



Grant Assistance Report

Project Number: 39265
June 2008

Proposed Grant Assistance Mongolia: Community-Based Local Road Upgrading and Maintenance in the Western Region of Mongolia (Financed by the Japan Fund for Poverty Reduction)

CURRENCY EQUIVALENTS

(as of 30 May 2008)

Currency Unit	–	togrog (MNT)
MNT1.00	=	\$0.0008609
\$1.00	=	MNT1,162

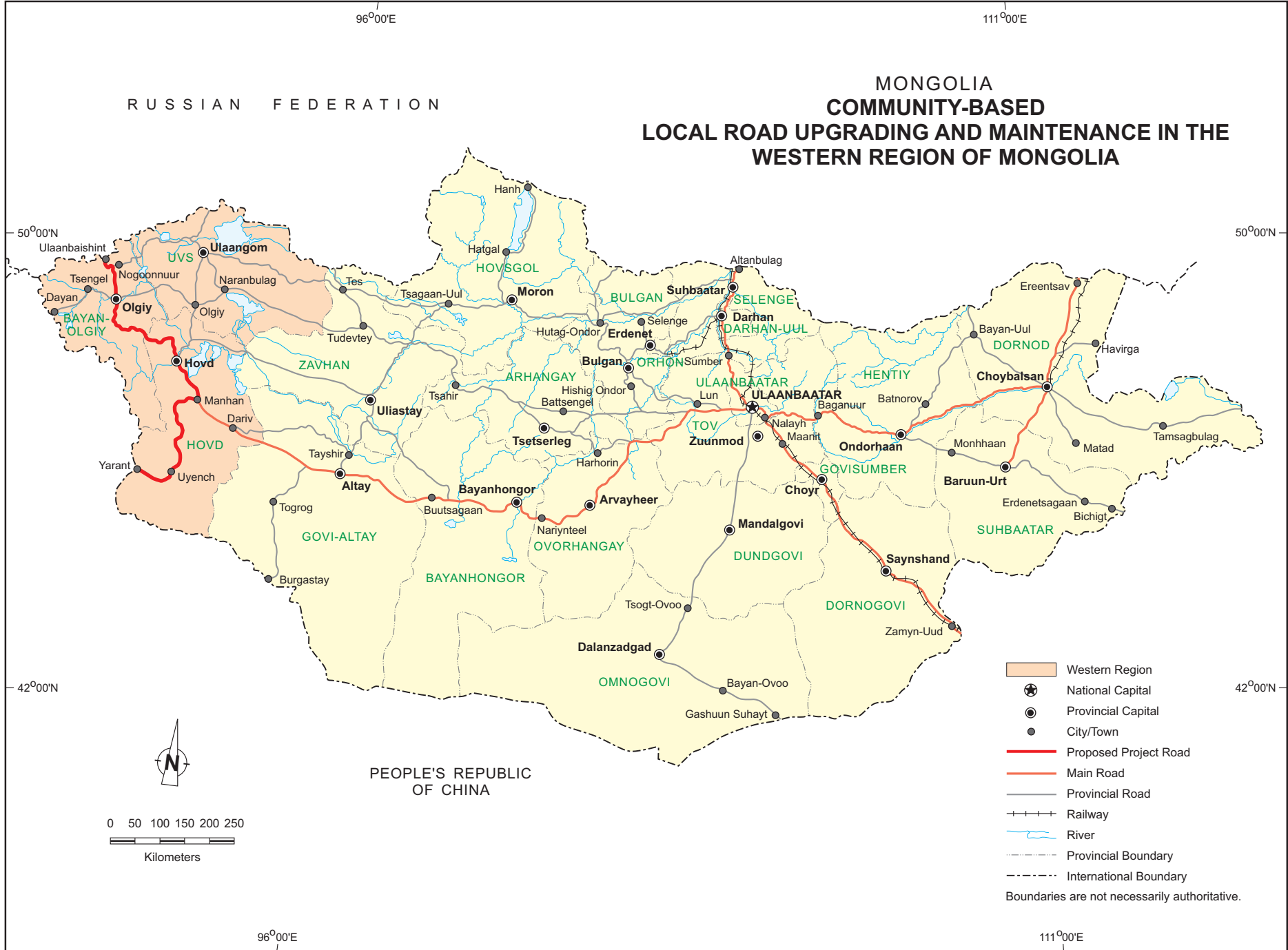
ABBREVIATIONS

ADB	–	Asian Development Bank
ADF	–	Asian Development Fund
CBO	–	community-based organization
CBR	–	California bearing ratio
DOR	–	Department of Roads
EA	–	executing agency
EMP	–	environmental management plan
GDP	–	gross domestic product
IEE	–	initial environmental examination
JFPR	–	Japan Fund for Poverty Reduction
JICA	–	Japan International Cooperation Agency
kN	–	kilonewton
MRTT	–	Ministry of Road, Transport and Tourism
PIU	–	project implementation unit
PPTA	–	project preparatory technical assistance
PRC	–	People's Republic of China
SOE	–	statement of expenditures
T _A	–	thickness equivalent to asphalt-concrete
UNDP	–	United Nations Development Programme
WRRCDP	–	Western Regional Road Corridor Development Project

NOTE

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

Vice President	C. Lawrence Greenwood, Jr., Operations Group 2
Director General	K. Gerhaeusser, East Asia Department (EARD)
Director	N. C. Rayner, Transport Division, EARD
Team leader	Lakshman Athukorala, Financial Analysis Specialist, EARD
Team members	S. Noda, Transport Specialist, EARD T. Oi, Social Development Specialist, EARD



JAPAN FUND FOR POVERTY REDUCTION (JFPR)

JFPR Grant Proposal

I. Basic Data	
Name of Proposed Activity	Community-Based Local Road Upgrading and Maintenance in the Western Region of Mongolia
Country	Mongolia
Grant Amount Requested	\$2 million
Projection Duration	42 months
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 JFPR project will be improvement in the quality of life in remote rural areas (soum centers) in the western region of Mongolia.</p> <p>The outcome will be the provision of sustainable rural-access and soum-center roads to main roads.</p> <p>The outputs will be (i) improvement of about 33.5 km in 10 locations of local-access and soum-center roads, and (ii) establishment of a community-based system for rural-access and soum-center road maintenance.</p> <p>The activities consist of (i) community-based rural-access/soum-center road construction and tree planting; (ii) capacity building on operation and maintenance; and (iii) grant management, monitoring, and auditing.</p>
<p>Expected Key Performance Indicators:</p> <ol style="list-style-type: none"> 1. Decreased travel time from soum centers to Western Regional Road by 35%. 2. Decreased number of poor households by 200 in the region by 2011. 3. Allocated budget from local government for road maintenance equivalent to at least \$100 per km per annum for JFPR project roads. 4. Construction of about 33.5 km of macadam rural-access/soum-center roads with tree planting along the road in a maximum 10 pilot project sites. 5. Training in road construction and maintenance for at least 50 residents in each soum having a pilot project.

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

Category	Amount of Grant Allocated (\$)	Percentage of Expenditures
Works	1,229,700	61.5
Equipment	85,000	4.2
Training, Workshops, Seminars	32,000	1.6
Consulting Services	315,000	15.8
Grant Management	248,200	12.4
Contingencies	90,100	4.5
Total JFPR Grant Finance	2,000,000	100.0

JAPAN FUND FOR POVERTY REDUCTION

**JFPR Grant Proposal
Background Information**

A. Other Data	
Date of Submission of Application	April 2008
Project Officer	Mr. Lakshman Athukorala
Project Officer's Division, Email, Phone	Transport Division, East Asia Department, slathukorala@adb.org , 632-6927
Other Staff Who Will Need Access to Edit/Review the Report	T. Oi, Social Development Specialist, Energy Division
Sector	Transport and communications
Subsector	Roads and highways
Themes	Sustainable economic growth, capacity development, environmental sustainability
Subthemes	Fostering physical infrastructure development, institutional development, natural resources conservation
Targeting Classification	Targeted intervention - geographic
Name of Associated ADB Financed Operations	Mongolia: Western Regional Road Corridor Development Project
Executing Agency	Ministry of Road, Transport and Tourism (MRTT)
Grant Implementing Agency	Project Implementation Unit Ministry of Road, Transport and Tourism Department of Roads Mr. K. Gantumur Government Building-2, United Nation's Street- 5/2, Ulaanbaatar 210646 Tel: (976-11) 317-978 Fax: (976-11) 310-612 Email: gantumur@mrtt.pmis.gov.mn

B. Details of the Proposed Grant**1. Description of the Components, Monitorable Deliverables/Outcomes, and Implementation Timetable**

Component A	
Component Name	Capacity Building on Construction and Maintenance
Cost (\$)	\$346,750 (including contingencies)
Component Description	<p>A1. Consultation and Detailed Design. Implementing agencies assisted by consultants will travel to the field to evaluate the sites identified below for local-access/soum-center roads, consult with local stakeholders about site-specific issues and preferred alignments, and undertake detailed design of local-access/soum-center roads.</p> <ol style="list-style-type: none"> 1. Altai Soum (Hovd Aimag): 1.0 kilometers (km) (access road) 2. Manhan Soum (Hovd Aimag): 1.2 km (access road) 3. Erdeneburen Soum (Hovd Aimag): 10.0 km (access road) 4. Most Soum (Hovd Aimag): 1.0 km (soum-center road) 5. Tolbo Soum (Bayan-Olgii Aimag): 3.3 km (access road)

	<p>6. Bugat Soum (Bayan-Olgii Aimag): 6.0 km (access road)</p> <p>7. Tsagaannuur Village (Bayan-Olgii Aimag): 3.0 km (access road)</p> <p>Three additional local-access/soum-center roads will be identified during the detailed design phase. These additional sites will expand the overall length of roads to be improved and provide improved access for a larger number of local communities located near the Western Regional Road Corridor.</p> <p>A2. Class Room Training on Construction Method. Following the detailed design process, training seminars of 2–3 days will be held in each selected <i>soum</i> (district). Fifty individuals are expected to be trained at each of these sessions. There will be 10 training programs under the Project (one training program per <i>soum</i>).</p> <p>A3. Practical Training on Construction Method. Immediately following the training seminars, practical training in road upgrading and maintenance will be undertaken on a 0.5 km stretch of each pilot project. The location for this practical training is expected to be close to the center of the <i>soum</i>.</p> <p>Through the methods learned both in the classroom and on-the-job sessions, local laborers will develop skills that can be applied to future projects and to continued maintenance of the local-access/soum-center roads. This training will also result in the creation of a maintenance handbook that will contain guidelines and standards that shall be followed during future maintenance works on the local-access/soum-center roads. This maintenance handbook may serve as a model for other <i>aimags</i> (provinces) to utilize in upkeep of access/soum-center roads to <i>soums</i>.</p>
Monitorable Deliverables/Outputs	<p>(i) Completed detailed design in total 10 sites.</p> <p>(ii) Training of 2–3 days conducted for local road construction groups and employees at each of the locations for proposed local road maintenance. Training at least 50 individuals in each <i>soum</i>.</p> <p>(iii) Practical training conducted by building 0.5 km of road.</p> <p>(iv) Established community-based operation and maintenance system for access/soum-center roads.</p> <p>(v) Preparation of the road maintenance handbook.</p>
Implementation of Major Activities: Number of months for grant activities	42 months, starting August 2008

Component B	
Component Name	Community-Based Rural-Access and Soum-Center Road Upgrading and Tree Planting
Cost (\$)	\$1,317,050 (including contingencies)
Component Description	Following Component A, the proposed component is to upgrade existing access/soum-center roads and roads in <i>soum</i> centers along the western road corridor in Mongolia, developed with the assistance of Asian Development Bank (ADB). Utilizing local labor and inputs, the component will upgrade at least 10 access/soum-center roads in Hovd and Bayan-Olgii aimags. Details of the seven project sites clearly identified have been given above.

	<p>The total length of these six identified access roads and one soum-center road to be upgraded is 25.5 km. These roads were selected based on input provided by officials from the local administrations within Hovd and Bayan-Olgii aimags and other stakeholders. Community representatives have voiced strong support for constructing these roads and will provide the labor needed for their implementation. The type of access/soum-center road to be constructed is macadam/cement concrete road, with a width of 5–6 meters (m) and a 1 m shoulder on each side, bringing the total width to 7–8 m. The subbase of the roads will be an embankment 30 centimeters (cm) deep and composed of ordinary fill. This will be covered by the base course of penetration macadam with a depth of 10–15 cm and composed of crushed aggregate. In the case of cement concrete, the pavement could be 10–12 cm. The type of pavement will be decided depending on the terrain and soil conditions in a given area.</p> <p>An additional three local-access/soum-center roads have been identified under Component A, with a total length of about 8 km. These will bring the total length of local-access/soum-center roads to be maintained to 33.5 km and the total number of sites to 10.</p> <p>The local-access/soum-center roads will be primarily constructed by hand and with light equipment. Experience with similar access roads around Ulaanbaatar, some of which were funded by the Japan International Cooperation Agency (JICA), has shown this method to be successful. The construction of these local-access/soum-center roads will be undertaken with the assistance of the Department of Roads' maintenance units in the western region, including the supply of necessary equipment.</p>
Monitorable Deliverables/Outputs	<p>(i) Upgrade 1–10 km long local-access/soum-center roads and transport-related facilities at a minimum of seven selected project sites under community contract.</p> <p>(ii) Selection of additional three access/soum-center roads in total 8 km length for pilot project site and upgrade these selected access/soum-center roads.</p> <p>(iii) At least 50 job opportunities generated for the local poor in each soum where local-access/soum-center roads will be constructed.</p>
Implementation of Major Activities: Number of months for grant activities	42 months, starting August 2008

Component C	
Component Name	Grant Management, Monitoring, Auditing, and Evaluation
Cost (\$)	\$336,200 (including contingencies)
Component Description	This component will support the following activities: (i) overall project coordination, supervision, management, and reporting; (ii) preparation of implementation guidelines and procedures for the use of grant financing; (iii) an independent participatory impact assessment and annual independent audit; and (iv) preparation of a local roads maintenance handbook.
Monitorable Deliverables/Outputs	(i) Project work plan, implementation schedule, and guidelines prepared in adherence with the grant implementation memorandum.

	(ii) Establishment of project implementation unit. (iii) Funds allocated for each component used cost-effectively. (iv) All report preparation, including road maintenance handbook, on timely basis and of good quality.
Implementation of Major Activities: Number of months for grant activities	36 months, starting January 2009

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

Funding Source	Amount (\$)
JFPR	2,000,000
Government Financing	100,000 (including in-kind contributions)
Local Community Financing	100,000 (including in-kind contributions)
Total Cost	2,200,000

3. Background

1. The proposed Project is designed to upgrade existing access/soum-center roads along the 748.4 km road financed by Asian Development Bank (ADB) and stretching from Yarant at the border of Mongolia and the People's Republic of China (PRC) to Ulaanbaishint at the Mongolian and Russian Federation border. This road makes up a portion of Asian Highway 4, a road internationally designated by the United Nations Economic and Social Commission for Asia and the Pacific and which passes through Mongolia's two westernmost *aimags* (provinces): Hovd and Bayan-Olgii. All of the access/soum-center roads that would be upgraded as part of this JFPR grant would be located within these two aimags.

2. Mongolia's landlocked location between the PRC and Russian Federation and its remoteness from developed international and domestic markets are major constraints to economic development. The Government of Mongolia has identified increasing investment in road construction and rehabilitation as a means to reduce Mongolia's isolation from world markets and improve the accessibility of isolated communities within the country. The Government has included this in its poverty reduction strategy document entitled *Economic Growth Support and Poverty Reduction Strategy*¹ as one of the main issues to be addressed.

3. Mongolia's country strategy and program² identifies better transport links to neighboring countries and within the country as one of the sector outcomes, along with expanding the length of the road network and increasing traffic volumes. Improvements to local-access/soum-center roads to main regional roads will contribute to reducing geographical isolation within the region, which is targeted as an outcome of the Country Strategy and Program. The goal of the proposed JFPR project is to improve the quality of life in remote rural areas (soum centers) in the western region of Mongolia by increasing poor people's access in these areas, thus putting them within reach of vital services that will positively impact their livelihoods.

4. The five western aimags had just over 400,000 people in 2005, which represented around 16% of the national population. Western Mongolia has \$138 million of regional product, which amounts to 7.6% of national GDP. In per capita GDP terms, Western Mongolia's low level of economic activity is even more striking. Mongolia, as a whole, has low GDP per capita (\$724) relative to the PRC (\$1,704) and Russian Federation (\$5,352). In addition, the western aimags

¹ Government of Mongolia. 2003. *Economic Growth Support and Poverty Reduction Strategy*. Ulaanbaatar.

² ADB. 2005. *Mongolia: Country Strategy and Program (2006–2008)*. Manila.

have GDP per capita that is less than half of the national average (\$338). GDP per capita of the two aimags that are the subject of the Project (\$295 in Bayan-Olgii and \$372 in Hovd) further illustrates the small size of these economies and lack of capacity for the production of goods or provision of services.³

5. The ADB-assisted Western Regional Road Corridor will improve and pave the existing north-south road passing through the aimags of Hovd and Bayan-Olgii, including the aimag centers of Hovd and Olgii. A main benefit from the proposed Western Regional Road Corridor is increased cross-border trade among Mongolia, the PRC, and Russian Federation, which will contribute to regional cooperation and integration under the Central Asia Regional Economic Cooperation Program. Several *soums* (districts) are located within this corridor whose residents will greatly benefit from the improved road. As most *soum* centers are situated more than 2 km from the projected road alignment, however, additional efforts must be made to complete their linkage with the project road and, correspondingly, other parts of western Mongolia, the PRC, and Russian Federation.

6. The existing access/*soum*-center roads are unpaved, rough earthen tracks that generate significant volumes of dust and air pollution when used by vehicles. Continued use results in road deterioration and creates multiple parallel earthen roads. Ultimately, these suffer from a similar pattern of decline that results in widespread degradation of the environment leading to each of the *soums*. There are no funds available locally or at state level to pave the existing access/*soum*-center roads, conduct maintenance activities, or construct new such roads.

7. The proposed JFPR project will establish a sustainable and cost-effective community-based road maintenance system, and it will upgrade local-access/*soum*-center roads along the ADB-financed main road. That will extend the benefits of the proposed loan project to a wider number of communities. The roads will be primarily constructed using manual labor, aided in part by light equipment.⁴ Experience with similar roads in Mongolia has shown this method to be appropriate for the level of traffic expected. In addition, funds are requested to plant trees along each of the access/*soum*-center roads. This activity would further improve the environmental condition of the area. The design and monitoring framework is in Appendix 1.

8. No social or environmental concerns are foreseen as a result of this JFPR project, which is a simple community-based upgrading and maintenance of existing roads. Therefore, no land acquisition is required and no involuntary resettlement or indigenous-people issues will arise or require mitigation under ADB's safeguard policies. As a result of the proposed Project, the environmental situation is expected to be positively impacted through dust reduction and a smaller road footprint, as described in the next section.

4. Innovation

9. Innovative approaches to address the challenge of local road accessibility are essential to all project components. The current rural road system consists of numerous parallel tracks, rather than one specific road. This phenomenon results in environmental damage, air pollution (through dust), and damage to vehicles traveling through the region. Improving these roads will provide a single, smooth, well-maintained track that will be available to all vehicles, thereby promoting environmental conservation and reducing vehicle operating costs.

³ Statistical yearbooks of Mongolia, the PRC, Russian Federation, and Xinjiang Uygur Autonomous Region of the PRC. 2006.

⁴ After completing the JFPR project, the equipment acquired will be handed over to *soum* governments and road maintenance centers that will be established under the Western Regional Road Corridor Development Project.

10. The Project emphasizes innovative, least-cost solutions for providing locally affordable access to as much of the rural population as possible, rather than a high-access standard for a few. In view of resource constraints, cost-effective and innovative techniques, labor-intensive approaches, and low-cost structures to tackle existing obstacles will be recommended. The Road Fund of the Department of Roads (DOR) has limited funds to address all the needs of the roads within Mongolia. Similarly, the local road funds have neither the funding nor capacity for this type of local-access/soum-center road construction. Limited funds are available, too, for maintaining these local roads. Thus, outside funding is needed to address the necessary upkeep of local roads. By using local road construction groups and local labor to upgrade and maintain these roads, the likelihood of their continued improvement is greater, as discussed in the next (Sustainability) section.

11. Currently, there is no involvement of the local communities in either road design or maintenance. Implementation of the proposed JFPR project will result in the communities taking an active role. It will increase local ownership of the roads once completed and have positive impacts on not only the road, through improved maintenance practices, but also on the community as a whole through increased employment.

12. When compared to the larger Western Regional Road, the local-access/soum-center roads are much cheaper on a per-kilometer basis, primarily because of increased community involvement. For the 748.4 km Western Regional Road, the cost per km averages approximately \$188,000. Meanwhile, the cost per kilometer of the local-access/soum-center roads is approximately \$40,000. While the access/soum-center roads will not require extensive earthworks or costly bridges, which would increase costs, the participation of the communities reduces construction costs by cutting down the amount of construction equipment needed and making use of local, in-kind contributions.

13. A result of implementing the proposed JFPR project will be a well-trained local labor force that has the skill set necessary to undertake routine and necessary upkeep and maintenance of local-access/soum-center roads. In building capacity at the local level, the DOR will be able to enhance its capabilities by employing some of these trained individuals following the Project's completion. DOR will also improve its local road maintenance by disseminating a road maintenance handbook to soum and aimag centers.

5. Sustainability

14. The rural poor will receive benefits through direct employment and, for many years after the project ends, improved transport. However, four aspects of sustainability will be critical to the ultimate success of the Project: financial, technical, environmental, and organizational. Financial sustainability will be ensured through a covenant included in the grant agreement concluded between ADB and the Government stating that the Ministry of Road, Transport and Tourism (MRTT) will annually direct funds to maintaining these roads.

15. Regarding technical sustainability, soum residents will receive training in road construction and maintenance that can be applied to these local-access/soum-center roads in the future, as well as throughout the Western Regional Road Corridor. Sustainability of the roads hinges on timely execution of routine and periodic maintenance, which in turn requires technical expertise and financial resources. One component of the Project is dedicated to training within the local governments and communities for operation and maintenance of the local roads. The skills will be developed through implementing on-the-job training and classroom sessions. Local labor hired by small-scale, local road construction groups to upgrade and

maintain the access/soum-center roads will utilize techniques and skills that can be applied through the duration of the proposed Project, as well as on future projects in the area.

16. Environmental sustainability is ensured through the benefits that will result from the presence of the roads. These local-access/soum-center roads will result in eliminating the multiple earthen tracks that currently run from the main corridor to the soum centers. While traveling on these tracks, vehicles generate dust and cause widespread environmental disturbances to the surface vegetation. By formalizing a road corridor, these environmental impacts will be mitigated and result in environmental protection. Local governments have given assurances that they will ensure sustainability of all trees planted under the Project. Moreover, no trees will be planted in isolated areas where there is no access to water.

17. The organizational sustainability of the local-access/soum-center roads will be ensured by involving the local communities in the planning, design, construction, and maintenance stages to guarantee local input and provide the residents with a stake in the Project. Further details can be found in the following (Participatory Approach) section.

18. In addition, as local labor will be used, incentives are included in the proposed project for continued upkeep and maintenance. If allowed to deteriorate, the access/soum-center roads will no longer be able to provide fast and efficient access to medical, social, and educational facilities that had become available with improved roads. Those living in the soums that will be newly connected to the regional road will want to retain access to the larger community and will, therefore, continue the maintenance and upkeep program developed under the Project. The local communities will utilize the road maintenance handbook that will be developed as part of the JFPR project. The maintenance handbook will provide guidelines and standards for upkeep.

19. As part of the associated ADB-funded loan project, five new maintenance units will be established throughout the Western Regional Road Corridor. These units (of which three are expected to be government owned and the remaining two privately owned) will be outfitted with new equipment and a long-term maintenance schedule for debris and snow removal, pothole repair, resurfacing, and other activities. Following completion of the proposed Project, including the capacity building and training, many local individuals will have the skill set needed to maintain the quality of the roads. Therefore, it would be beneficial for the two existing and five soon-to-be-established regional road maintenance units to employ these individuals for local-access/soum-center roads upkeep. Not only will this ensure long-term sustainability of the Project, but it also will provide long-term employment for those who received training and allow the maintenance methods to be employed in other soum centers throughout the region.

20. During the stakeholder meetings, soum residents expressed their support for the program and desire to participate. These stakeholders noted that improving the access/soum-center roads will greatly benefit the soums' economies and the residents' well-being. Thus, they indicated a willingness to contribute to constructing the roads and their continued maintenance.

6. Participatory Approach

21. Throughout 2007, meetings were held with stakeholders in those soums to be assisted by constructing these local-access/soum-center roads. In all of these meetings, the stakeholders indicated that the roads represented a top priority and had the full support of the soum residents. In addition to improving access to the main north-south corridor of the region, the construction of these roads will allow for local participation through involvement in the decision-making processes for the planning, construction, and maintenance stages. As part of

the detailed design of the local roads, an international consultant will meet with the stakeholders to obtain their input on the specific alignments and on any site-specific considerations, thus providing them the opportunity to participate in design.

22. To allow soum residents to further participate, the local-access/soum-center roads will be upgraded and maintained using a minimum amount of equipment. It is envisioned that works will be carried out under force account procedures and using labor from local communities. The majority of the light equipment needed for the road upgrading and maintenance will be obtained from the regional maintenance units. Some of this equipment is expected to be offered by the communities as in-kind support toward completing the Project and capacity development. The central government will also make contributions to the cost of the Project's completion through in-kind support to the project implementation unit (PIU) in Ulaanbaatar, to completing the training and capacity building seminars, and to the road maintenance activities. In all stakeholder meetings of the affected soums, residents enthusiastically pledged their support and willingness to take part in the construction and continued maintenance of these roads.

23. The six access roads and one soum-center road that have already been identified were selected through site surveys, as well as in consultation with local and regional officials. Additional sites will be selected through the same process in order to serve the largest possible number of individuals throughout the region. The table below provides a list of beneficiaries and stakeholders. Stakeholder meetings have been held in all soums along the western road corridor in 2007. At each of these meetings, soum and aimag officials were present, including the governors or vice-governors, as well as herders, teachers, tradesmen, and the unemployed. All sectors of the community supported the proposed JFPR project.

24. Additional meetings with government officials and other stakeholders will be conducted during the detailed design formulation stage.

Primary Beneficiaries and Other Affected Groups and Relevant Description	Other Key Stakeholders and Brief Description
<p>The primary beneficiaries are the rural poor in the project areas, including the poorest, who will benefit from</p> <ul style="list-style-type: none"> ➤ higher per capita income, ➤ less unemployment, ➤ lower prices paid by local residents for agricultural inputs and other goods because of reduced transport costs, ➤ lower prices paid by local residents for consumer goods, ➤ increased future employment opportunities, ➤ better access to education and health care and enhanced social exchanges and mobility, ➤ improved capacity and know-how for road maintenance, ➤ increased connectivity, and ➤ mitigated isolation and poverty. 	<p>Other key stakeholders and their benefits include</p> <ul style="list-style-type: none"> ➤ MRTT, which will benefit from improved road maintenance planning and execution and an effective mechanism for local road maintenance to reduce road asset losses; ➤ local governments, which will derive social and economic development from improved roads; ➤ local maintenance units that may employ well-trained, experienced laborers proficient in access road upkeep and maintenance; ➤ small-scale road maintenance groups that will gain training and experience enabling them to effectively deliver labor-intensive road construction and maintenance services; and ➤ local service providers that will have increased numbers of customers.

7. Coordination

25. The proposed JFPR project will undertake the necessary coordination with other donors and their activities, such as Enterprise Mongolia Project under the United Nations Development Programme and community-based local road construction and maintenance in Baganuur that is funded by the Japan International Cooperation Agency (JICA). JICA has conducted a pilot project on community-based local road construction in Baganuur. Under that project, a 500-meter road was developed with community participation. Three types of pavement structures were tested. It was concluded that a mix of macadam/cement concrete pavement is the most cost-effective and durable. Discussions with local government officials revealed that continuous employment could not be provided to locals who gained road construction experience under that project. The proposed JFPR project will incorporate JICA's approach and lessons learned in the project design and implementation. To overcome the issue of continuous employment, the trained labor will be absorbed into maintenance centers that will be established under the Western Regional Road Corridor Development Project.

26. Discussions have been held with officials of the Embassy of Japan and JICA in Mongolia. Both parties supported the proposed grant project and were pleased to know that the lessons learned from the pilot project handled by JICA on community road upgrading in Baganuur were incorporated into the Project.

8. Detailed Cost Table

27. The summary cost estimates presented in Appendixes 2 and 3 are based on locally tendered prices (in 2007 prices) and preliminary quantity estimates. JFPR sources and counterpart funds will finance construction of about 33.5 km of local-access/soum-center roads.

C. Linkage to ADB Strategy and ADB-Financed Operations

1. Linkage to ADB Strategy

Document	Document Number	Date of Last Discussion	Objectives
Country Strategy and Program (2006–2008) and Country Strategy and Program Update 2007–2009	Sec.M68-05 Sec.M78-06	23 Aug 2005 14 Aug 2006	ADB's operational strategy in Mongolia focuses on promoting (i) stable economic growth through increased productivity in key industries, open economic opportunities in rural areas, and widening the export base; and (ii) inclusive social development through raising and stabilizing incomes, reducing unemployment, and improving education, health, and living conditions of the poor. The transport sector plays a large role in achieving both of these goals by allowing for more market integration and movement of people, thus resulting in economic growth and reduced geographic isolation. These, in turn, should foster poverty reduction. In this sector, ADB is focusing on (i) finalizing a transportation sector strategy; (ii) constructing a regional road corridor linking Western Mongolia, the PRC, and Russian Federation; and (iii) promoting Mongolia's participation within the Central Asia Regional Economic Cooperation Program.
Country Operations Business Plan 2008–2010	IN-31507		

Document	Document Number	Date of Last Discussion	Objectives
Formulating a Transport Strategy in Mongolia	TA 4471	21 May 2007	The main objective of this technical assistance is to formulate a new transport sector strategy that can ensure effective integration of various transport modes, improve competitiveness of the country's transport system, and provide guidance for transport sector investment during 2005–2015.
Regional Cooperation Strategy Program for Central Asian Regional Economic Cooperation Member Countries (2005–2007) and Update 2006–2008		July 2004	The four key strategic objectives of the ADB regional strategy are (i) securing access to profitable markets in large neighboring countries for export from Central Asian republics, thereby enhancing benefits from regional projects; (ii) reducing transaction costs and facilitating transit and transport across the region; (iii) improving energy supplies for sustaining growth; and (iv) preventing negative regional outcomes, such as environmental degradation, desertification, human and drug trafficking, and the spread of communicable diseases. These reinforce ADB's core program on Central Asia Regional Economic Cooperation which continues to focus on certain sectors, including transport.

2. Linkage to Specific ADB-Financed Operation

Project Name	Mongolia: Western Regional Road Corridor Development Project
Project Number	PPTA 4785: MON and Project Nos. 39265 and 39493
Date of Board Approval	26 February 2008
Grant Amount (\$ million)	\$77.6 million (\$17.6 million from Asian Development Fund and \$20 million from Regional Funds in 2008; \$20 million from Asian Development Fund and \$20 million from Regional Funds in 2010)

3. Development Objective of the Associated ADB-Financed Operation

28. The goals of the Western Regional Road Corridor Development Project (WRRCDP) are to promote regional transport of freight and passengers via the western road corridor and increase economic development and regional trade. The outcome of the WRRCDP is the development of an efficient and safe regional transport route in the western region linking the Xinjiang Uygur Autonomous Region in the PRC and the Siberia Province of the Russian Federation through Mongolia's Hovd and Bayan-Olgii aimags.

29. Due to such capacity constraints as availability of grant funds, the proposed road corridor will be developed in two phases. Under the WRRCDP, a 431.2 km road from the PRC border to the city of Hovd will be developed as phase I. Later, under phase II, the road from Hovd to the border with the Russian Federation will be developed. The WRRCDP will consist of the following components: (i) 748.4 km of improved road from Yarant to Ulaanbaishint, (ii) establishment of five new road maintenance units, (iii) procurement of equipment for these maintenance units, (iv) community development projects at soums and villages along the alignment, (v) improved road safety, and (vi) strengthening MRTT's institutional capacity.

30. The WRRCDP will increase the regional GDP of Hovd and Bayan-Olgii aimags by 6% per year after completion of the Western Regional Road Corridor, increase regional transit trade tonnages by 25% between 2007 and 2012, and increase the western region of Mongolia's trade with the PRC and Russian Federation by 15% between 2007 and 2012.

31. Due to its relative isolation and low road network density, road maintenance management and equipment capability are limited in the project impact area. To remedy this, five road maintenance centers will be established along the project road (approximately one every 100 km). In addition, facilities at the existing maintenance center will be upgraded. These units will be tasked with the road's upkeep, keeping it free from debris, potholes, excess snow, and other hazards to drivers and vehicles. Through their efforts, the international roughness index of the road will not exceed 4.5 at any given time, thereby ensuring that the benefits resulting from decreased vehicle operating costs and fuel savings will continue. The activities of these new maintenance units will be undertaken along the project road according to a set schedule. Following completion of the JFPR project, trained individuals could be employed by the regional maintenance units, thereby utilizing their knowledge and training on the project road and further stimulating the local economy.

4. Main Components of the Associated ADB-Financed Operation

No.	Component Name	Brief Description
1.	Civil Works	The WRRCDP's output will be improvement of a 748.4 km road corridor through Mongolia's western region connecting Yarant at the PRC border to Ulaanbaishint at the Russian Federation border via the aimag centers Hovd and Olgii. The road will be built to Mongolian Category III road standards (determined by the level of traffic), with two lanes and a cross section consisting of 3.5 m lane widths and shoulder widths of 1.5–2 m. This proposed cross section also meets class II roads requirements of the Asian Highway network.
2.	Road Maintenance Centers	Inadequate road maintenance has been an issue in Mongolia for some time. To increase the capacity for road maintenance in the project impact area, the proposed ADB loan includes a component for the establishment of five maintenance units with corresponding equipment.
3.	Equipment	To adequately maintain the surface of the project road, the newly established road maintenance units will procure new equipment to supplement that of the existing road maintenance center located along the project alignment.
4.	Community Development	Along the alignment, community development projects will be undertaken to improve living standards and reduce the poverty level in the project impact area. Participants in stakeholder meetings suggested that training, such as driving in order to secure truck-driving jobs at recently established mines, be provided to the unemployed. Another common suggestion was to provide drinking water wells near soum centers for easier access to clean drinking water. ADB will review the submissions to determine which community development projects would have the greatest impact and would be most suitable under project funding.
5.	Consultancy Services	Under phase I, the Project will finance 92.5 person-months of international consulting services: 16 for detailed design (financed by the Government), 72 for construction supervision, and 4.5 for other services (financed by ADB). Construction

No.	Component Name	Brief Description
		supervision will cover all three contract packages. The detailed design period is anticipated to begin in the first quarter of 2008 and last for the entire year.

5. Rationale for Grant Funding Versus ADB Lending

32. The proposed community-based local roads project is directly linked to the associated ADB-financed project and will maximize the benefits of both. Currently, traffic on the local-access/soum-center roads is sparse due to several interdependent factors, including the (i) poverty of the rural population, (ii) poor state of the roads, and (iii) associated high cost of using those roads. Limited, if any, international funds have been utilized for development and maintenance of these local roads. Furthermore, the ADB-financed associated project focuses on rehabilitating national and regional roads, rather than directing funds to road maintenance.

33. The proposed JFPR activities require flexibility in developing appropriate organizational mechanisms and appropriate community-accessible technology. The proposed activities require close involvement of local communities and officials. It would not be possible to organize such interfaces under a regular ADB-financed project. The Project will demonstrate the effectiveness and sustainability of a community-based road upgrading and maintenance system for potential replication in other regions of Mongolia and possibly in other Central Asian countries.

D. Implementation of the Proposed Grant

1. Provide the Name of the Implementing Agency	Department of Roads of the Ministry of Road, Transport and Tourism (MRTT)
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34. **Project Management.** The Executing Agency (EA) is the Ministry of Road, Transport and Tourism (MRTT) and the implementing agencies are soum center governments supported by a project implementation unit (PIU) within the Department of Roads. The implementation schedule is in Appendix 4, and implementation arrangements are in Appendix 5.

35. **Procurement.** All procurement under the JFPR project will be conducted in accordance with ADB's *Procurement Guidelines* (2007, as amended from time to time). Civil works will be carried out by force account. For any purchases under force account, shopping procedures will be used. An indicative procurement plan is in Appendix 6.

36. **Disbursement Arrangements.** The EA and implementing agencies will adopt either of the following disbursement procedures for withdrawal of grant proceeds 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, whereby 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 detailed disbursement arrangements are in Appendix 7.

37. **Consulting Services.** Total input of international and national consultants will be 18 and 45 person-months, respectively. A firm of consultants will be selected and engaged based on a simplified technical proposal using the quality and cost-based selection method (80% technical and 20% financial weightings) in accordance with ADB's *Guidelines on the Use of Consultants* (2007, as amended from time to time). The outline terms of reference for consulting services

(including a description of required experts) is in Appendix 8. The Consultants will procure the office equipment, which will be turned over to the EA at the conclusion of the Project.

38. **Environment.** ADB has classified the JFPR project as environmental category B. The initial environmental examination (IEE) report and its summary (Appendix 9) were prepared by the Mongolian Government. Also, an environmental management plan (EMP) has been developed within the IEE. The EMP includes an institutional arrangement and detailed environmental protection measures, and it will be finalized after the detailed design. Given the characteristics of the components and the EMP, the IEE concluded that the JFPR project has no significant adverse environmental impacts.

2. Risks Affecting Grant Implementation

Type of Risk	Brief Description	Measure to Mitigate Risk
Governance	<p>Changes in government administration may result in modified policies toward local-access/soum-center road maintenance.</p> <p>Problems of corruption associated with low pay and weak governance.</p>	<p>Government assurance will be sought on sustainability of maintenance for upgraded roads.</p> <p>Local community members will be utilized to monitor the progress of road maintenance and upkeep over time.</p> <p>A long-term time schedule for road maintenance will be established early on and adhered to.</p> <p>ADB policies and guidelines on controlling corruption, procurement, financial reporting, and auditing will be strictly adhered to.</p>
Inadequate maintenance after project completion	<p>Local-access/soum-center roads improved under the Project may not be properly maintained in the future, thereby decreasing the benefits to be derived from project financing.</p>	<p>Local construction groups and labor will be utilized to undertake maintenance work, thereby providing an incentive for maintaining the local-access/soum-center roads.</p> <p>On-the-job and classroom training will be provided to local individuals in order to increase the pool of knowledge within the project impact area, which will result in a larger number of individuals that are qualified to perform road upkeep and maintenance work.</p> <p>The individuals trained under the capacity building programs may be absorbed into the regional maintenance units, thereby ensuring continued and long-term employment.</p> <p>A maintenance handbook will be created under the Project that will provide guidelines and timetables for future maintenance work on the local-access/soum-center roads.</p> <p>A covenant in the agreement between the Government and ADB states that maintenance costs for these local-access/soum-center roads should be allocated annually from the MRTT.</p>

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
Decreased travel time from soum centers to western region by 35%.	Consultant report	Before and after completion of access/soum-center road construction.
Decreased number of poor households by 200 in the region by 2011.	Consultant report and government statistical data	Before road construction and before closing of the Project.
Allocated budget from local government for maintenance of JFPR upgraded roads amounting to at least \$100 per km per annum.	Consultant report	Before road construction and before closing of the Project.
About 33 km of rural-access/soum-center road constructed in macadam, with tree planting along the road in maximum nine pilot project sites.	Consultant report	After construction of the access/soum-center road.
Road construction and maintenance training for at least 50 residents of soums in each pilot project site.	Road operation and maintenance handbook	During the construction and immediately after road construction completed.

5. Estimated Disbursement Schedule

Fiscal Year (FY)	Amount (\$)
FY2008	100,000
FY2009	730,400
FY2010	555,600
FY2011	614,000
Total Disbursements	2,000,000

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DESIGN AND MONITORING FRAMEWORK

Design Summary	Performance Targets and/or Indicators	Data Sources and /or Reporting Mechanisms	Assumptions and Risks
Impact Improved quality of life in remote rural areas in Western region in Mongolia	Decrease the number of poor households by 200 in the region from 2008 to 2011 Increase the number of job opportunities by 100 per each soum center due to improved access to market from 2008 to 2011	Government statistical data	Assumptions <ul style="list-style-type: none"> Continued macroeconomic stability and the Western Regional Road will be constructed on time. Project implemented in a timely fashion. An additional three sites for local-access/soum-center roads will be identified. Risk <ul style="list-style-type: none"> Problems of corruption associated with low pay and weak governance.
Outcome Sustainable rural access road service to the main road	Decrease travel time from the soum center to the Western Regional Road by 35% by 2011 All-weather access to at least seven remote soum centers by 2011 Vehicle operating cost of soums reduced by 10% by 2011 Allocation of \$100 per km for maintenance of project roads by 2012	Before-after traffic survey Consultant's final report, and soum center government data	Assumptions <ul style="list-style-type: none"> Local maintenance units will absorb the individuals trained. Soum centers will provide at least \$100 per km per annum as an annual allocation for local road maintenance budget. Risks <ul style="list-style-type: none"> Maintenance funds will not be provided by the state government. Changes in government administration may result in modified policies toward local-access/soum-center road maintenance.
Outputs <ol style="list-style-type: none"> Improved rural-access/soum-center roads. Established operation and maintenance system at pilot project sites. 	About 33.5 km of rural-access/soum-center road constructed at 10 pilot project sites with tree planting along the road by 2011. At least 50 individuals per pilot project site trained and road maintenance handbook developed by 2011.	Consultant progress reports Consultant progress reports	Assumptions <ul style="list-style-type: none"> Willingness of local community to participate in construction and maintenance. Strong support from the Government. Equal job opportunities will be provided for both males and females.
Activities with Milestones <ol style="list-style-type: none"> Detailed design by 2008 Community-based rural-access/soum-center roads construction and tree planting from June to August in 2009, 2010, and 2011 Capacity building on operation and maintenance from June to August in 2008, 2009, and 2010 			Inputs <ul style="list-style-type: none"> Japan Fund for Poverty Reduction: \$2.0 million Government: \$100,000 Community: \$100,000

SUMMARY COST TABLE
(\$)

Inputs/Expenditure Category	Component A: Capacity Building on Construction and Maintenance	Component B: Community-Based Rural-Access and Soum-Center Road Upgrading and Tree Planting	Component C: Grant Management, Monitoring, Auditing, and Evaluation	Total (Input)	%
Works	180,000	1,049,700		1,229,700	61.5
Equipment	20,000	50,000	15,000	85,000	4.2
Training, Workshops, Seminars, and Public Campaigns	32,000			32,000	1.6
Consulting Services	99,000	153,000	63,000	315,000	15.8
Grant Management			248,200	248,200	12.4
Contingencies (Use of contingencies requires prior approval from ADB).	15,750	64,350	10,000	90,100	4.5
Subtotal JFPR Grant Financed	346,750	1,317,050	336,200	2,000,000	100.0
Government Contribution(in kind)	10,000	75,000	15,000	100,000	
Other Donor's Contribution					
Community's Contribution (in kind)	10,000	90,000		100,000	
Total Estimated Costs	366,750	1,482,050	351,200	2,200,000	
Incremental Costs					

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

Source: ADB estimates.

DETAILED COST ESTIMATES (\$)

Supplies and Services Rendered		Unit	Quantity Units	Cost Per Unit	Total	JFPR Amount	Government	Community
A.	Component A: Capacity Building on Construction and Maintenance							
1.1	Works (0.5 km demonstration projects at each site)	demonstration	10	20,000	200,000	180,000	10,000	10,000
1.2	Training Equipment and Supplies	lump sum	1	20,000	20,000	20,000		
1.3	Workshops, Seminars, and Public Campaigns							
	1 Workshop per Year per Site	workshop	10	3,200	32,000	32,000		
1.4	International Consultants	man month	6	15,000	90,000	90,000		
	National Consultants	man month	9	1,000	9,000	9,000		
1.5	Contingencies	lump sum	1	15,750	15,750	15,750		
	Subtotal (A)				366,750	346,750	10,000	10,000
B.	Component B: Community-Based Rural-Access and Soum-Center Road Upgrading and Tree Planting							
2.1	Material and Community Participation Expenses							
	Materials	km	31	18,000	558,000	393,000	75,000	90,000
	Community Participation Expenses	km	31	16,000	496,000	496,000		
2.2	Equipment (Hire)							
	Tractor Shovel	km	31	1,000	31,000	31,000		
	Dump Truck	km	31	900	27,900	27,900		
	Motor Grader	km	31	950	29,450	29,450		
	Water Sprinkler	km	31	750	23,250	23,250		
	Roller	km	31	700	21,700	21,700		
	Other	km	31	400	12,400	12,400		
2.3	Trees	lump sum	10	1,500	15,000	15,000		
	Subtotal Civil Works				1,214,700	1,049,700	75,000	90,000
2.4	Equipment (Purchases)	lump sum		50,000	50,000	50,000		
2.5	International Consultants	man month	9	15,000	135,000	135,000		
	National Consultants	man month	18	1,000	18,000	18,000		
2.6	Contingencies	lump sum	1	64,350	64,350	64,350		
	Subtotal (B)				1,482,050	1,317,050	75,000	90,000

Supplies and Services Rendered		Unit	Quantity Units	Cost Per Unit	Total	JFPR Amount	Government	Community
C. Component C: Grant Management, Monitoring, Auditing, and Evaluation								
3.1	Office/Admin Equipment and Supplies	lump sum	1	30,000	30,000	15,000	15,000	
3.2	International Consultant	man month	3	15,000	45,000	45,000		
	National Consultants	man month	18	1,000	18,000	18,000		
	Subtotal Consultant				63,000	63,000		
3.3	Grant Management							
	Project Auditing	year man	3	10,000	30,000	30,000		
	Project Evaluation	month	6	5,000	30,000	30,000		
	Community Outreach	lump sum	1	10,000	10,000	10,000		
	Communications	month	36	200	7,200	7,200		
	PIU Office Rent	month	36	750	27,000	27,000		
	PIU Executive Director	month	36	1,000	36,000	36,000		
	PIU Deputy Director	month	36	600	21,600	21,600		
	PIU Secretary	month	36	400	14,400	14,400		
	PIU Translator	month	36	500	18,000	18,000		
	Local Transportation	month	36	300	10,800	10,800		
	International Airfare	trip	6	2,000	12,000	12,000		
	Domestic Airfare	trip	6	400	2,400	2,400		
	Per Diem for International Consultant	day	360	80	28,800	28,800		
	Subtotal Grant Management				248,200	248,200		
3.4	Contingencies	lump sum	1	10,000	10,000	10,000		
	Subtotal (C)				351,200	336,200	15,000	
Total					2,200,000	2,000,000	100,000	100,000

JFPR = Japan Fund for Poverty Reduction, PIU = project implementation unit.

Source: Asian Development Bank estimates.

PROJECT IMPLEMENTATION SCHEDULE

Item	2008				2009				2010				2011			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Grant Effectiveness			■													
Establishment of PIU			■													
Selection of International Consultant			■													
Detailed Design and Community Consultation					■											
Training Seminar						■			■					■		
Demonstration Project						■			■					■		
Civil Works						■	■			■	■			■	■	
Final Reporting																■

PIU = project implementation unit.

Source: Asian Development Bank estimates.

IMPLEMENTATION ARRANGEMENTS

A. Implementation Arrangement

1. Executing Agency

1. The Ministry of Road, Transport and Tourism (MRTT) will be the Executing Agency (EA) of the Community-Based Local Road Upgrading and Maintenance in the Western Region of Mongolia Project (the JFPR project). The head of the Department of Roads (DOR) under MRTT will have overall responsibility for project management.

2. Implementing Agency

2. A project implementation unit (PIU) within the DOR will be established, and MRTT will appoint a project coordinator at the national level. Soum centers will have local implementation units headed by a soum coordinator appointed by the local government office. The PIU 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. An executive director will be proposed for approval by Asian Development Bank (ADB). That person shall have adequate experience in project management and will have overall responsibility for project management.

3. Project Manager/Transport Specialist

3. An international project manager/transport specialist will be appointed to guide project implementation, assess poverty impact, and administer the Project, including reporting to ADB and the Government. The project manager will also provide technical assistance to the PIU regarding contracting and supervising community-based road maintenance planning, budgeting capacity building, coordination, and execution. The project manager will be stationed at the PIU in Ulaanbaatar. As Japan Fund for Poverty Reduction (JFPR) funds cannot be utilized to fund the salaries of government officials, the project manager shall not be an employee of the Government of Mongolia. The project manager will liaise with the PIU, local communities, and the local road construction groups in the field. Therefore, he or she will work intermittently in Hovd and Bayan-Olgii aimags. The project manager will be supported by up to two local consultants: (i) one engineer with expertise and experience in road engineering plus supervision and contract administration, and (ii) one community organizer/social development specialist with expertise and experience in social impact assessment. The project manager may contract out other services to local community organizations, as required.

4. Community Involvement

4. To achieve sustainable project benefits, local community organizations shall be selected to perform services under the Project. The Project will be implemented in close consultation with the relevant local government agencies and with active participation by local beneficiaries. Targeted beneficiaries (the poor and poorest in local communities) will be engaged under contracts for road maintenance work. Where possible, women's groups will be engaged to facilitate greater women's participation in the road maintenance work, for which they will receive fair compensation.

5. It is expected there will be high demand within communities to join the Project. To ensure participants are selected in a transparent manner, participant selection committees will be established at each soum level. These committees will be comprised of nominees from the soum governments, local community organizations, the project consultant, and the project management office. All announcements of participant selection processes and decisions taken by the committees will be made available to the community by public notices at soum centers.

5. Procurement

6. **Procurement.** All procurement under the JFPR project will be conducted in accordance with ADB's *Procurement Guidelines* (2007, as amended from time to time). Civil works will be carried out by force account. For any purchases under force account, shopping procedures will be used. An indicative procurement plan is in Appendix 6.

6. Consulting Services

7. Total input of international and national consultants will be 18 and 45 person-months, respectively. A firm of consultants will be selected and engaged based on a simplified technical proposal using the quality- and cost-based selection method (80% technical and 20% financial weightings) in accordance with ADB's *Guidelines on the Use of Consultants* (2007, as amended from time to time). The outline terms of reference for consulting services (including a description of required experts) are in Appendix 8. The consultants will procure the office equipment, which will be turned over to the EA at the conclusion of the Project.

8. **Reallocation of Funds by Expenditure Categories or Components.** 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 cleared and endorsed by ADB.

9. **Changes in Scope of Grant.** Where a change is needed in a 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 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, a request must be sent to ADB, which will determine if Government of Japan approval 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.

7. Reporting

10. **Monthly and Quarterly Progress Report.** The consultant will prepare monthly progress reports addressing project implementation progress, problems, and concerns. 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. The reports should be concise and kept to a maximum of five pages. Reports should be circulated to the EA, implementing agencies, the Ministry of Finance, ADB, and the Embassy of Japan in Mongolia, either by hard or soft copy. Quarterly progress reports will likewise be required.

11. **Audited Grant Accounts.** 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 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 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 statement of expenditures procedures. ADB will also finance, through the Project, annual audits by an independent audit company acceptable to ADB.

12. **Implementation Completion Memorandum.** The project implementation completion memorandum should be prepared by the EA within 6 months after the grant closing date.

8. Monitoring and Evaluation

13. A preliminary set of indicators for monitoring and evaluating the performance of the Project will be agreed upon by MRTT and ADB. At the beginning of project implementation, the project manager, together with the project consultant, will collect and confirm baseline values for social, environmental, and poverty reduction impact indicators. Monitoring indicators will be measured during project implementation. Comments and findings regarding project indicators will be incorporated by MRTT and included in every second quarterly report to ADB. In addition to indicators for monitoring, indicators for project evaluation will be measured at project completion. Where relevant, indicators will be disaggregated by gender. Participatory surveys will be conducted, and results will be compared with the baseline. A final report will consist of an evaluation of changes that occurred in the preceding 36 months.

14. **Contract Awards, Commitments, and Disbursement Projections.** Consistent with the project schedule, disbursement of the JFPR resources will be spread over the implementation period. The disbursement amount for each year is to be detailed in the inception report.

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

16. **Monitoring Indicators.** 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 for the monthly progress reports. Where necessary, the project manager will collect and confirm baseline values for the indicators at the beginning of project implementation.

17. **Midterm Review.** ADB and the Government will carry out a midterm review of project implementation in 2009. The midterm review will focus on project impacts, and 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 review the original project scope, design, implementation arrangements, and other relevant issues in light of the Government's development strategies and policy framework and of ADB's strategic concerns, including any modifications, if needed. It will also

- (i) examine progress toward achieving the Project's measurable objectives 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.

B. Implementation Schedule

18. The Project will be implemented over the 3-1/2 years from May 2008 to November 2011. It will be conducted in the following sequences:

- (i) In 2009, the international consultant will travel to the field to evaluate the potential sites for local-access/soum-center roads, consult with local stakeholders about site-specific issues and preferred alignments, and undertake the detailed design of the local-access/soum-center roads.
- (ii) Following the detailed design process, training seminars of 2–3 days will be held in each selected soum.
- (iii) Immediately following the training seminars, 0.5-kilometer (km) demonstration projects will be undertaken in each soum in the second quarter of 2009. These are anticipated to be located near the site of each local-access/soum-center road and potentially in the center of the soum.
- (iv) After completing the training seminars and demonstration projects, construction will get underway on the local-access/soum-center roads and will last through the end of the Mongolian construction season (approximately the end of the third quarter).
- (v) In 2010 and 2011, civil works will restart in the second quarter, immediately preceded by training seminars that will serve as refresher courses for the topics discussed and undertaken in the previous year.
- (vi) Following completion of the civil works in 2011, the final reporting stage will begin and is anticipated to last 2–3 months. The Project's anticipated completion date is November 2011.

C. Project Selection Criteria

19. Eligible roads for maintenance and repair are local roads that provide access from soums to the Western Regional Road through Hovd and Bayan-Olgii aimags, as identified in PPTA 4785.¹ No bridges are anticipated to be constructed under the Project.

¹ ADB. 2006. *Technical Assistance to Mongolia for Preparing the Western Regional Road Development Project*. Manila (TA 4785-MON, for \$650,000).

20. Selection criteria will favor local-access/soum-center roads that (i) serve the poor and poorest beneficiaries, (ii) are suitable for labor-intensive techniques, (iii) enjoy community and beneficiary involvement, (iv) are technically sound and simple, (v) are consistent with national priorities, (vi) have economic potential, (vii) have no significant potential adverse impacts on the environment, and (viii) provide access to social facilities and other roads.

21. The international consultant will meet with residents of soums where access/soum-center roads have been proposed, as well as at potential sites of additional eligible roads. Through community consultations, the consultant will be informed of site-specific requirements and obtain feedback regarding the optimal alignment and location for each of the roads.

D. Local Road Inventory and Condition Survey

22. All local roads along the Western Regional Road Corridor of Mongolia have been surveyed to determine their usefulness in connecting poor population groups with the main road as part of ADB PPTA 4785. Approximately 746 km of the road network were screened and surveyed for prioritization and inclusion in the Project. Within the western corridor, six soums and their access/soum-center roads have been initially selected for inclusion: Altai soum, Bugat soum, Erdeneburen soum, Manhan soum, Tolbo soum, and Tsagaannuur soum. In addition to these six access/soum-center roads, the center of Most soum will also be developed. It is anticipated that an additional three sites will be selected for local-access/soum-center road upgrading and maintenance. These additional three sites are expected to add approximately 9 km of length to the Project, bringing the overall length to 33.5 km.

PROCUREMENT PLAN

Table A6.1: Project Information

Country	Mongolia
Name of Recipient	Government of Mongolia
Project Name	Community-Based Local Road Upgrading and Maintenance in the Western Region of Mongolia
Grant Reference	To be determined
Date of Effectiveness	To be determined
Amount \$ (total from all financiers)	\$2 million
Of which Committed, \$	To be determined
Executing Agency	Ministry of Road, Transport and Tourism
Approval Date of Original Procurement Plan	To be determined
Approval of Most Recent Procurement Plan	To be determined
Publication for Local Advertisement ^a	To be determined
Period Covered by this Plan	2008–2012

^a General procurement notice, invitations to prequalify and to bid, and calls for expressions of interest.

Table A6.2: Procurement Thresholds, Goods, and Works

Procurement Methods	To be used above/below (\$)
International Competitive Bidding, Works	At least \$1,000,000 and above
National Competitive Bidding, Works	Up to \$1,000,000
Shopping, Works	Up to \$100,000
International Competitive Bidding, Goods	Above \$500,000
National Competitive Bidding, Goods	Between \$100,000 and \$500,000
Shopping, Goods	Up to \$100,000
Force Account	—

— = not available.

Source: Ministry of Road, Transport and Tourism, Mongolia.

Table A6.3: Procurement Thresholds and Consultants Services

Procurement Methods	To be used above or below (\$)
Quality and Cost-Based Selection	At least \$200,000
Consultants Qualifications Selection	Less than \$200,000

Source: Ministry of Road, Transport and Tourism, Mongolia.

Table A6.4: List of Indicative Contract Packages, Goods, Works, and Consulting Services

Ref	Contract Description	Estimated Costs (\$)	Procurement Methods	Expected Date of Advertisement	Prior Review (Y/N)	Comments
A.	Works					
1.	Roadwork ^a	1,214,700	Force Account	Not applicable	N	10 road sections
B.	Equipment					
1.	Light Road Maintenance Equipment Purchases	70,000	Shopping	Third Quarter 2008	N	
2.	Office Equipment Purchases	15,000	Shopping	Third Quarter 2008	N	
C.	Consulting Services					
1.	Various Consultancy Services (One Package)	315,000	Quality and Cost-Based Selection	Third Quarter 2008	Y	80% technical and 20% financial weightings

^a For any purchases under force account, shopping procedures will be used.

Source: Ministry of Road, Transport and Tourism, Mongolia.

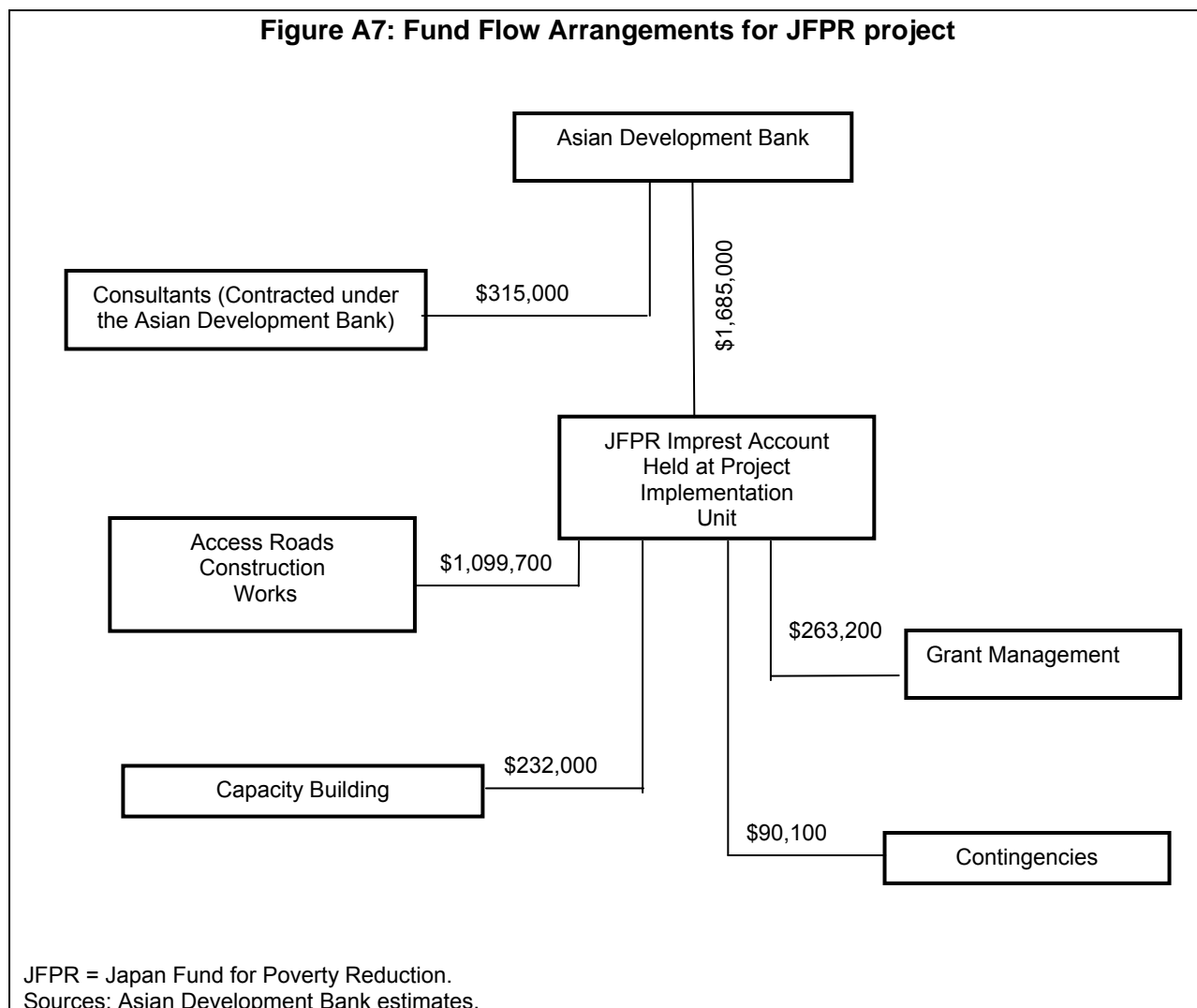
FUND FLOW ARRANGEMENT

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,² 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. To ensure speedy project implementation, the SOE procedure will apply for individual payments under \$20,000.
2. The JFPR imprest account, which will be opened and maintained by the project implementation unit (PIU) in the Ministry of Road, Transport and Tourism (MRTT), at a bank endorsed by the EA and acceptable to ADB, will be used to facilitate day-to-day local expenditures for the JFPR project. The EA will be kept informed by the PIU about all transactions and will receive copies of all financial statements and audit reports. The JFPR imprest account will be managed by the PIU on the basis of a co-signatory arrangement with the EA, initially based on the activity plan and related budget for the first 6 months. Afterwards, it will be managed based on the approved annual work plan and budget. The interest earned on the JFPR imprest account, minus bank charges, must be remitted to the JFPR account maintained at ADB before the financial closing of the account. The audit should include use of the imprest account and the SOE procedure, and a separate opinion should be submitted for that purpose.
3. Expenses for community participation will be met from the imprest account and reimbursed by ADB using the SOE procedure. All payment to participants will be made directly by the project administration unit and certified by the project consultant.
4. 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 A7.

¹ This method is suggested for purchasing equipment for road construction.

² This method is suggested for payments related to local civil works.

Figure A7: Fund Flow Arrangements for JFPR project



OUTLINE TERMS OF REFERENCE FOR CONSULTANT SERVICES

A. Scope of Consulting Services

1. In collaboration with the Ministry of Road, Transport and Tourism (MRTT), consultants engaged for the Community-Based Local Road Upgrading and Maintenance in the Western Region of Mongolia Project financed by Japan Fund for Poverty Reduction (the JFPR project) will implement the following components: (i) establishing the routine maintenance handbook for maintenance of local-access/soum-center roads with local community participation; (ii) training relevant community-based organizations (CBOs), selected local community members, and local road construction groups; (iii) conducting detailed design for local roads; (iv) implementing pilot projects, as part of the training and supervising local road maintenance works; and (v) overseeing and controlling project monitoring, evaluation, and payment disbursement.

2. Consulting services will be conducted over 63 months, requiring 18 person-months of international consultant and 45 person-months of national consultant. The international consultant will be encouraged to hire CBOs, where applicable, to perform some of the domestic consulting services. The consultants will be selected and engaged individually following ADB's *Guidelines on the Use of Consultants* (2007, as amended time to time). Experience with facilitating community participation in projects and strong communication skills are prerequisites for consultants' engagements.

B. Project Manager/Transport Specialists (international, 18 person-months)

3. The main responsibilities of the project manager, who shall have hands-on experience on low-cost maintenance techniques, will cover, but not be limited to, the following areas:

- (i) Visit all project sites, carry out a visual survey of the road conditions, and prepare a list of the works needed. Based on the visual condition survey, prepare a schedule of works and estimate their cost for each road.
- (ii) Assess construction cost. Investigate possible construction methods and compare their costs to find the method with the most effective life cycle cost.
- (iii) Propose the most effective pavement type and carry out detailed design.
- (iv) After considering the costs, the allocated budget, and other conditions, finalize the list of proposed roads in consultation with the project implementation unit (PIU), MRTT and its local branches, and local governments and communities.
- (v) Prepare and submit an annual work plan to the project implementation unit, local governments, and MRTT for financing.
- (vi) Disseminate the plan to local communities and other potential donors for information and possible contributions.
- (vii) In collaboration with stakeholders, prepare and agree on prioritization guidelines.
- (viii) Initiate and develop contacts with communities and existing CBOs to help them coalesce into groups capable of filling the roles required to maintain local road networks.
- (ix) Serve as a committee member of the selection committee in selecting community participants for the Project and authorize payments to participants.
- (x) Provide on-the-job training to local community groups on local road maintenance planning and management—from condition surveys and selection of appropriate technology to the preparation and tendering of simple contracts for execution by local and community governments.
- (xi) Disseminate the results of the planning exercises to stakeholders and authorities. Based on the awarded or anticipated contracts in the project area, prepare an

- estimate of cash flow requirements, solicit funds for road maintenance from all potential sources, and inform the PIU, MRTT, local governments, and local communities on the needs for local road maintenance financing.
- (xii) Help the PIU carry out tender invitation and analysis, and recommend a construction group for road maintenance work using JFPR funds and any other resources.
 - (xiii) Seek the approval of the PIU and/or ADB for fund commitment. After awarding a contract, help the PIU and local communities supervise the contractor, certify payments, and submit certificates to the PIU for payment recommendation. A copy of the certificate should be submitted to the PIU and proof provided that the PIU has received the certificate. If the PIU does not raise objections to the certificate within 2 weeks, the PIU will effect payment in 15 days and send a notice of payment to the contractor.
 - (xiv) Review any existing road maintenance manuals and handbooks, if available, and prepare the local road maintenance handbook.
 - (xv) Guide local consultants and small communities on the collection of baseline data and follow-up surveys stipulated in the design and monitoring framework.
 - (xvi) Prepare reports on physical and financial progress and on poverty impacts.
 - (xvii) Three months before project completion, prepare a comprehensive project completion report that will include (i) a description of the course of actual implementation, (ii) lessons learned during implementation, and (iii) guidelines for future replication of the Project.

C. Transport Specialists (national, 45 person-months)

4. The national consultant will assist in the tasks of the international consultant.

D. Consultant Inputs by Components

Consulting Inputs by Component	Number of Person-Months		
	International	National	Total
Component A	9	18	27
Component B	6	9	15
Component C	3	18	21
Total	18	45	63

SUMMARY INITIAL ENVIRONMENTAL EXAMINATION

1. **Introduction.** The initial environmental examination (IEE) was prepared to examine whether the physical components of proposed grant assistance Community-Based Local Road Upgrading and Maintenance in the Western Region of Mongolia can be expected to result in significant environmental impacts, and whether or not full environmental impact assessments are needed. It also described possible environmental impacts and recommended mitigation measures for reducing adverse impacts caused by the Project. The IEE conforms to the *Environmental Assessment Guidelines* (2003) and the *Environment Policy* (2002) of the Asian Development Bank (ADB). ADB rates the Project as category B, according to its environmental classification criteria. The final report of the project preparatory technical assistance¹ for the ADB-financed Western Regional Road Corridor Development Project (the main regional road) is utilized as an information source for the project area. The IEE and its summary were prepared by the Government of Mongolia.

2. **Geology and Soil.** The project area is located in the Mongol Altay high mountainous area. Soil characteristics vary substantially within the project area. Most common near the Altai soum are alluvial, desert, and semidesert brown and Gobi brown soils. Gobi brown and light krasnozem soils are dominant between Manhan and Hovd, with solonchak and solonets soils near Khar Us Lake. High mountain steppe raw humic soils are widespread for the high altitude sections between Hovd and Ulaanbaishint (at the border with the Russian Federation). Spots of high mountain tundra occur, especially between Hovd and Olgiy. Gobi brown soil dominates near Hovd and Olgiy. Both perennially and seasonally frozen soils occur in the project area. Continuous permafrost persists between Ulaanbaishint and Tsagaannuur, between Hovd and Olgiy (between the Hashaat and Buraat passes), and in the upper part of Bodonch Canyon. Seasonally frozen soils occur near Hovd and Olgiy. Permafrost is rare in the vicinity of Bulgan soum and the Bulgan River valley.

3. **Climate and Air Quality.** The annual average air temperature in the project area has ranged between -0.2°C and 1.3°C for the past 10 years. The annual range of air temperature varies between 66°C and 82°C , depending on geographic location and natural zone. About 85.0–94.5% of annual precipitation falls between May and September. During the cold season, snowstorms can occur. Air quality is good and does not exceed maximum allowable concentrations, except for local dust pollution caused by vehicles.

4. **Hydrology and Water Resources.** Water resources in the project area are represented by surface water (rivers, springs, and lakes) and groundwater. Spring flooding from the rivers of the project area generally begins in the middle of April, with peak flow occurring in late June and continuing for 110–150 days. The spring flood flow is 60–90% of the total annual flow of the rivers. The water quality of all of the rivers and lakes of the project area is assessed as “very clean” and “clean.”

5. **Flora and Fauna.** The flora and the areas in which they are located are presented in IEE Appendix 1. The local roads construction areas are in the existing multi-track road areas, where plant species are native species that are highly tolerant of grazing, compaction, and other physical disturbances. Rare and endangered mammals and birds that occur in Bayan-Olgiy and Hovd aimags are detailed in IEE Appendix 1. No rare and endangered species are found near the local roads.

¹ TERA International Group, Inc. 2007. *Consultant's Report on Mongolian Western Road Corridor Project*. Manila.

6. **Protected Area.** No protected areas exist near the local roads.

7. **No-Action Alternative.** The no-action alternative would result in continued impediments to travel and transport of people and goods, as well as in a substantial constraint to future improvements in the economies of local communities. Using current multi-track earth roads will continue to affect pasturelands, habitats, and flora while deteriorating air quality with dust. Accordingly, the no-action alternative is not considered a reasonable course of action.

8. **Route Location.** The local roads are planned along the existing road area. Alternative routes would mean new road construction outside of the existing road area, and their costs and environmental impacts would be significantly larger than those of the current plan for pavement on the existing alignment. Therefore, a new road construction plan was not studied.

9. **Environmental Management Plan.** The environmental management plan (EMP) identifies feasible and cost-effective measures to be taken to reduce potentially significant negative impacts to acceptable levels (IEE, Appendix 2).

10. **Measures for Air Quality.** Trucks carrying earth, sand, or stone will be covered with sheet. Stockpiles of such material will be covered by sheet to prevent dust.

11. **Measures for Water Quality.** Construction activities may temporarily affect the water quality of the river adjacent to the local roads. No net loss of water access points will result. Chemicals (fuel, asphalt, cement, or quicklime) used in road construction could pollute water near the sites by accidental spill. This will be avoided by choosing proper storage locations and managing them appropriately.

12. **Measures for Noise.** Noise is not a significant problem along the routes during operation, as only traffic to and from the soums is expected. Some increases in noise will be experienced during construction near the communities. The noise impacts on communities will be alleviated by construction scheduling, which will be agreed in consultations with the people.

13. **Institutional Arrangements.** The Ministry of Road, Transport and Tourism (MRTT) will be the Executing Agency of the Project. The MRTT's minister will have overall responsibility for project management. A project implementation unit (PIU) within the Department of Roads will be established and be the implementing agency. The project manager will be stationed at the PIU in Ulaanbaatar. The project manager will liaise with the PIU, local communities, and the local road construction groups in the field and will, therefore, work intermittently in Hovd and Bayan-Olgii aimags. The project manager will be supported by the following local consultants: (i) one engineer with expertise and experience in road engineering and supervision plus contract administration, and (ii) one community organizer/social development specialist with expertise and experience in social impact assessment. The project manager may contract out other services from local community organizations, as required. The Project will be implemented in close consultation with the relevant local government agencies and with active participation by local beneficiaries. Targeted beneficiaries (the poor and poorest in local communities) will be engaged under contracts for road maintenance work.

14. Construction works will be carried out by community people led by the PIU, which will be responsible for implementing the mitigation and monitoring measures defined in the EMP.

15. **Environmental Monitoring.** The PIU will supervise construction activities, including implementation of the EMP. Air quality will be monitored twice yearly during the construction period for each section by environmental monitoring consultants engaged in the ADB-financed Western Regional Road Corridor Development Project. Community-based monitoring for water quality will be carried out in Tsagaannuur soum. A detailed monitoring plan will be devised after the detailed design.

16. **Environmental Assessment Review Procedure.** At this stage, the three soums where the Practical Training on Construction Method component will be carried out have not yet been decided. Once these locations are confirmed, an initial environmental screening will determine the need for any additional environmental examinations under the environmental assessment review procedure outlined in the IEE. If the screening identifies any potentially significant environmental impacts related to the works and operations, IEEs for such components will be conducted and approved before the works begin. Given the purpose of the Practical Training on Construction Method, however, sites with potential environmental impacts will be avoided.

17. MRTT will supervise the screening procedure and will ensure that the screening procedures conform to government regulations. If any component requires an IEE, MRTT will ensure the quality of the assessment. The EMP will be updated through additional IEEs and applied in construction and operation. After screening, the PIU will prepare and report to ADB an outline of each new section through quarterly project progress reports.

18. **Public Consultation.** Throughout 2007, meetings were held with stakeholders in the soums along the roads. In all of these meetings, the stakeholders indicated that the access roads were a top priority and enthusiastically pledged their support and willingness to take part in the construction and continued maintenance of these roads.

19. Representatives of the local government; environmental, infrastructure, and inspection organizations; nongovernment organizations such as WWF and Altai-Sayan Eco-region project; and representatives of universities attended the Hovd and Olgiy workshops. Topics raised during workshop discussions related to socioeconomic benefits of the road, access roads, environmental impacts and their mitigation, and archeological and historical sites.

20. **Conclusion.** No significant adverse environmental impacts were found for any of the local roads and training sections, provided that adequate mitigation measures are properly implemented, no further environmental impact assessment will be required.

PHOTOS OF CURRENT LOCAL ACCESS/SOUM CENTER ROADS



Figure A10.1: Manhan Soum Access Road



Figure A10.2: Manhan Soum Access Road



Figure A10.3: Bugat Soum Center



Figure A10.4: Bugat Soum Access Road



Figure A10.5: Tolbo Soum Access Road



Figure A10.6: Tsagaannuur Access Road

SUMMARY POVERTY REDUCTION AND SOCIAL STRATEGY

Country/Project Title: Mongolia/Community-Based Local Road Upgrading and Maintenance in the Western Region of Mongolia

Lending/Financing
Modality:

Japan Fund for Poverty
Reduction (JFPR)

Department/
Division:

East Asia Department/
Transport Division

I. POVERTY ANALYSIS AND STRATEGY

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

In the Economic Growth Support and Poverty Reduction Strategy issued in 2003, the Government of Mongolia emphasizes road network development because roads play a significant role in accelerating economic growth and alleviating poverty. In the country strategy and program for 2006–2008,^a road development is identified as important for regional market integration and facilitating the movement of people, goods, and services (which, in turn, lead to economic development and poverty reduction).

B. Poverty Analysis

Poverty Classification: General intervention

The overall poverty rate for Mongolia is approximately 32.2%, with rural areas having a 37% level and urban areas a 27.9% level. More than one third of the population of the western region (38.7%) is classified as poor, while only 20.4% of Ulaanbaatar falls within the same category.^b Relative to other regions of the country, the West has one of the lowest levels of urbanization as well as the largest average household size and highest dependency ratio. These factors contribute to the comparatively high levels of poverty.^c Within soums located along or near the project alignment, a 2007 sample survey of 334 households indicated that 20.34% were poverty households, with average income per capita ranging from MNT17,000 to MNT27,000 per month.^d The Project will lead to lower transport costs, better access from soum centers to the national highway (Western Regional Road Development Project) financed by Asian Development Fund (ADF) to deliver essential goods from neighboring economies to local communities, and employment opportunities during construction.

II. SOCIAL ANALYSIS AND STRATEGY

A. Findings of Social Analysis

Other than poor local road conditions in the rural area, common social issues in the area include:

- 1. High Unemployment.** Lack of job opportunities in the region is one of the main issues. In the western region, the unemployment rate is higher than in the rest of the regions. In 2004, the unemployment rate was 3.6% in the country whereas in the western region it was 5.3%. There is no significant industry to boost the regional economy at this time.
- 2. Poor Medical Facilities.** Every soum has trained medical assistants and primary health care centers with minimal facilities. Problems still remain, however, since clinics and hospitals lack modern facilities for special treatments, nurses and doctors have not been fully trained in modern treatment techniques, and medical treatment costs tend to be higher for poor households in the region.
- 3. Unsecured Drinking Water Resource.** Some 12.8% of the households in Bayan-Olgii Aimag and (by contrast) 94.5% of the households in Hovd Aimag are able to obtain water from the water distribution stations. The remainder use water from such natural (unprotected) sources as springs, rivers, and lakes.

About 50 unskilled construction jobs in each pilot project soum center will be generated by the proposed JFPR project. In addition, about 1,320 unskilled construction jobs will be generated under the associated ADF grant project (Western Regional Road Development Project). In addition, \$150,000 is allocated under an associated ADF grant project for community development activities in the project area to respond to such social needs as drinking water development, public baths, vocational training, and equipment for community-based enterprises.

B1. Consultation and Participation

1. Provide a summary of the consultation and participation process during the project preparation. More than 6,200 people were consulted during project preparation for the associated grant project and for the proposed JFPR project through public meetings and socioeconomic surveys. Various stakeholders participated in the consultation process, including central and local government officials, environmental experts, social workers, teachers, doctors, herdsmen, businesspeople, and road users. Active participation from women in public meetings was confirmed during the fact-finding mission. These processes have enabled (i) raising the level of awareness and gaining

local support, (ii) expression of opinions and concerns on social and environmental aspects, (iii) contribution of relevant suggestions for Western Regional Road and local road designs (e.g., relating to road alignments and access/soum-center roads) and future road projects, and (iv) identification of potential community development projects.

2. During implementation, to achieve sustainable project benefits, local community organizations shall be selected to perform services under the Project. The Project will be implemented in close consultation with the relevant local government agencies and with active participation by local beneficiaries. Targeted beneficiaries (the poor and poorest in local communities) will be engaged under contracts for road maintenance work. Where possible, women's groups will be engaged to facilitate greater women's participation in the road maintenance work, for which they will receive fair compensation. Community consultations will be mobilized also for a decision on the location, format, and sustainable operation of the Volunteer Counseling and Testing Center.

3. What level of consultation and participation (C&P) is envisaged during the project implementation and monitoring?
☒ Information sharing ☒ Consultation ☐ Collaboration ☐ Empowerment

4. 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 participatory activities comprise an ongoing process that will continue during project implementation.

B2. Gender and Development

1. Key Issues.

Women in the western aimags do not experience gender problems at this time in terms of women's rights and access to education, health, and other services. However, the Country Gender Assessment spells out growing concerns on emerging gender gaps. Despite women's higher rate of workforce participation and attainments in education, the per capita GDP for women is half of that for men (\$2,730 versus \$1,379), according to the *2006 Gender Gaps Report* by the World Economic Forum. A factor is women's predominant occupation in contracting sectors while men dominate in growth sectors. Other gender concerns are significantly higher poverty incidences among female-headed households, a twice-greater women's unemployment rate, and time demands upon rural women to produce food for household consumption. Moreover, incidences of domestic violence and alcohol abuse are rising.

2. Key Actions. Measures included in the design to promote equality between men's and women's/girls' access to and use of relevant services, resources, assets, or opportunities:

☐ Gender plan ☒ Other actions/measures ☐ No action/measure

The Project will ensure that all the road maintenance training and employment opportunities will be given) to anyone regardless of gender and will apply Mongolian labor standards. The Government's assurance will be sought to ensure implementation of this key action.

C. 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. No household will lose land; houses; agricultural plots; crops; trees; fixed assets; business; incomes and livelihoods; or access to facilities, services, or natural resources.		<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. No adverse impacts or significant changes to their livelihoods or culture are anticipated.		<input type="checkbox"/> Plan <input type="checkbox"/> Other Action <input type="checkbox"/> Indigenous Peoples Framework <input checked="" type="checkbox"/> No Action
Labor <input checked="" type="checkbox"/> Employment opportunities <input type="checkbox"/> Labor retrenchment <input type="checkbox"/> Core labor standards	Significant. About 50 unskilled construction jobs in each pilot project soum center will be generated by the Project. The Project will hire unskilled labor from	A specific assurance will be proposed to ensure local employment under the Project.	<input type="checkbox"/> Plan <input checked="" type="checkbox"/> Other Action <input type="checkbox"/> No Action

Issue	Significant/Limited/ No Impact	Strategy to Address Issue	Plan or Other Measures Included in Design
	the local communities and provide skills training.		
Affordability	No Impact. No tolls will be charged for using the improved road.		<input type="checkbox"/> Action <input checked="" type="checkbox"/> No Action
Other Risks and/or Vulnerabilities <input type="checkbox"/> HIV/AIDS <input type="checkbox"/> Human trafficking <input type="checkbox"/> Others, pls. specify	As the proposed construction is community based and no contractors are involved, there is no risk of HIV/AIDS and human trafficking.		<input type="checkbox"/> Plan <input type="checkbox"/> Other Action <input checked="" type="checkbox"/> No Action
D. 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/program implementation? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No During implementation: Number of locals employed, by gender and poor households.			

^a ADB. 2005. Mongolia: Country Strategy and Program (2006–2009). Manila.

^b National Statistics Office. 2007. *Mongolian Statistical Yearbook 2006*. Ulaanbaatar.

^c World Bank. 2006. *Mongolia Poverty Assessment*. Washington, DC (13 April).

^d March 2007 survey conducted by the technical assistance consultant in the project area.

PAVEMENT DESIGN, CONSTRUCTION, AND MAINTENANCE

1. **Introduction.** Technical options for pavement structure and maintenance should be studied for the Japan Fund for Poverty Reduction (JFPR) project. The technology should be based on the capacity of the communities and available resources.

2. **Pavement Design Solution.** Given the project roads' traffic characteristics and the budget, normal asphalt concrete is too expensive to be employed for construction and maintenance, because it requires an asphalt mixing plant. In this situation, the T_A (which stands for "Thickness equivalent to Asphalt-concrete") design method¹ is an adequate option for pavement design. It is a system integrating the design method, material specifications, and contraction quality control method. California Bearing Ratio (CBR) is the guiding indicator for roadbed condition and strength of gravel layer. The system was developed based upon the AASHTO Road Test in 1960, and it has been employed by many countries over several decades. The CBR testing equipment is affordable.

3. **Detailed Design Tasks.** At the beginning of detailed design, several pavement structures will be studied for each section. Each option's construction and maintenance plan will be developed in order to estimate their life cycle costs. Then, the most economical option will be selected for each section. On the basis of the design, technical specifications and a construction supervisory guide will be developed for each section. These should indicate (i) material specifications and construction method for the subgrade, and particularly for the anti-frost layer; (ii) roadbed CBR testing methods; (iii) a CBR value for each layer and its construction methods; and (iv) specifications and construction methods for bitumen-treated surface or Macadam surface.

4. For construction, the detailed design should provide a set of pavement structures to cope with different roadbed CBRs, as site conditions may change after detailed design survey.

5. **Preliminary Design.** Preliminary design has been carried out for the project-costing and procurement plan. Pavement life is assumed to be 4 years in this project, whereas the standard design period for a road with surface-treated pavement is 5 years. The shorter design period takes into consideration knowledge transfer. It is better that the rehabilitation works will start just after the project completion to ensure that the knowledge studied will be applied to the road maintenance before it is lost. Other reasons for the shorter life span are (i) severe climate conditions, (ii) relatively limited construction quality control capacity, and (iii) to minimize the initial construction cost.

6. Assumed traffic volume for the design period was 100 vehicles per day with 25% of 49 kilonewton (kN) axle load. (In other words, 25 times per day of equivalent to 49 kN is assumed.) The total 49 kN axle load in 4 years will be 36,500. Since T_A required is given as a function of axle load number and roadbed CBR, and assuming roadbed CBR as 8, the T_A required for the pavement structure is 10. To satisfy this T_A , a total of 50 cm of crushed stone base course (CBR = 20) that is covered by emulsified asphalt treatment is sufficient for a 4-year pavement life. However, the type of pavement and its structure should be reviewed during the detailed design. For example, Macadam and/or cement concrete is another option. In this case, the total pavement thickness is 10 cm.

¹ Association of Mongolian Road Engineers; Ministry of Road, Transport and Tourism; Japan International Cooperation Agency; and Japan Road Associate. 2006. *Pavement Manual for Community Road with Bituminous Surface Treatment*. Tokyo. The design method is based upon the AASHTO road test in 1960. In the United States, the same concept, structure number (SN), was used, before the SHRP design system was developed.

7. Considering traffic characteristics in the project area, pavement width is designed as 5–6 meters (m) with 1 m shoulders. With this total subgrade width of 7–8 m, a large truck and a passenger car can pass one other. In some areas with high groundwater levels an anti-frost layer should be placed beneath the pavement.

8. **Construction.** Crushed stone for the pavement should be mechanically stabilized, and water content should be adjusted to optimum level. For aggregate production, a quarry with aggregate plant is required, or temporarily plants should be installed at hills for quarrying. Also, dump trucks are need for aggregate transport. A few heavy machines, such as a small or medium size grader and roller, are required for the construction. In case of Macadam pavement, a Macadam roller should be employed. Suppliers for such resources and equipment are limited in the project area, and so detailed design consultants will seek for the most suitable suppliers. Among potential suppliers, the Western Corridor main highway contractors will be prime candidates.

9. In addition, the construction requires various small tools, such as emancipated asphalt distributors, rakes, and hand-guided compactors. The JFPR project will provide these for the soums, which will use the tools also for the routine maintenance after the JFPR project. Testing equipment, such as a soil compaction mold and CBR tester, will be procured. Their use will ensure construction quality. The tools and equipment to be procured under the JFPR project will be transferred to the maintenance units.

10. Earthworks for subgrade will be minimal, as the roads are planned to follow existing roadways. An anti-frost layer, if needed, will be one of the major earthworks. After earthworks, on-site CBR will be measured to ensure the roadbed's performance. Also, proof rolling should be applied throughout the section to ensure the roadbed construction quality. This is a testing method to ensure the roadbed's strength. It uses a fully loaded truck that moves slowly on the roadbed to detect abnormal roadbed deformation. If abnormal deformation is detected, deformation should be measured to compare with the allowable deformation limits. All sections failing to meet the standards should be repaired.

11. **Maintenance.** Each soum will establish a maintenance unit for the community road, and budget will be provided for the units. One year after project completion, the pavement to have been constructed in the first construction year will reach the end of its design life, and the maintenance units will carry out major rehabilitation on that pavement. Before the rehabilitation works, ocular inspection should be done to classify pavement damaging mode by cause of damage. If the damage is due to traffic volume's being higher than expected, stronger pavement structure, such as cement stabilized base course, should be employed. In case of frost heave, the subgrade should be replaced. During the detailed design, a guide will be prepared regarding possible pavement destruction modes and their maintenance methods. According to the inspection result, the soum maintenance units should establish their rehabilitation work plans.