



Initial Environmental Examination

Project Number: 42534
March 2009

Proposed Grant Assistance
Mongolia: Demonstration Project for Improved
Electricity Services to the Low Income Communities
in Rural Areas
(Financed by the Japan Fund for Poverty Reduction)

Prepared by the Government of Mongolia for the Asian Development Bank.

Asian Development Bank

CURRENCY EQUIVALENTS

(as of 19 February 2009)

Currency Unit	–	togrog (MNT)
MNT1.00	=	\$0.00064
\$1.00	=	MNT1,559

The exchange rate of the togrog is determined under a floating exchange rate system. In this report, the rate used is the rate prevailing as of 18 July 2007.

ABBREVIATIONS

ADB	–	Asian Development Bank
APID	–	Aimag Professional Inspection Department
EA	–	Executing Agency
EHS	–	environmental, health, and safety
EMP	–	environmental management plan
IA	–	implementing agency
IEE	–	initial environmental examination
kV	–	kilovolt
MMRE	–	Ministry of Mineral Resources and Energy
NGO	–	nongovernment organization
PIU	–	project implementation unit
SWER	–	single-wire earth return

GLOSSARY

aimag	–	administrative unit: provincial level
bag	–	smallest administrative unit: village level
ger	–	traditional tent
soum	–	administrative unit: subprovince

NOTE

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

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I. INTRODUCTION

A. Background

1. This Initial Environmental Examination (IEE) report has been prepared by the Government of Mongolia to summarize potential environmental impacts and mitigation measures for the proposed MON: Demonstration Project for Improved Electricity Services to the Low Income Communities in Rural Areas (the Project). The Project has been classified as Category B under the Asian Development Bank's (ADB's) categorization system and has been prepared in accordance with ADB's *Environment Policy* (2002) and the ADB's *Environmental Assessment Guidelines* (2003). As the actual sites are not known, this IEE is generic in nature and outlines potential environmental impacts and proposed mitigation measures that would be anticipated from the development of typical small-scale rural electrification project. This document therefore focuses on environmental conditions and environmental impacts typically encountered in this area.

2. The Project will be implemented over 14 months starting in January 2010 and ending in February 2011. The project will upgrade electricity services in a maximum of six small rural towns (bag centers). The Ministry of Mineral Resources and Energy (MMRE) will be the Executing Agency (EA) for the Project. The project implementation unit (PIU) within the Energy Agency will be the implementing agencies (IA).

B. Description of the Project

3. The Project will construct electrical transmission and distribution networks for a maximum of nine small rural towns in Tuv, Bulgan, and Dundgobi aimags. The potential sites will all be selected from Tuv, Bulgan, or Dundgobi aimags. The final selection of the sites will be based on a comparison of a number of alternative sites. The transmission poles will have a diameter of 50 centimeters and traverse a maximum distance of 50 kilometers through barren land. Interval of the transmission poles will be about 140 meters. It is estimated that the supply system for each bag center will have 360 poles.

4. The impact of the project is to improve the quality of life in bag centers. The outcome of the project is rural electrification by using single-wire earth return (SWER) technology is replicated by the Government of Mongolia. The expected outputs include (i) better electricity service is provided by using SWER technology in the pilot project area; (ii) SWER technology is accepted by the MMRE; and (iii) policy on rural electrification is recommended, which includes a billing and collection system for beneficiaries contributing to the cost of supply.

5. SWER is a proven technology and is widely used in regions of developed countries where population density is low and sparsely located, e.g., Australia, Alaska in the United States, Brazil, Canada, New Zealand, and northern Sweden; but not yet in Mongolia. Instead of two or three wires, a single-wire transmission line is used for economically supplying single-phase electrical power from a power grid to remote locations with low power demand. Typically, a SWER line is connected to a grid-connected isolating transformer of 300 kilovolt-ampere, which isolates the grid from ground return current, and steps down the grid voltage (110 kilovolt [kV]) to the SWER voltage (12.7 kV or 19.1 kV). The capital cost of a SWER system is about 50% of an equivalent two-wire single-phase line, or about 70% less than the commonly used three-wire three-phase systems. Maintenance cost is also lower, about 50% of an equivalent capacity line. There are some disadvantages also, mainly because large three-phase motors cannot be used, and some imbalance that inadvertently gets reflected into the power grid could

increase system losses. These are not serious when the power demand is small (as is expected in bag centers) and the economic advantages outweigh the technical problems.

II. DESCRIPTION OF THE ENVIRONMENT

A. Physical Resources

6. The geographic areas in which the project sites are located are characterized by open landscapes in Dundgobi with minimal vegetation and steppe. In mountain locations such as Tuv and Bulgan aimags in the central and northern part of the country, vegetation is more like forested landscapes.

7. The grasslands of Mongolia are fragile due to overgrazing and cultivation of unsuitable land, which has led to extensive land degradation. This mainly occurs through wind erosion of the valuable topsoil when the protective vegetation cover is reduced, causing increased desertification as well as dust and sand storms. Raw materials for the enterprises are sourced from several aimags across Mongolia. The environment of these areas is mainly extensive steppe grasslands which take up most of Mongolia but ranges from mountainous areas to arid and semi-arid areas in the south of Mongolia.

8. The dominant physical environment is summarized as moderate to harsh. The climate of the project areas is continental, with very hot, dry summers, and long cold winters. Summer and winter temperatures can vary significantly from -20 to 18 degrees celsius. The annual mean precipitation in Tuv, Bulgan, and Dundgobi is 272, 344, and 116 millimeter per year, respectively. Selected key features of the physical environment are given in Table 1.

Table 1: Geographical and Metrological Factors of Project Aimags

Name of Aimags	Ecological Region	Multi Year Mean Temperature (Celsius)		Multi Year Mean Precipitation (mm/year)	Annual Average Concentration of Pollution in Air (mg/m ³)	
		January	July		SO ₂	NO ₂
Tuv	mountain forest steppe	(20.4)	15.6	272.5	0.003	0.02
Bulgan	mountain forest steppe	(20.5)	16	344.2	0.002	0.012
Dundgobi	steppe	(17.5)	18.7	116.7	0.004	0.007

() = negative, m³ = cubic meter, mg = milligram, mm = millimeter, NO₂ = nitrogen dioxide, SO₂ = sulfur dioxide.

Source: Mongolian Statistical Yearbook, 2007.

9. The outdoor air quality in the three aimags is generally good. However, during the dry autumn-summer period, there are periodic dust and sand storms within the project area, and low levels of re-suspended dust from vehicular movements on unsealed roads occur. Also, due to the lack of reliable electricity supplies in the project area, fuelwood, animal dung and kerosene are used extensively for indoor heating and cooking. This has serious health implications due to poor indoor confined space ventilation of smoke emissions.

10. Both Tuv and Bulgan aimags are rich in water resources from river, springs, and lakes, which include the Tull River. Dundgobi aimag, located in a steppe area south of Ulaanbaatar, relies for its water resources only on spring and few smaller rivers and lakes.

B. Ecological Resources

11. Vegetation along the roads and tracks in the project area is typically in poor condition due to disturbance by vehicular and pedestrian traffic. Aside from the usual domestic animals (dogs, sheep, horses, goats, and cows), wildlife in and around the project area is limited to birds, small rodents, and common insects such as grasshoppers and flies.

12. No protected areas exist near the proposed project sites. The presence of endangered species is unlikely in any of the projects sites.

C. Human and Economic Resources

13. Mongolia is a landlocked country with total territory of 1.56 million square kilometers, a population of only 2.62 million (2007) and a very low population density of 1.5 person per square kilometers, which is the lowest in the world. Administratively, Mongolia is divided into 21 aimags (province) which comprise an average 12–18 soums (county). Mongolia has altogether 321 soums and each has 4–5 bag centers (smallest administrative unit). Generally, a bag center is located 20–60 kilometers from a soum center and 5–20 families reside there. The total number of bag centers is about 1,500.

14. Some relevant socioeconomic indicators for the target aimags are presented in Table 2. The population in the Tuv, Bulgan, and Dundgobi aimags is around 86,000, 61,500, and 49,000, respectively. A typical soum has a population of 3,000–4,000, of which 40–60% are herder communities living away from aimag and soum center while the remaining lives in the center of aimag and soum. Most households in soum and aimag centers live in individual plots. The majority of plots have ger and some have wood and mud or brick houses. The average plot is about 787 square meters and the average permanent house is about 59 square meters. Gers are typically 6 meter in diameter. As for herders, they migrate place to place following herd. Social services are available in soum and aimag centers like some small food shops, commercial banks, and secondary schools. In a bag center, there are several public buildings (bag center administration office, community health clinic, veterinary clinic, school, etc.); some private-owned shops; and livestock related cottage industries. Currently, electricity is supplied only for 4–5 hours a day by diesel-powered generators, which is unreliable and costly due to a high and volatile fuel price. Electricity is used not only for these public buildings but also for processing of animal products (skin, wool, cashmere, meat) brought by herdsman.

Table 2: Socioeconomic Indicators of Project Aimags

Name of Aimags	Tuv	Bulgan	Dundgobi
Distance from Ulaanbaatar to aimag center (km)	43	328	260
Population in 2007	85,900	60,500	48,800
Number of households in 2007	24,700	15,500	12,700
Percentage of rural population in 2007 (%)	84.2	74	79
GDP in 2007 (million \$)	82.1	56.3	42.8
GDP per capita in 2007 (\$)	956	931	877
Number of herder households in 2007	9,255	7,376	7,631
Number of herdsman households posses TV	4,165	3,451	3,967
Number of business registered in 2007	1,059	552	533

% = percentage, GDP = gross domestic product, km = kilometer, TV = television.

Source: Mongolian Statistical Yearbook, 2007.

15. There is little official disaggregated income data available for bag centers, however, it is reasonably assumed that it is much lower than the income level in urban centers (soum centers) in the region. The monthly average cash income per household in rural areas (including the bag centers) is \$177, which is 20% lower than that in urban centers (\$223 in 2007). The percentage of population living below the national poverty line in rural areas is 36.8% as compared to 20.4% in Ulaanbaatar (2006).

III. POTENTIAL ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

A. Environmental Impacts and Mitigation Measures

16. Through initial scoping and a comparison with similar projects, the project will provide mainly environmental benefits. The reliance of the local communities on local non-sustainable energy sources will be reduced and indoor air quality will be improved.

17. No significant and/or lasting adverse environmental impacts have been identified. The alignments will avoid any sensitive natural environmental areas. Potential adverse impacts are all related with standard construction activities and can be mitigated through the application of professional best practices. The main potential impacts and its corresponding mitigation measures include:

- **Topographic Characteristics and Soils.** A preventive approach will be followed to avoid soil degradation and sensitive permafrost areas (aimags Tuv and Bulgan) where possible. This means avoiding areas with poor cryogenic and hydro-geological conditions such as with close surface location of ground ice, perennial icing, frost mounds, soil fluctuation-prone slopes, areas with ice-saturated soils, thermokarst areas, and thermokarst lakes.
- **Air Quality.** Construction traffic will cause some additional dust. To mitigate it, trucks carrying earth, sand, or stone will be covered with sheet. Stock pile of such material will be covered by sheet to prevent dust.
- **Noise.** Some increase in noise will be experienced during construction near the communities. The impact of noise to community people will be alleviated by construction scheduling, which will be agreed through consultations with the communities. Noise is not a significant problem along the route during operation as only traffic for the bag centers is expected.
- **Waste Management.** Inappropriate waste storage and disposal has the potential to impact soil, groundwater and surface water resources and subsequently impact residents health. Waste generation during the construction phase will include nonhazardous construction waste, waste oils and lubricants, and general household waste while waste generation during the operational phase will include small amounts of waste oils and lubricants and household waste. Mitigation measures will include appropriate storage of hazardous and nonhazardous wastes. Hazardous wastes such as waste oil and lubricant will be stored in secure covered areas with secondary containment in case of accidental spillage. Nonhazardous waste will be stored in separate watertight storage area. All wastes will be disposed to approved waste disposal sites. There will be no site specific landfills established at the project sites.

B. Environmental Management Plan

18. The environmental management plan (EMP) summarizes general feasible and cost-effective measures to be taken to reduce potentially significant negative impacts to acceptable levels (Appendix 1).

19. During the design stage, public consultations will be conducted to incorporate the community's views on environment sensitivity of the projects areas. Assessment of the specific impact for each subproject will be carried out during the design phase. The assessment will be guided by an environmental checklist to identify possible local conditions (Appendix 2).

20. Furthermore, the Government will use the International Finance Corporation's *Guidelines on Environmental, Health and Safety Guideline for Power Transmission*.¹ The Environmental, Health, and Safety (EHS) guidelines are technical reference documents with general and industry specific examples of good international industry practice. The applicability of the EHS guidelines should be tailored to the hazards and risks established for each subproject on the basis of the results of the environmental checklist in which site specific variables, such as aimag context, assimilative capacity of the environment, and other project factors, are considered. The applicability of specific technical recommendations will be based on the professional opinion of qualified and experienced persons. As such not all guidelines will be applicable for the proposed small-scale transmission line.

IV. INSTITUTIONAL FRAMEWORK AND MONITORING PLAN

A. Institutional Framework

21. MMRE will be the EA for the Project. The PIU within the Energy Agency will be the IA. The EA will assign a project manager and counterpart staff, and monitor the domestic consultants' and contractors work in close coordination with ADB. The EA shall ensure that the contractors implement environmental management measures in compliance with the Government's (national and local) environmental requirements and the EMP as detailed in this IEE. The EA will ensure that the tender documents and contracts for the Project stipulate that the requirements detailed in the IEE are followed, including the EMP. The ADB's environment specialist will provide environmental training to the contractors to increase awareness of relevant environmental issues, as necessary.

B. Environmental Monitoring Plan

22. The EA through the PIU will ensure adequate supervision of construction activities through regular site inspections and preparation of monitoring reports. The Aimag Professional Inspection Department (APID) and soum environment inspectors will undertake random and routine environmental monitoring. The APID reports directly to line head of State Professional Inspection Agency. APID has four main offices including environment and safety office, and health and sanitation office. During construction period, an APID environment and safety inspectors will conduct compliance monitoring at least quarterly for the use of locally extracted resources including wood, water and sand. During operation period, an APID inspectors will monitor project activities. If necessary, APID has the authority to take legal actions such as fining or closing the operation or construction of non-compliance subjects based on the monitoring findings. At the soum level, the compliance monitoring during construction and

¹ The document is available upon request.

operation will be carried out by soum environmental inspector on a periodic basis and reported to APID.

23. A summary of the environmental monitoring required is indicated in Table 3.

Table 3: Summary of Environmental Monitoring

Parameters	Location	Monitoring	Responsibility	Frequency
Construction Phase				
Erosion	Construction sites	Visual Inspection. Ensure erosion protection measures are incorporated into construction. Monitor occurrence of erosion around structures.	PIU and contractor	Continuous
Material storage sites	Construction sites	Visual inspection. Ensure storage sites are using existing concrete hardstands. Ensure vegetation clearance has been minimized.	PIU and contractor	Continuous
Waste management	Construction sites	Visual inspection. Ensure that solid waste is stored and disposed according to EMP.	PIU and contractor	Continuous
Community	Residential areas adjacent to projects	Maintain registry of complaints regarding environmental matters.	PIU and soum center government	Ongoing
Operational Phase				
Hazardous material storage	Alignment of transmission and distribution lines	Visual Inspection. Ensure hazardous materials are stored appropriately.	Transmission and distribution company	Regular
Waste management	Alignment of transmission and distribution lines	Visual Inspection. Ensure all wastes are stored and disposed per EMP.	Transmission and distribution company	Regular

EMP = environmental management plan, PIU = project implementation unit.
Source: Ministry of Mineral Resources and Energy.

V. STAKEHOLDER CONSULTATION AND INFORMATION DISCLOSURE

24. Numerous consultations were held with government officials, nongovernment organizations (NGOs), herders, local transmission and distribution companies, and others in Ulaanbaatar and in Tuv, Bulgan, and Dundgobi aimags during project preparation since March 2008. For the IEE, meetings were held with MMRE, the Ministry of Nature and Environment, other government ministries (e.g., the aimag health department, and partner development agencies with ongoing related programs in Mongolia (e.g., World Bank, and Japan International Cooperation Agency). In Tuv, Bulgan, and Dundgobi aimags selected NGOs (e.g., local Chamber of Commerce and Industry, Noyon Hairhan, Local Initiatives), herder groups, local electric distribution company, local (bag, soum and aimag) level officials were consulted in group meetings in the field. All parties consulted were in favor of the Project. Additional public notices and stakeholder participatory planning workshops will be an integral part of the proposed Project's activities, particularly during the first 3 months of implementation. Dates of these meetings will be determined early in project implementation according to scheduling concerns and staff availability. At least one such meeting will be carried out in each bag and soum centers where pilot projects are proposed, following public notice of the Project through customary channels of communication. Meetings should allow for full community participation

and be documented (i.e., number of participants, date and location of the meeting) by the PIU. Planned activities in the area are detailed in the Japan Fund for Poverty Reduction proposal document.

VI. CONCLUSIONS

25. The proposed Project is anticipated to have significant positive impact on the livelihood of the residents who will receive reliable power supply throughout the year. This will reduce the reliance on local nonsustainable energy sources and improve indoor air quality. Based on the results of the IEE, the Project will not generate significant adverse environmental impacts provided that the mitigation measures detailed in this document are implemented appropriately. Based on the requirements of the Government of Mongolia and ADB, there are no further environmental studies required for the proposed Project except for the environmental screening process included in this IEE.

Environmental Management Plan

ISSUES	POTENTIAL IMPACT	MITIGATION MEASURES	ACTION
Socioeconomic			
Social conflict	Social disturbance and limited community benefits	<ul style="list-style-type: none"> • Advise the local community of project plans in advance of construction, and where possible involve them in planning. • Discuss environmental checklist with communities. 	PIU and Contractor
	Social conflicts over perceptions of preferential supply of electricity	<ul style="list-style-type: none"> • Project design will ensure that all residents of selected bags will be connected to the electricity supply. 	PIU and Contractor
Soil			
Soil erosion	Erosion due to establishment of transmission poles	<ul style="list-style-type: none"> • Appropriate engineering design will be incorporated to minimize impact on soil erosion. • Ditched soil for establishment of transmission poles will be properly restored. • Reduce time surfaces remain bare • Vegetation clearing will be kept to a minimum. • Disturbance on steep slopes will be avoided. • Vehicles will be using defined tracks. • All disturbed areas which are not to be paved (e.g. batters) will be re-vegetated or prepared for natural re-vegetation after final land shaping. 	PIU and Contractor
Permafrost	Permanent damage to permafrost soils	<ul style="list-style-type: none"> • Sensitive areas will be avoided 	PIU and Contractor
	Erosion after construction is completed	<ul style="list-style-type: none"> • Establish a site re-vegetation plan. Where possible involve local women's groups to provide materials and implement re-vegetation. 	Contractor
Dust and Noise			
Dust and noise	Generation of dust and noise during the construction operations	<ul style="list-style-type: none"> • Where construction traffic is generating dust adjacent to residential areas, dust suppression with water will be undertaken. • Construction operations will be limited to daylight hours to minimize noise impacts on adjacent residents. • Advise local people when there will be unusual unavoidable noise. 	Contractor

ISSUES	POTENTIAL IMPACT	MITIGATION MEASURES	ACTION
Waste Management			
Waste management	Contamination of soil, groundwater and surface water from waste spillage	<ul style="list-style-type: none"> Hazardous wastes such as waste oils and lubricants will be stored in water secure covered areas with secondary containment in case of accidental spillage. Nonhazardous waste will be stored in separate watertight storage area. All waste will be disposed to approved municipal waste disposal sites. There will be no site specific landfills established at the project sites. 	PIU and Contractor
Soil and groundwater contamination	Contamination from spillage of hazardous materials and hazardous wastes	<ul style="list-style-type: none"> All hazardous materials will be appropriately stored in secure and covered areas with secondary containment. 	PIU and Contractor
Surface water contamination	Contamination from spillage of hazardous materials and hazardous wastes	<ul style="list-style-type: none"> All hazardous materials will be appropriately stored in secure and covered areas with secondary containment. 	PIU and Contractor
Flora and Fauna			
Flora	Impact to existing vegetation communities	<ul style="list-style-type: none"> Forested areas will be avoided for construction purposes. There will be no removal of trees during project construction. Construction traffic will be restricted to existing roads to minimize impact to vegetation. 	PIU and Contractor
Fauna	Impact to environmentally protected areas	<ul style="list-style-type: none"> The transmission line will not be constructed in or adjacent to nature protection areas. 	Contractor
Safety and Health			
Safety of workers	To ensure maximum safety of construction personnel and local residents	<ul style="list-style-type: none"> Ensure all occupational health and safety requirements are in place on construction sites and in work camps. Install lights and cautionary signs in hazardous areas. Establish footpaths and pull-off bays along roads through villages, near markets, schools and other community facilities Use of Personal Protection Equipment. 	Contractor
Disturbance	Avoid disturbances by the workers	<ul style="list-style-type: none"> Prohibitions on hunting and poaching of wildlife, purchasing wildlife meat, fishing, gathering and harvesting medicinal or valued plants and trees, and possessing firearms, snares, traps and other hunting equipment. Prohibition of alcohol on construction sites. 	Contractor

PIU = project implementation unit.

Source: Ministry of Mineral Resources and Energy.

Rapid Environmental Assessment Checklist: Power Transmission

Project Title/Location :

Preparer and date :

SCREENING QUESTIONS	Yes	No	REMARKS
A. PROJECT SITING			
IS THE PROJECT AREA ADJACENT TO OR WITHIN ANY OF THE FOLLOWING ENVIRONMENTALLY SENSITIVE AREAS?			
<ul style="list-style-type: none"> • Cultural heritage site 	<input type="checkbox"/>	<input type="checkbox"/>	
<ul style="list-style-type: none"> • Protected Area 	<input type="checkbox"/>	<input type="checkbox"/>	
<ul style="list-style-type: none"> • Wetland 	<input type="checkbox"/>	<input type="checkbox"/>	
<ul style="list-style-type: none"> • Mangrove 	<input type="checkbox"/>	<input type="checkbox"/>	
<ul style="list-style-type: none"> • Estuarine 	<input type="checkbox"/>	<input type="checkbox"/>	
<ul style="list-style-type: none"> • Buffer zone of protected area 	<input type="checkbox"/>	<input type="checkbox"/>	
<ul style="list-style-type: none"> • Special area for protecting biodiversity 	<input type="checkbox"/>	<input type="checkbox"/>	
B. POTENTIAL ENVIRONMENTAL IMPACTS			
WILL THE PROJECT CAUSE...			
<ul style="list-style-type: none"> • encroachment on historical/cultural areas, disfiguration of landscape and increased waste generation? 	<input type="checkbox"/>	<input type="checkbox"/>	
<ul style="list-style-type: none"> • encroachment on precious ecosystem (e.g. sensitive or protected areas)? 	<input type="checkbox"/>	<input type="checkbox"/>	
<ul style="list-style-type: none"> • alteration of surface water hydrology of waterways crossed by roads and resulting in increased sediment in streams affected by increased soil erosion at the construction site? 	<input type="checkbox"/>	<input type="checkbox"/>	
<ul style="list-style-type: none"> • damage to sensitive coastal/marine habitats by construction of submarine cables? 	<input type="checkbox"/>	<input type="checkbox"/>	
<ul style="list-style-type: none"> • deterioration of surface water quality due to silt runoff, sanitary wastes from worker-based camps and chemicals used in construction? 	<input type="checkbox"/>	<input type="checkbox"/>	
<ul style="list-style-type: none"> • increased local air pollution due to rock crushing, cutting and filling? 	<input type="checkbox"/>	<input type="checkbox"/>	

SCREENING QUESTIONS	Yes	No	REMARKS
<ul style="list-style-type: none"> chemical pollution resulting from chemical clearing of vegetation for construction site? 	<input type="checkbox"/>	<input type="checkbox"/>	
<ul style="list-style-type: none"> noise and vibration due to blasting and other civil works? 	<input type="checkbox"/>	<input type="checkbox"/>	
<ul style="list-style-type: none"> dislocation or involuntary resettlement of people 	<input type="checkbox"/>	<input type="checkbox"/>	
<ul style="list-style-type: none"> social conflicts relating to inconveniences in living conditions where construction interferes with pre-existing roads? 	<input type="checkbox"/>	<input type="checkbox"/>	
<ul style="list-style-type: none"> hazardous driving conditions where construction interferes with pre-existing roads? 	<input type="checkbox"/>	<input type="checkbox"/>	
<ul style="list-style-type: none"> poor sanitation and solid waste disposal in construction camps and work sites, and possible transmission of communicable diseases from workers to local populations? 	<input type="checkbox"/>	<input type="checkbox"/>	
<ul style="list-style-type: none"> creation of temporary breeding habitats for mosquito vectors of disease? 	<input type="checkbox"/>	<input type="checkbox"/>	
<ul style="list-style-type: none"> dislocation and compulsory resettlement of people living in right-of-way of the power transmission lines? 	<input type="checkbox"/>	<input type="checkbox"/>	
<ul style="list-style-type: none"> environmental disturbances associated with the maintenance of lines (e.g. routine control of vegetative height under the lines)? 	<input type="checkbox"/>	<input type="checkbox"/>	
<ul style="list-style-type: none"> facilitation of access to protected areas in case corridors traverse protected areas? 	<input type="checkbox"/>	<input type="checkbox"/>	
<ul style="list-style-type: none"> accident risks associated with maintenance of lines and related facilities? 	<input type="checkbox"/>	<input type="checkbox"/>	
<ul style="list-style-type: none"> health hazards due to electromagnetic fields, land subsidence, lowered groundwater table, and salinization? 	<input type="checkbox"/>	<input type="checkbox"/>	
<ul style="list-style-type: none"> disturbances (e.g. noise and chemical pollutants) if herbicides are used to control vegetative height? 	<input type="checkbox"/>	<input type="checkbox"/>	