implementing Agency	Project Implementation Unit, Ministry of Fuel and Energy
-------------------------------------------------------	----------------------------------------------------------

¹⁵ ADB. 2000. *Technical Assistance for the Promotion of Renewable Energy, Energy Efficiency, and Greenhouse Gas Abatement Project*. Manila.

¹⁶ Lessons from the loan project are incorporated into the JFPR project design (e.g., paying close attention to the implementation schedule due to the limited construction period, and strengthening monitoring of project accounts).

21. **Project Management.** The Government of Mongolia is the Grant Recipient. MOFE is the EA, and the Implementing Agency (IA) is the MOFE PIU. A steering committee consisting of representatives from MOFE, Ulaanbaatar municipal government, the Ministry of Finance (MOF), and nongovernmental organizations will be established to coordinate inter-ministerial activities and guide the PIU. The implementation arrangements are in Appendix 4, and the implementation schedule in Appendix 5.

22. **Procurement.** All procurement under the Project will be conducted in accordance with ADB's *Procurement Guidelines* (2007, as amended from time to time). Procurement of goods for the Project will be through international competitive bidding, national competitive bidding or shopping. Before commencing procurement, ADB and the Government will review the Government's procurement procedures to ensure consistency with ADB requirements. Any necessary modifications of or clarifications to the Government's procedures will be documented in the procurement plan. The indicative procurement plan is in Appendix 6.

23. **Consulting Services.** The total input of international and national experts will be 14 and 52 person-months, respectively. The consultant will procure the office equipment and will deliver them to the EA at the conclusion of the Project. The consulting firm (including international and local consultants) will be recruited by ADB in accordance with ADB's *Guidelines on the Use of Consultants* (2007, as amended from time to time) using quality- and cost-based selection to provide the services for implementation, management and progress monitoring of the Project. Required experts and a draft outline terms of reference for consulting services are in Appendix 7.

24. **Disbursement Arrangements.** The EA and IA will adopt either of the following disbursement procedures for withdrawal of proceeds of the Project in accordance with ADB's *Loan Disbursement Handbook* (2007, as amended from time to time): (i) a direct payment procedure, wherein ADB, at the request of the Government, pays a designated beneficiary directly; or (ii) an imprest fund procedure, where ADB makes an advance disbursement from the project account for deposit to an imprest account to be used exclusively for ADB's share of eligible expenditures. The financial management capacity of the EA (i.e., its administrative and accounting capability to establish adequate internal control, accounting and auditing procedures) will be assessed to ensure efficient use and operation of the imprest account.

2. Risks Affecting Grant Implementation

Type of Risk	Brief Description	Measure to Mitigate the Risks
Governance	Problems of corruption associated with low pay and weak governance.	ADB policies and guidelines on anticorruption, procurement, financial reporting and independent auditing will be strictly adhered to. Capacity building will focus on transparency, accountability, performance level benchmarking, and financial management by the project manager.
Delay in implementation	Low production capacity of local ger blanket manufacturers.	The consultant will analyze the capacity of local ger blanket manufacturers in terms of production, human resources, and finances. If there is a shortfall, the consultant will provide necessary advisory support and enable timely payments against delivery of goods.

3. Incremental ADB Costs

Component	Incremental ADB Cost
Amount requested	\$0
Justification	Not applicable
Type of work to be rendered by ADB	Not applicable

4. Monitoring and Evaluation

Key Performance Indicator	Reporting Mechanism	Plan and Timetable for M&E
Ger fuel consumption reduced by 50% by the end of 2010.	Consultant midterm and final report	2010
Highly insulated blankets provided to about 4,000 households by the end of 2010.	Consultant final report	2010
Suitable business model by the end of 2010 to provide ger blankets for remaining households.	Consultant final report	2010
At least one training provided to selected ger blanket manufacturers in 2009 and 2010.	Consultant midterm and final report	2009 and 2010
Indoor air quality of ger households increased and incidence of respiratory diseases decreased by the end of 2010.	Consultant midterm and final report	2009 and 2010

5. Estimated Disbursement Schedule

Fiscal Year	Amount (\$)
2009	750,000
2010	1,250,000
Total Disbursements	2,000,000

 Appendices

1. Design and Monitoring Framework
2. Summary Cost Table and Cost Estimates and Financing Plan
3. Fund Flow Arrangement
4. Implementation Arrangements
5. Implementation Schedule
6. Indicative Procurement Plan
7. Outline Terms of Reference for Consultants
8. Summary Poverty Reduction and Social Strategy

DESIGN AND MONITORING FRAMEWORK

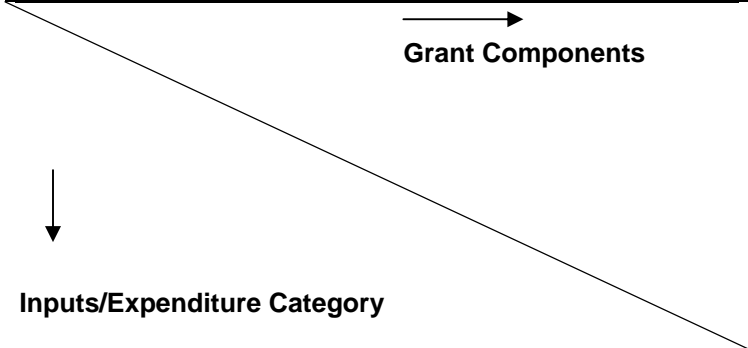
Design Summary	Performance Targets and/or Indicators	Data Sources and/or Reporting Mechanisms	Assumptions and Risks
<p>Impact</p> <p>Quality of life in ger housing area is improved through improved air quality in Ulaanbaatar</p>	<p>Air quality in Ulaanbaatar is improved by the end of 2010</p> <p>2006 baseline: annual total PM₁₀ = 98.5 kton, PM_{2.5} = 43.5 kton, SO₂ = 23.3 kton, NOx = 53.2 kton.^a</p>	<p>Government statistical data (air quality)</p>	<p>Assumptions</p> <ul style="list-style-type: none"> Project implemented in a timely fashion Outcome of other donor's projects is as expected <p>Risk</p> <ul style="list-style-type: none"> Political instability and frequent policy changes
<p>Outcome</p> <p>Coal and firewood consumption in ger households in Ulaanbaatar reduced</p>	<p>Ger fuel consumption reduced by 50% by the end of 2010</p>	<p>Consultant's final report (sample household survey)</p>	<p>Assumption</p> <ul style="list-style-type: none"> No additional poorly insulated ger or house is owned by the household <p>Risk</p> <ul style="list-style-type: none"> Newly introduced smokeless briquette does not produce the same heat value as conventional raw coal
<p>Outputs</p> <p>Ger insulation is improved</p> <p>Recommendation for replicating the project</p>	<p>Highly insulated blankets provided to around 4,000 households by the end of 2010</p> <p>Knowledge product prepared and discussed during the final workshop</p>	<p>Consultant progress reports</p> <p>Workshop report</p>	<p>Assumptions</p> <ul style="list-style-type: none"> Willingness of households to improve ger blanket insulation Quality of ger blanket manufactured by a local company is up to national standard
<p>Activities with Milestones</p> <ol style="list-style-type: none"> Develop business model (needs and affordability assessment) (by the end of January 2009). Select the eligible households and conduct baseline survey (by the end of February 2009 and February 2010). Prepare bidding documents (by the end of March 2009 and March 2010). Approve bidding documents (by the end of April 2009 and April 2010). Evaluate bidding documents and award the contract (by the end of May 2009 and May 2010). Provide training to ger blanket manufacturers (in May 2009 and May 2010). Manufacture the highly insulated ger blankets (by the end of August 2009 and August 2010). Distribute the highly insulated ger blankets (by mid-September 2009 and mid-September 2010). Conduct impact survey (in November 2009 and November 2010). Conduct information dissemination workshop and prepare knowledge product (in December 2010). 			<p>Inputs</p> <p>ADB-JFPR: \$2.0 million</p> <ul style="list-style-type: none"> Installation of highly insulated ger blanket: \$1.29 million Consulting services: \$0.53 million Others: \$0.18 million <p>Government: \$132,000 Community: \$387,000</p>

ADB = Asian Development Bank, JFPR = Japan Fund for Poverty Reduction, kton = 1,000 tons, NOx = nitrogen oxide, PM_{2.5} = parts per million of particulate matter having a size of less than 2.5 micrometers, PM₁₀ = parts per million of particulate matter having a size of less than 10 micrometers, SO₂ = sulfur dioxide.

^a Urban Air Pollution Analysis for Ulaanbaatar, June 2007.

SUMMARY COST TABLE AND DETAILED COST ESTIMATES

Table A2.1: Summary Cost Table
(\$)

 Grant Components Inputs/Expenditure Category	Business Model, Household Selection, and Training	Installation of Highly Insulated Ger Blankets	Grant Management, Monitoring, Auditing, and Knowledge Dissemination	Total (Input)	Percent
1. Pilot Project	0	1,290,000	0	1,290,000	64.5
2. Equipment and Supplies	0	0	22,000	22,000	1.1
3. Training, Workshops, Seminars, and Public Campaigns	42,000	0	40,000	82,000	4.1
4. Consulting Services	263,600	201,500	59,500	524,600	26.2
5. Grant Management	0	0	53,000	53,000	2.7
6. Other Inputs	0	0	0	0	0
7. Contingencies (0%–10% of total estimated grant fund) ^a Use of contingencies requires prior approval from ADB.	9,467	9,467	9,467	28,400	1.4
Subtotal JFPR Grant Financed	315,067	1,500,967	183,967	2,000,000	100.0
Government Contribution	0	0	132,000	132,000	
Community's Contributions (mostly in kind)	0	387,000	0	387,000	
Total Estimated Costs				2,519,000	
Incremental Costs					

ADB = Asian Development Bank, JFPR = Japan Fund for Poverty Reduction.
Source: Asian Development Bank estimates.

Table A2.2: Detailed Cost Estimates
\$

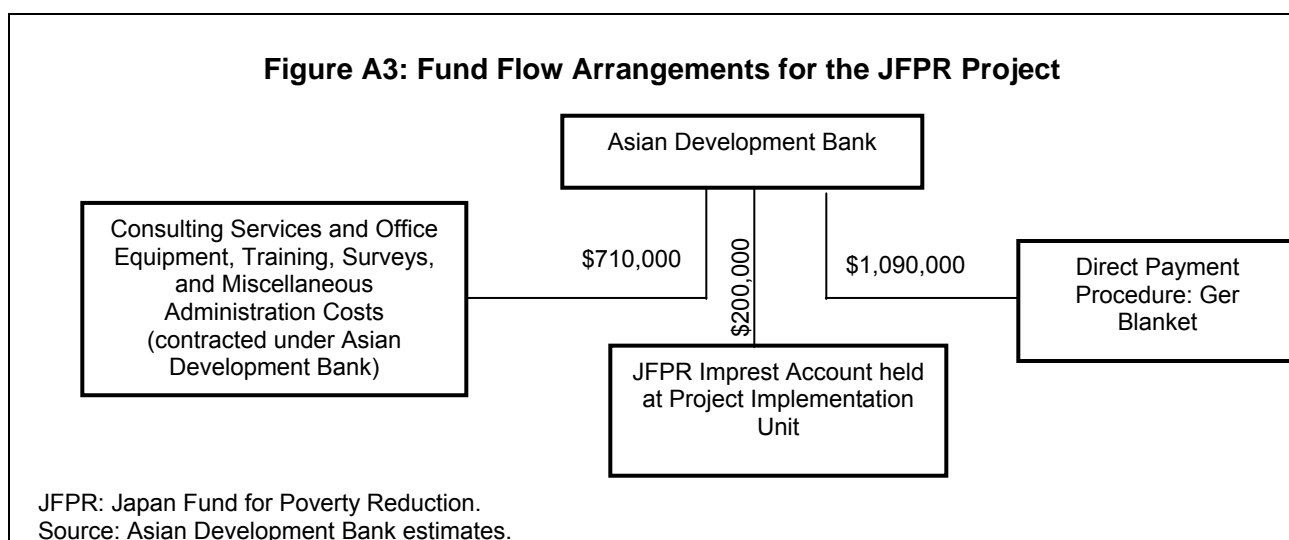
Code	Supplies and Services Rendered	Costs					Contributions				
		Unit	Qty Units	Cost Per Unit	Total	Percent	JFPR		Gov't	Other Donors	Com
							Amount	Method of Procurement			
Component A: Business Model Development, Household Selection, and Training				Subtotal	305,600		305,600		0	0	0
1.1	Training, Workshops, and Seminars										
1.1.1	Training to manufactures	L-s	1	30,000	30,000	1.5	30,000				
1.2	Consulting Services										
	International Consultants		9			184,500					
1.2.1	Heat engineer (team leader)	P-m	4	20,500	82,000	4.1	82,000				
1.2.2	Community development specialist	P-m	3	20,500	61,500	3.1	61,500				
1.2.3	CDM specialist	P-m	2	20,500	41,000	2.1	41,000				
	National Consultants		18			45,000					
1.2.4	Heat engineer (national team leader)	P-m	8	2,500	20,000	1.0	20,000				
1.2.5	CDM specialist	P-m	4	2,500	10,000	0.5	10,000				
1.2.6	Community development specialist	P-m	6	2,500	15,000	0.8	15,000				
1.3	Surveys										
1.3.1	Baseline survey	P-m	6	2,000	12,000	0.6	12,000				
1.4	Management and Coordination of this Component										
1.4.1	International travel	Trip	4	2,000	8,000	0.4	8,000				
1.4.2	Per diem for international consultants	Day	270	80	21,600	1.1	21,600				
1.4.3	Per diem for national consultants	Month	18	250	4,500	0.2	4,500				
Component B: Installation of High Insulated Ger Blankets				Subtotal	1,878,500	93.9	1,491,500		0	0	387,000
2.1	Equipment and Supplies for Pilot Projects										
2.1.1	High insulation ger blanket	No.	4,000	419	1,677,000	83.9	1,290,000				387,000
2.2	Consulting Services										
	International Consultants		5			102,500					
2.2.1	Heat engineer (team leader)	P-m	3	20,500	61,500	3.1	61,500				
2.2.2	Community development specialist	P-m	2	20,500	41,000	2.1	41,000				
	National Consultants		20			50,000					
2.2.3	Heat engineer (national team leader)	P-m	10	2,500	25,000	1.3	25,000				
2.2.4	Community development specialist	P-m	10	2,500	25,000	1.3	25,000				

Code	Supplies and Services Rendered	Costs					Contributions				
		Unit	Qty Units	Cost Per Unit	Total	Percent	JFPR		Gov't	Other Donors	Com
							Amount	Method of Procurement			
2.3	Management and Coordination of this Component										
2.3.1	International travel	Trip	4	2,000	8,000	0.4	8,000				
2.3.2	National travel	Month	12	2,000	24,000	1.2	24,000				
2.3.3	Per diem for international consultants	Day	150	80	12,000	0.6	12,000				
2.3.4	Per diem for national consultants	Month	20	250	5,000	0.3	5,000				
Component C: Grant Management, Monitoring, Auditing, and Knowledge Dissemination				Subtotal	306,500	15.3	174,500		132,000	0	0
3.1	Office Equipment and Supplies					22,000					
3.1.1	PC, printer, scanner, copying machine, furniture	L-s	1	22,000	22,000	1.1	22,000				
3.2	Training, Workshops, and Seminars										
3.2.1	Final Workshop	L-s	1	30,000	30,000	1.5	30,000				
3.3	Consulting Services (e.g., for management and monitoring/assessments)										
3.3.1	External audit	No.	3	10,000	30,000	1.5	30,000				
3.3.2	Project account management specialist (national)	P-m	14	2,500	35,000	1.8	35,000				
3.4	Surveys										
3.4.1	Impact survey	P-m	5	2,000	10,000	0.5	10,000				
3.5	Management and Coordination of this Component										
3.5.1	PIU project head	P-m	24	2,000	48,000	2.4	0		48,000		
3.5.2	PIU project officers	P-m	24	1,500	36,000	1.8	0		36,000		
3.5.3	PIU bilingual project administrator	P-m	24	750	18,000	0.9	18,000				
3.5.4	Per diem for national consultants	Month	14	250	3,500	0.2	3,500				
3.5.5	Domestic transportation	L-s	1	3,000	3,000	0.2	3,000				
3.5.6	Office rent at Ulaanbaatar	Month	24	2,000	48,000	2.4	0		48,000		
3.5.7	Reports and communications	L-s	1	8,000	8,000	0.4	8,000				
3.5.8	Miscellaneous administration and support costs	L-s	1	15,000	15,000	0.8	15,000				
Components A to C = Subtotal				Subtotal	2,490,600		1,971,600		132,000	0	387,000
Contingency (Maximum 10% of total JFPR Contribution)					28,400		28,400		0	0	0
TOTAL Grant Costs				Total	2,519,000		2,000,000		132,000	0	387,000
Incremental Cost Details							0				

Com = communities, Gov't = government, JFPR = Japan Fund for Poverty Reduction, L-s = lump sum, P-m = person-month, Qty = quantity.

FUND FLOW ARRANGEMENT

1. The Executing Agency (EA) and implementing agencies will adopt either of the following disbursement procedures for withdrawal of proceeds of the grant, in accordance with the Asian Development Bank (ADB) *Loan Disbursement Handbook* (2007, as amended from time to time): (i) a direct payment procedure,¹ wherein ADB, at the request of the Government, pays a designated beneficiary directly; and (ii) an imprest fund procedure, wherein ADB makes an advance disbursement from the grant account for deposit to an imprest account at a commercial bank acceptable to ADB, to be used exclusively for ADB's share of eligible expenditures. The advance provided in the imprest account should not exceed 10% of the total Japan Fund for Poverty Reduction (JFPR) grant or estimated expenditure for the next 6 months to be financed through the imprest account, whichever is lower. The statement of expenditures (SOE) procedure will be used to liquidate and replenish the imprest account. The SOE procedure will apply for individual payments under \$10,000, to ensure speedy project implementation.
2. ADB will channel JFPR funds directly to a JFPR imprest account, which will be opened and maintained by the project implementation unit (PIU) in the Ulaanbaatar city government, at a bank endorsed by the EA and acceptable to ADB, to facilitate day-to-day local expenditures of the JFPR Project. The EA will be kept informed by the PIU about all transactions, and receive copies of all financial statements and audit reports, including an opinion on the use of imprest fund and SOE procedures. The JFPR imprest account will be managed by the PIU on the basis of a co-signatory arrangement with the Ministry of Finance, initially based on the first 6-month activity plan and related budget, and afterwards based on the approved annual work plan and budget.
3. Detailed implementation arrangements, such as the flow, replenishment, and administrative procedures will be detailed in the grant implementation memorandum, and will be established between ADB and the Government through the JFPR letter of agreement. The schematic fund flow for the JFPR Project is shown in Figure A3.



¹ This method is suggested for purchasing equipment for ger blankets and consulting services.

IMPLEMENTATION ARRANGEMENTS

1. The detailed grant implementation memorandum will be prepared by the project implementation unit (PIU) in consultation with the Asian Development Bank (ADB) and agreed upon with the Ministry of Fuel and Energy (MOFE) and Ministry of Finance (MOF) before project inception. The grant implementation memorandum will further detail the implementation and procurement arrangements.

A. Grant Organization and Management

1. Executing Agency

2. The MOFE will be the Executing Agency (EA) of the proposed Japan Fund for Poverty Reduction (JFPR) Project. The MOFE will have overall responsibility for project management.

2. Implementing Agency

3. The implementing agency (IA) will be the MOFE PIU supported by the horoo administration offices. The IA will (i) monitor the progress of day-to-day project implementation, (ii) prepare withdrawal applications, (iii) prepare project progress reports, and (iv) maintain project accounts and complete grant financial records for auditing the Project. The PIU head, who is acceptable to ADB and has adequate experience in project management, will be responsible for the overall project management, and a deputy PIU head will be responsible for supervising the day-to-day implementation activities. Two additional staff members (an accountant and administrative assistant-interpreter) will be added to the PIU to ensure that it has sufficient capacity to implement the JFPR Project.

3. Steering Committee

4. A project steering committee will be chaired by MOFE and will include representatives from the ministries of finance and natural environment, and Ulaanbaatar city government.

B. Subprojects Selection Criteria

5. The following selection criteria will be applied to select eligible target households:
- (i) the annual income of poor households, based on data from the Mongolian Statistics Office;
 - (ii) the gender of household head—among poor households, those headed by women will be given priority;¹
 - (iii) the potential for cooperation with the project team, evidenced by a commitment letter from horoo (urban subdistrict) administration office;
 - (iv) the potential for synergies with the World Bank’s proposed “Ulaanbaatar Clean Air Project”;
 - (v) whether households form clusters, thus improving the Project’s environmental impact and monitoring; and
 - (vi) location—priority will be given to the ger areas located on the northeastern and western parts of Ulaanbataar, such as Songino Khairhan and Chinggetei districts.

¹ Large families, especially households headed by women, are considered a vulnerable group according (Center for Human Rights and Development. 2006. *Report of Participatory Poverty Assessment on Peri-Urban Ger Area of Ulaanbatar*. Ulaanbatar.

C. Compliances

Anticorruption

6. The JFPR Project shall (i) undertake necessary measures to create and sustain a corruption-free environment; and (ii) ensure that Mongolia's anticorruption laws and regulations and ADB's *Anticorruption Policy* (1998, as amended to date) are strictly enforced during project implementation.

D. Implementation Schedule

7. The Project, which will be carried out over 24 months, is expected to begin in January 2009 and will be completed by December 2010. The detailed implementation schedule is in Appendix 5.

E. Procurement

1. Equipment

8. All procurement shall be in accordance with ADB's *Procurement Guidelines* (2007, as amended from time to time). Contracts for goods estimated to cost \$0.5 million or more shall be procured using international competitive bidding (ICB) procedures. Contracts for goods estimated to cost between \$500,000 and \$100,000 shall be procured on the basis of national competitive bidding (NCB) procedures in accordance with the Public Procurement Law of Mongolia, subject to modifications agreed with ADB. Contracts for goods estimated to cost \$100,000 or less shall be procured using shopping procedures. For ICB, invitations for bids, invitations for prequalification, draft prequalification documents, draft bidding documents, prequalification and bid evaluation reports are to be submitted to ADB for prior review and approval. For NCB, the first draft English-language version of the procurement documents should be submitted for ADB review and approval regardless of the estimated contract amount. The ADB-approved procurement documents should then be used as a model for all NCB procurement financed by ADB for the project, and need not be subjected to further review. ADB will review the bid evaluation report and award of contract on a post-review basis. For shopping, ADB will review the award of contract on a post-review basis. An indicative procurement plan is in Appendix 6.

2. Consulting Services

9. The total input of international and national consultants will be 14 and 52 person-months, respectively. The consultant will procure the office equipment and will deliver the equipment to the EA at the conclusion of the Project. The consulting firm (including international and national consultants) will be recruited by ADB using quality- and cost-based selection² with full technical proposal in accordance with ADB's *Guidelines on the Use of Consultants* (2007, as amended from time to time) to provide implementation, management and progress monitoring services for the Project. The draft outline terms of reference for consulting services are in Appendix 7.

² Quality and cost ratio is 80:20.

3. Bid Evaluation Committee

10. A bid evaluation committee must be established to ensure the process by which equipment for the pilot projects is procured is transparent. It is recommended that members include (at a minimum) delegates from the consultant, EA, IAs, and ADB.

F. Disbursement Arrangements

1. Disbursement Procedures

11. The EA and IAs will adopt either of the following disbursement procedures for withdrawal of proceeds of the grant in accordance with ADB's *Loan Disbursement Handbook* (2007, as amended from time to time): (i) a direct payment procedure, wherein ADB, at the request of the Government, pays a designated beneficiary directly; or (ii) an imprest fund procedure, wherein ADB makes an advance disbursement from the grant account for deposit to an imprest account at a commercial bank acceptable to ADB, to be used exclusively for ADB's share of eligible expenditures. The total advances at any time are not to exceed the estimated expenditure for the next 6 months or 10% of the JFPR grant amount, whichever is lower.

2. Reallocation of Funds by Expenditure Categories or Components

12. Reallocation of grant funds would be carried out as follows:

- (i) For reallocations in approved expenditure categories equal to 30% or less of the budgeted amount, the EA must seek advice from ADB.
- (ii) For reallocations to new eligible expenditure categories totaling up to 10% of the grant amount, a request must be submitted to ADB for approval.
- (iii) For reallocations that exceed 30% of budgeted amounts in approved expenditure categories, or for adding a new expenditure category that exceeds 10% of the grant amount, a request must be sent to ADB for submission to the Government of Japan. The Government of Japan would provide its approval or rejection within 4 weeks from its receipt of the request from ADB. The amendment should be endorsed by ADB.

3. Changes in Scope of Grant

13. Where a change is needed in the grant component, ADB should be consulted if any amendments and/or clearances are required as described below:

- (i) For small changes in the activities supported by the grant (e.g., a change of up to 30% of the amount for a component, as budgeted in the background information, is considered to be small), the EA should consult ADB if an amendment is required.
- (ii) For significant changes in the grant components, the request must be approved by ADB. Significant changes are defined as: (a) a change of more than 30% in the amount of a component, or (b) adding a new component. For significant changes in the grant development objectives, the request must be sent to ADB, which will determine if approval by the Government of Japan is required. The Government of Japan would provide its approval or rejection within 4 weeks from its receipt of a request from ADB. The amendment should be cleared and approved by ADB.

G. Reporting Requirements

1. Monthly Progress Report by E-mail

14. The consultant will prepare monthly progress reports addressing project implementation progress, problems, and concerns. The reports should be concise, and kept to a maximum of five pages. Reports should be circulated by e-mail to the EA, IAs, MOF, ADB, and the Embassy of Japan in Mongolia.

2. JFPR Status Report to ADB

15. ADB requires that a semiannual JFPR status report be submitted to ADB.

3. Audited Grant Accounts

16. The international consultant will maintain separate accounts for all project components financed by JFPR and the Government and have these audited by an independent auditor that has adequate knowledge and experience of international accounting practices and is acceptable to ADB. The audited project accounts and the auditor's reports will be furnished to ADB within 6 months after the end of each financial year. The Government has been informed of ADB's requirement regarding the timely submission of audited project accounts and financial statements, including the suspension of disbursements in case of noncompliance. The audit report should include a separate opinion on the use of the imprest account and the SOE procedures. ADB will also finance, through the Project, annual audits through an independent audit company acceptable to ADB.

4. Implementation Completion Memorandum

17. The project implementation completion memorandum should be prepared by the EA within 6 months after the grant closing date.

H. Grant Monitoring and Evaluation

1. Contract Awards/Commitments and Disbursement Projections

18. Consistent with the project schedule, the disbursement of the JFPR fund is spread over the implementation period, with the corresponding disbursement amount for each year to be detailed in the inception report.

2. Grant Reviews

19. To determine the efficiency and effectiveness of the use of the grant, grant reviews will be conducted by the EA and ADB through semiannual project review missions. Such reviews will ensure that the grant is used prudently in each stage of project implementation.

3. Monitoring Indicators

20. The monitoring indicators will be composed of component output indicators, and project benefit indicators (key performance indicators). These indicators must be referenced in all required reports, except the monthly progress reports. Where necessary, the project manager

will collect and confirm baseline values for the indicators at the beginning of project implementation.

4. Midterm Review

21. ADB and the Government will carry out a midterm review of project implementation. The midterm review will focus on project impacts, particularly those relating to (i) institutional, administrative, organizational, and technical aspects; (ii) environmental and social safeguards (including involuntary resettlement and indigenous peoples); and (iii) social aspects and poverty reduction. It will include but not be limited to the following:

22. Review the original project scope, design, implementation arrangements, and other relevant issues in light of the Government's development strategies and policy framework, and the strategic concerns of ADB, including any modifications, if needed, and

- (i) examine progress toward achieving the measurable objectives of the Project and agree on minor changes in the project design and implementation,
- (ii) assess compliance with the JFPR Agreement,
- (iii) identify problems and constraints,
- (iv) formulate appropriate recommendations for corrective actions, and
- (v) develop a revised project implementation schedule for effective implementation of the Project.

INDICATIVE PROCUREMENT PLAN

Project Information	The grant will be used for (i) replacement of ger blankets and (ii) consulting services for design and implementation supervision.
Country	Mongolia
Name of Grantee	Government of Mongolia
Project Name	Energy Conservation and Emissions Reduction from Poor Households
Grant Reference	Grant 40277-01
Date of Effectiveness	To be determined
Amount \$:	\$2 million
Of which Committed, \$	\$2 million
Executing Agency	Ministry of Fuel and Energy
Approval Date of Original Procurement Plan	None
Approval of Most Recent Procurement Plan	None
Publication for Local Advertisements ^a	Procurement notices in local newspapers
Period Covered by this Plan	24 months from grant effectiveness

^a General procurement notice and invitations to bid.

Table A6.1: Procurement Thresholds, Goods and Related Services, Works and Supply and Install

Procurement Method	Estimated Contract Value (\$)
ICB Goods	> 500,000
NCB Goods	≤ 500,000
Shopping Goods	≤ 100,000
Direct Purchase Goods	≤ 10,000
Exceptional Methods	community participation

ICB = international competitive bidding, NCB = national competitive bidding.

Source: Asian Development Bank estimates.

Table A6.2: Procurement Thresholds and Consultants Services

Procurement Method	To be Used Above Value (\$)
Quality- and Cost-Based Selection	200,000
Consultants Qualifications Selection	100,000
Least-Cost Selection	10,000

Source: Asian Development Bank estimates.

Table A6.3: List of Contract Packages, Goods,^a and Consulting Services

Ref	Contract Description	Estimated Cost (\$)	Procurement Method	Expected Date of Advertisement ^b	Prior Review (Y/N)	Comments
1.	Two Packages of Highly Insulated Blankets (goods)	Less than \$700,000/package	ICB	May 2009	Y	
2.	Consulting Services	\$710,000	Firm, QCBS-FTP, quality and cost ratio is 80:20	Aug 2008	Y	Will be engaged by ADB

\$ = US dollar, ADB = Asian Development, Bank, FTP = full technical proposal, ICB = international competitive bidding, N = no, QCBS = quality- and cost-based selection, Y = yes.

^a The invitation for bids, request for expressions of interest or invitation to prequalify, as the case may be.

^b For ICB, invitations for bids, invitations for prequalification, draft prequalification documents, draft bidding documents, prequalification, and bid evaluation reports are to be submitted to ADB for prior review and approval.

For NCB, the first draft English-language version of the procurement documents should be submitted for ADB review and approval regardless of the estimated contract amount. The ADB-approved procurement documents should then be used as a model for all NCB procurement financed by ADB for the Project, and need not be subjected to further review. ADB will review the bid evaluation report and award of contract on a post-review basis.

For shopping, ADB will review the award of contract on a post-review basis.

Source: Asian Development Bank estimates.

OUTLINE TERMS OF REFERENCE FOR CONSULTANTS

1. The grant assistance will be implemented in consultation with the stakeholders concerned—local communities, national and local governments, private sector associations, and other developmental agencies. The project consultant will review evaluation reports of similar projects funded by the Asian Development Bank (ADB) and other agencies, especially with regard to lessons and factors that influence sustainability.

A. Qualification and Scope of Work

1. **International Consultants** (total of 14 person-months)
 - a. **Heating Engineer and Team Leader** (7 person-months over the project period)
2. **Qualifications.** The specialist's qualifications will be as follows:
 - (i) University degree in engineering.
 - (ii) In-depth technical knowledge of the highly insulated blanket.
 - (iii) Experience in increasing insulation for lightweight residential buildings.
 - (iv) Experience working in Mongolia or similar countries with cold climate.
 - (v) Fluency in English and excellent writing and computer skills.
3. **Tasks.** The specialist's tasks will include, but not be limited to, the following:
 - (i) Implement and manage the overall Project and supervise other individual international and national consultants.
 - (ii) Coordinate the Project with other donor's initiatives.
 - (iii) Develop a suitable business model for implementation of the project, and for scaling-up activities after project completion.
 - (iv) Develop selection criteria for eligible target households in consultation with relevant stakeholders (i.e., the executing agency (EA), implementing agency (IA), non-governmental organizations (NGOs), community-based organizations (CBOs), and other donors).
 - (v) Conduct an affordability analysis to estimate the financial contribution ger households can make towards the purchase of highly insulated ger blankets, and establish a sustainable means to fund the cost gap.
 - (vi) Establish baseline data and conduct an impact assessment. Sample groups will be selected from ger households to conduct a with-and-without project analysis; expenditure data will be collected to analyze the outcome of the Project (e.g., fuel consumption, fuel expenditure and monthly and/or annual household expenditure). Data will also be collected regarding incidence of diseases and indoor pollution levels.
 - (vii) In consultation with the other members of the team, prepare the technical specification, contract packaging and implementation schedule in accordance with ADB's *Procurement Guidelines* (2007, as amended from time to time).
 - (viii) Assist the EA to prepare the bill of quantity and bidding documents for procurement of goods in accordance with ADB's *Procurement Guidelines*; advertise the bids; carry out the bid evaluation; and prepare bid evaluation reports, contract negotiations, and contract awards.
 - (ix) In consultation with relevant stakeholders, establish guidelines on (a) the use of subsidies and contributions from ger households, and (b) how those contributions will be collected.

- (x) In consultation with relevant stakeholders, establish operational and managerial guidelines for the special fund comprised of contributions from households.
- (xi) Develop a methodology to monitor use of blankets, and measure (a) fuel savings, (b) emission reductions (including indoor air pollution), and (c) incidence of respiratory diseases. Also design an inspection mechanism to prevent reselling of blankets.
- (xii) Supervise the supply and installation of blankets.
- (xiii) Provide mandatory training to ger blanket manufacturers to ensure that the winning bidders produce quality blankets.
- (xiv) Organize midterm and final workshops for knowledge dissemination as necessary; prepare a policy brief, technical note, or best practice note regarding project replication for discussion during the workshop.
- (xv) Prepare all required reports.
- (xvi) Establish a database of project accounts and procedures.
- (xvii) Manage and monitor all project accounts.

b. Community Development Specialist (5 person-months over the project period)

4. **Qualifications.** The specialist's qualifications will be as follows:

- (i) University degree in agriculture or rural development, with training in community development.
- (ii) In-depth knowledge of social research and community mobilization.
- (iii) Experience working in Mongolia or similar countries with cold climate.
- (iv) Fluency in English and excellent writing and computer skills.

5. **Tasks.** The specialist's tasks will include, but not be limited to, the following:

- (i) Assist the team leader in implementing and managing the overall grant Project and supervising the national consultants.
- (ii) Assist the team leader in coordinating the Project with the other donor initiatives.
- (iii) Assist the team leader in establishing baseline data and conducting an impact assessment.
- (iv) Assess affordability across households with varying (low) incomes, to determine the subsidy level.
- (v) Prepare detailed selection criteria and a targeting mechanism in consultation with the EA, horro (subdistrict) administration office, and CBOs.
- (vi) Design the delivery mechanism of goods to target households.
- (vii) Design an inspection mechanism to prevent the reselling of blankets.
- (viii) Establish a mechanism to avoid risk of subsidy diversion and criteria to monitor the success of the subsidy.
- (ix) Establish guidelines for the use of the subsidy and contributions from the households, and a method to collect the household contributions.

c. Clean Development Mechanism (CDM) Specialist (2 person-months)

6. **Qualifications.** The specialist's qualifications will be as follows:

- (i) University degree in environment or finance.
- (ii) Experience working with international development organizations.
- (iii) Experience in project design document (PDD) preparation is preferred.
- (iv) Experience working in Mongolia or similar countries with cold climate.
- (v) Fluency in English and excellent writing and computer skills.

7. **Tasks.** The specialist's tasks will include, but not be limited to, the following:
- (i) Assess the Project against key CDM eligibility criteria and prepare a CDM assessment report.
 - (ii) Establish baseline data on greenhouse emissions before replacement of the ger blankets, and monitor the post-replacement results.
 - (iii) Prepare the PDD.
2. **National Consultants** (Total of 52 person-months)
- a. **Heating Engineer/Deputy Team Leader** (18 person-months over the project period) will assist the team leader and community development specialist (international).
8. **Qualifications.** The specialist's qualifications will be as follows:
- (i) University degree in engineering.
 - (ii) In-depth technical knowledge of the highly insulated blanket.
 - (iii) Experience in increasing the insulation of lightweight residential buildings.
 - (iv) Experience working with international development organizations.
 - (v) Working knowledge of English and excellent writing and computer skills.
9. **Tasks.** The specialist's tasks will include, but not be limited to, the following:
- (i) When the international heating engineer/team leader is not in Mongolia, implement and manage the overall grant Project and other international and national consultants.
 - (ii) Coordinate the project with the other donor initiatives.
 - (iii) Establish baseline data and conduct an impact assessment.
 - (iv) In consultation with the other members of the team, prepare the technical specifications, contract packaging, and implementation schedule in accordance with ADB policies.
 - (v) Assist the EA to advertise the bids; carry out the bid evaluation; and prepare bid evaluation reports, contract negotiations, and contract awards.
 - (vi) Assist in supervising the supply and installation of blankets.
 - (vii) Assist in organizing trainings for ger blanket manufacturers.
 - (viii) Assist in organizing midterm and final workshop as necessary.
 - (ix) Assist in preparing all required reports.
 - (x) Assist in preparing a project marketing brochure for information dissemination.
 - (xi) Assist in establishing a database of project accounts and procedures.
 - (xii) Assist in managing and monitoring all project accounts.
- b. **Community Development Specialist** (16 person-months over the project period) will assist the team leader and community development specialist (international).
10. **Qualifications.** The specialist's qualifications will be as follows:
- (i) University degree in agricultural development and training in community development.
 - (ii) In-depth knowledge in social research and community mobilization.
 - (iii) Experience working with international development organizations.
 - (iv) Working knowledge of English and excellent writing and computer skills.

11. **Tasks.** The specialist's tasks will include, but not be limited to, the following:
- (i) When the international heating engineer and team leader and community development specialist is not in Mongolia, implement and manage the overall grant Project.
 - (ii) Assist in coordinating the project with other donor initiatives.
 - (iii) Assist in establishing baseline data, and conducting needs and impact assessments.
 - (iv) Assist in assessing affordability in households of various (low) income levels to determine the subsidy level.
 - (v) Assist in preparing detailed selection criteria and a targeting mechanism in consultation with the EA, the horro administration office, and CBOs.
 - (vi) Assist in designing the mechanism to deliver goods to target households.
 - (vii) Assist in designing the inspection mechanism to prevent resale of blankets.
 - (viii) Assist in establishing a mechanism to avoid risk of subsidy capture, and criteria to monitor the success of the subsidy.
 - (ix) Assist in establishing guidelines for the use of the subsidy and contributions from the households, and a method to collect the household financial contributions.
- c. Project Account Management Specialist** (14 person-months over the project period) will assist the team leader.
12. **Qualifications.** The specialist's qualifications will be as follows:
- (i) University degree in business administration, accounting or finance.
 - (ii) Experience working with international development organizations.
 - (iii) Knowledge in ADB's disbursement procedures is preferred.
 - (iv) Working knowledge of English and excellent writing and computer skills.
13. **Tasks.** The specialist's tasks will include, but not be limited to, the following:
- (i) Establish a database of project accounts and procedures.
 - (ii) Manage and monitor all project accounts.
- d. CDM Specialist** (4 person-months over the project period) will assist the team leader and CDM Specialist (international).
14. **Qualifications.** The specialist's qualifications will be as follows:
- (i) Experience working with international development organizations.
 - (ii) Knowledge in CDM and PDD preparation is preferred.
 - (iii) Working knowledge of English and excellent writing and computer skills.
15. **Tasks.** The specialist's tasks will include, but not be limited to, the following:
- (i) When the International CDM specialist is not in Mongolia, lead the assigned tasks.
 - (ii) Assess the Project against key CDM eligibility criteria and prepare a CDM assessment report.
 - (iii) Establish and collect baseline data on greenhouse emissions prior to replacement of the ger blankets, and monitor post-replacement results.
 - (iv) Prepare the PDD.

B. Reporting Requirement

16. Three printed copies of all reports should be submitted to ADB (in English) and to the EA (in Mongolian). The reports should also be submitted as a soft copy on CD-ROM.¹

17. **Inception Report.** Four weeks after the beginning of the assignment, the consultant will submit a brief inception report. Two weeks after submission of the report, an inception meeting will be held to endorse the report.

18. **Initial Progress Report.** The initial progress report is due before the first winter season contract is awarded and should include a description of general project progress, baseline data, a profile of selected households, bidding related activities, and projected contract awards and disbursement. A tripartite meeting will be held to endorse the report prior to moving to implementation.

19. **Second Progress Report.** The second progress report is due after completion of the first winter season's blanket distribution, and should include a description of general project progress, contract awards and actual disbursements, and a work plan for next year.

20. **Third Progress Report.** The report is due before the second winter season contract is awarded, and should include a description of general project progress, baseline data, a profile of selected households, bidding related activities, projected contract awards and disbursements, and the results of the impact survey from the first year of implementation. A tripartite meeting will be held to endorse the report prior to beginning the second year of implementation.

21. **Draft Final Report.** Upon completion of the second year of implementation, the consultant will prepare a draft final report. Upon submission of the draft final report, a final workshop will be held, attended by relevant stakeholders, to get feedback on the report.

22. **Final Report.** The consultant will submit the final project report within 1 month of the final workshop, and incorporate all comments and feedback from relevant stakeholders.

23. The consultant will send a brief monthly project progress report by e-mail to parties concerned to share updates on major progress and issues needing to be resolved.

Table A7: Consultants' Input by Components

Consulting Inputs by Component	Number of Person-Months		
	International	National	Total
Component A	9	18	27
Component B	5	20	25
Component C	0	14	14
Total	14	52	66

Source: Asian Development Bank estimates.

¹ Compact disc read-only memory.

SUMMARY POVERTY REDUCTION AND SOCIAL STRATEGY

Country/Project Title: Mongolia/Energy Conservation and Emissions Reduction from Poor Households

Lending/Financing
Modality:

JFPR

Department/
Division:

East Asia Department / Energy
Division

I. POVERTY ANALYSIS AND STRATEGY

A. Linkages to the National Poverty Reduction Strategy and Country Partnership Strategy

The Asian Development Bank country strategy and program (CSP) for Mongolia^a identifies inclusive social development as one of two strategic pillars. Better urban services, environment and housing for the poor are targeted as CSP outcomes. Mongolia's 2003 Economic Growth Support and Poverty Reduction Strategy stated that air pollution threatens people's right to live in a healthy and safe environment in Ulaanbaatar. Three government resolutions^b intended to reduce air pollution in Ulaanbaatar have been passed, and improvement of ger insulation is a key activity. The proposed Japan Fund for Poverty Reduction (JFPR) Project will replace poorly insulated ger blankets of poor households in Ulaanbaatar city with highly insulated blankets. Replacement of the blankets will reduce coal and firewood consumption for space heating by 50%, thus helping reduce the fuel expenditure of poor households and contributing to cleaner air in the city.

B. Poverty Analysis

Targeting Classification: Targeted intervention (TI-G)

1. Key Issues

In 2006, the incidence of poverty in Ulaanbaatar (20%) was below the national average (32%). The total population of Ulaanbaatar is about 1 million, with most poor residents (204,000 people or 46,000 households) living in the ger district. The proposed JFPR Project will target poor households in the ger housing area in Ulaanbaatar. The poor households generally own ger, but lack a second insulating layer, and flooring for their ger. Most households lack stable income sources and work on a seasonal basis. Households spend MNT1,000–MNT2,000 (\$1–\$2) daily to purchase about 25 kilograms of domestic fuel. This expense accounts for over 50% of the average household income. According to the 2006 participatory poverty assessment, securing firewood and fuel for winter is a priority matter for the poor.

2. Design Features.

The proposed JFPR Project will provide highly insulated ger blankets to poor households in Ulaanbaatar to reduce consumption of fuel for space heating by 50%, thereby reducing household expenditures on fuel and reducing urban air pollution.

II. SOCIAL ANALYSIS AND STRATEGY

A. Findings of Social Analysis

Firewood and Fuel Security. Securing firewood and fuel for winter is a priority for the poor. The cost of heating a ger using coal and wood is much higher than when using the central heating system. The poor reduce all other needs in order to secure firewood and coal for the winter; they cannot afford to stock up on fuel, and burn their shoes and other items when out of fuel.

Illness. The health condition of the poor deteriorates due to their poor diet and living environment. The thin, poorly insulated ger covers used by the poor, and their lack of fuel for heating during winter impacts their health and immune system.

B. Consultation and Participation

1. Provide a summary of the consultation and participation process during the project preparation.

Consultations were held with the Ministry of Environment, Ministry of Construction and Urban Development, Ministry of Fuel and Energy, Ulaanbaatar city government, Japan International Cooperation Agency, Energy Conservation Center (an NGO), World Vision Mongolia (an NGO), World Bank, United Nations Development Programme, Deutsche Gesellschaft für Technische Zusammenarbeit, and the Embassy of Japan in Mongolia in order to conceptualize the proposed project. Initial consultations were carried out in November 2007, and those consulted have responded favorably.

2. What level of consultation and participation (C&P) is envisaged during the project implementation and monitoring?

Information sharing Consultation Collaborative decision making Empowerment

3. Was a C&P plan prepared? Yes No
 If a C&P plan was prepared, describe key features and resources provided to implement the plan (including budget, consultant input, etc.). If no, explain why.

The consultation and participation process is imbedded in the project design. The horro (subdistrict) administration office, a community-based organization created under the World Vision, and UNICEF’s Convergent Basic Social Services Programme will be consulted and invited to participate in identifying target households.

C. Gender and Development

1. Key Issues.

Single parent families with 2–3 children living in ger housing are generally categorized as very poor households. About 10% of households (214 households) in one horro (subdistrict) are headed by women.

2. Key Actions. Measures included in the design to promote gender equality and women’s empowerment—access to and use of relevant services, resources, assets, or opportunities and participation in decision-making process:

Gender plan Other actions/measures No action/measure

Summarize key design features of the gender plan or other gender-related actions/measures, including performance targets, monitorable indicators, resource allocation, and implementation arrangements.

The proposed JFPR Project will give the highest priority to single parent families living in ger.^c Each horro office has one female social development officer and the proposed JFPR project will use the officers’ networks to identify vulnerable households to extend project benefits.

III. SOCIAL SAFEGUARD ISSUES AND OTHER SOCIAL RISKS

Issue	Significant/Limited/ No Impact	Strategy to Address Issue	Plan or Other Measures Included in Design
Involuntary Resettlement	No Impact. The proposed JFPR Project will not include any physical construction work or upgrading or rehabilitation of existing physical facilities, thus there is no involuntary resettlement impact.	Not applicable	<input type="checkbox"/> Full Plan <input type="checkbox"/> Short Plan <input type="checkbox"/> Resettlement Framework <input checked="" type="checkbox"/> No Action
Indigenous Peoples	No Impact. There are no indigenous peoples or ethnic minority groups present in project locations and no adverse or significant impact on indigenous peoples and vulnerable groups.	Not applicable	<input type="checkbox"/> Plan <input type="checkbox"/> Other Action <input type="checkbox"/> Indigenous Peoples Framework <input checked="" type="checkbox"/> No Action
Labor <input type="checkbox"/> Employment opportunities <input type="checkbox"/> Labor retrenchment <input type="checkbox"/> Core labor standards	No Impact.	Not applicable	<input type="checkbox"/> Plan <input type="checkbox"/> Other Action <input checked="" type="checkbox"/> No Action
Affordability	Significant. Highly insulated ger blankets cost around \$323, which is not affordable by poor households.	It is suggested that 70% of the cost of the blankets will be subsidized by the Project, and 30% by the beneficiaries. The subsidy rate is subject to change depending on the actual ability of households to contribute. Affordability will be assessed through a baseline survey.	<input checked="" type="checkbox"/> Action <input type="checkbox"/> No Action

Other Risks and/or Vulnerabilities <input type="checkbox"/> HIV/AIDS <input type="checkbox"/> Human trafficking <input type="checkbox"/> Others (conflict, political instability, etc), please specify	No Impact.	Not applicable	<input type="checkbox"/> Plan <input type="checkbox"/> Other Action <input checked="" type="checkbox"/> No Action
IV. MONITORING AND EVALUATION			
Are social indicators included in the design and monitoring framework to facilitate monitoring of social development activities and/or social impacts during project implementation? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Impact analysis on fuel consumption of ger households.			

^a ADB. 2005. *Country Strategy and Program (2006–2008): Mongolia*. Manila.

^b Ikh Khural parliament resolution #46, 2007, resolution #218, 2007, and resolution #14, 2008.

^c Large families, especially households headed by women, are considered a vulnerable group according to the Center for Human Rights and Development. 2006, *Report of Participatory Poverty Assessment on Peri-Urban Ger Area of Ulaanbaatar*. Ulaanbaatar.