

GEF Trust Fund Financed
Achieving Efficient and Green Freight Transport
Development in China

Environmental and Social Management Framework

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Table of Contents

1. Project Background	2
2. Project Components	4
3. Purposes and Bases for Preparation of the Framework	5
4. Identification and Screening of the Environmental and Social Risks and Impacts	6
5. Management of Environmental and Social Risks and Impacts	10
6. Management Procedures and Organizations	15
7. Public Consultation and Grievance Redress	17
8. Capacity Building	17

1. Project Background

Climate change is one of the most serious and urgent challenges facing humanity today. Since the beginning of the 21st century, in order to build a community of shared future for mankind, the Chinese government has made and is making great efforts to tackle climate change and promote green and low-carbon development. On the one hand, the goal of global cooperation led by China is to push ahead with regional and international cooperation on reaching an agreement at the Conference of the Parties to the *United Nations Framework Convention on Climate Change* in Paris (the *Paris Agreement*) and on tackling climate change. Furthermore, guided by its policies, the Chinese government has created a favorable environment for promoting green and low-carbon development and ecological conservation. It has not only improved the top-level planning and institutional system for green development, but it has also included green development in new development strategies. By this means, the Chinese government has developed and issued a number of key policies, such as *Work Plan for Controlling Greenhouse Gas Emissions During the 13th Five-Year Plan Period*, *National Plan on Climate Change (2014-2020)*, and *National Strategy for Climate Adaption*. With regard to economic and social activities, the Chinese government has adopted strong policies and measures to accelerate transformation of economic growth and adjust economic structure, so as to effectively control greenhouse gas emissions. China has planned to reduce its carbon emission intensity to 18% below 2015 level by 2020, and to peak CO₂ emissions by 2030.

The transportation sector is one of the key sectors on which the Chinese government focuses when striving to achieve goals of energy conservation and emission reduction, and tackling climate change. According to the data from National Bureau of Statistics of China, the transportation industry is one of the three major emitters of greenhouse gas and air pollution. Freight transport is a major contributor of greenhouse gas and air pollutant emissions in the transportation sector. In recent years, under the united leadership and promotion of the central government of China, the Ministry of Transport has promulgated a series of policies, involving the optimization of transportation structure, the application of new energy vehicles and natural gas vehicles and vessels, the limitation on fuel consumption of operating vehicles, and the promotion of traffic energy conservation and emission reduction measures such as drop-hang transportation. Compared with 2005, the CO₂ emissions per revenue tonne-kilometers (RTK) by commercial vehicles and commercial vessels dropped by 15.9% and 20% respectively in 2015. It is planned that the CO₂ emissions per revenue tonne-kilometers (RTK) by commercial passenger vehicles, commercial freight vehicles and commercial vessels dropped by 8%, 2.6% and 7% respectively from 2015 to 2020.

China has put forward a series of policies and measures to promote the development of green freight transportation. However, there still exist some problems such as unreasonable transportation structure, excessive energy consumption and the large quantity of pollutant emissions in the field of China freight transportation.

Road transport dominates freight transportation market in major freight corridors. With relatively high energy consumption and pollution emissions, road transport is still the main transportation way in freight transport. The nitrogen oxides and particles emitted by freight vehicles account for 68% and 79% respectively of the total nitrogen oxides and particles emitted by all vehicles. The nitrogen oxides and particles emitted by freight vehicles exceed those emitted by trains and ships (railway and waterway are considered relatively green transportation modes). In 2016, road freight volume accounted for 77.5% of the total freight volume, while railway freight volume and waterway freight volume accounted for 7.7% and 14.8% respectively of the total freight volume. The road transport's share of the entire China freight transport market is still more than railway's and waterway's — the opposite of the situation in the developed world.

The energy consumption and carbon emissions monitoring capacities of the freight transport sector are relatively weak right now. Transportation industry management departments can not sufficiently assess the level of energy conservation and emission reduction due to lack of sufficient basis and a comprehensive and systematic assessment of the existing structural, technical and managerial freight reduction policies. In particular, cost-effectiveness of freight emission reduction policies, emission reduction potential and constraints are still not complete and the path of freight reduction in China is not clear enough.

In order to solve the problems mentioned above and explore ways to develop freight transport in an intensive, efficient and green manner, Ministry of Transport of China proposed the “Achieving Efficient and Green Freight Transport Development in China” project (“the project” for short) funded by the Global Environment Facility (GEF). The objective of the project is to research and explore multimodal transport, urban green freight transport, and freight transport management systems through technical assistance research projects and pilot investment projects. Moreover, top-level planning for seamless intermodal transport, efficient and green urban freight transport, and freight transport management will be carried out. In addition, pilot projects will be launched in Guangdong, Shandong, Fujian and Hubei provinces which accumulates relevant experiences for future. All these measures are designed to solve key problems such as irrational transport structure, the high cost of integrated logistics, and large energy consumption, so as to drive forward the establishment of an efficient and green freight transport system, facilitate the structural emission reduction of the freight transport sector, and reduce energy consumption and emissions while increasing scale and efficiency of freight transport. This project supports China's national strategic goal of reducing emissions by 2030 and improving environmental quality.

2. Project Contents

In this project, top-level planning for seamless intermodal transport, efficient and green urban freight transport, and freight transport management will be carried out. In addition, pilot projects will be launched in highly interrelated areas which accumulates relevant experiences for future. All these measures are designed to solve key problems such as irrational transport structure, the high cost of integrated logistics, and large energy consumption, to drive forward the establishment of an efficient and green freight transport system, facilitate the structural emission reduction of the freight transport sector, and reduce energy consumption and emissions while increasing freight transport and its efficiency. This project supports China's national strategic goal of reducing emissions by 2030 and improving environmental quality. The project includes 11 components, of which 6 are technical assistance (TA) projects at national level and 5 pilot TA activities at provincial and local level. These components involve major freight corridors, urban freight transport, and freight transport management. See table I for the general information about the project.

Table I: Overview of the proposed project components

No.	Project contents	Aid types	Undertaking units
1	Study on Structural Emission Reduction Strategy for Freight Transport in China	Technical assistance	Ministry of Transport
2	Development of Action Plan for Efficient and Green Freight Corridor Improvement	Technical assistance	Ministry of Transport
3	Guideline of Intermodal Freight Development for the Yangtze River Economic Belt (YREB)	Technical assistance	Ministry of Transport
4	Guideline for Green and Efficient Urban Freight Transport Development	Technical assistance	Ministry of Transport
5	Promoting Standardization and Development Intelligent Technology for Urban Freight Distribution	Technical assistance	Ministry of Transport
6	Cost Benefit Analysis of Emission Reduction in China's Freight Sector and Action Plan for Key Regions	Technical assistance	Ministry of Transport
7	Bohai Rim sea-road intermodal transport across Liaoning and Shandong Province Demonstration Project	Technical assistance	Shandong Provincial Department of Transport
8	Weifang Green Freight Demonstration Project	Technical assistance	Shandong Provincial Department of Transport
9	Demonstration project of Fujian-Jiangxi rail-sea intermodal transport	Technical assistance	Fujian Provincial Department of Transport
10	Guangdong Urban-Rural Logistics Integrated Distribution Demonstration Project	Technical assistance	Guangdong Provincial Department of Transport
11	Improvement of the Integrated Development of Han-River Inland Waterway and Green Navigation Channel Pilot	Technical assistance	Hubei Provincial Department of

3. Purposes and Bases for Preparation of the Framework

The main purpose of preparing this Environmental and Social Management Framework (ESMF) is to minimize the potential negative impacts of the project implementation to the environment and society. To this end, effective measures will be developed and delivered in accordance with the World Bank's environmental and social safeguard policies and China's relevant policies and regulations.

The ESMF provides the procedures, standards and requirements for the implementation of the project activities in terms of environmental and social safeguards consideration. Being a part of the legal agreement for the project, the ESMF covers the objectives of the project, procedures, institutional arrangement, and implementation plans, along with the identification and management of the potential environmental and social impacts of the project. In addition, the ESMF also involves public engagement, grievance mechanism, and the recommended screening tools for all project components.

The ESMF is prepared primarily based on the Proposal for Achieving Efficient and Green Freight Transport Development in China, feasibility study reports on the project components, China's relevant laws and regulations, and the World Bank's safeguard policies.

At the preparation stage, the PMO conducted a screening of the Bank's Safeguard Policies that may apply to this project. The finding is that, the project activities are all technical assistance activities (studies, information system development, workshops etc.) that don't involve infrastructure or civil works, no land acquisition and resettlement impacts. The main environmental and social concerns are the potential downstream implications of the studies and action plan prepared under the project, which warrants thorough consideration during the development of such reports. Given a national coverage project, the Bank policy OP4.10 may be triggered. In addition, some activities, such as action plan for corridor improvement, may pose potential downstream environmental and social impacts, in case specific infrastructure project is recommended, physical civil works may be involved, therefore the Bank policy OP4.12, OP4.01 and OP4.04 will be triggered.

A general assessment of the potential environmental and social impacts is concluded as follows:

1) None of the six national-level technical assistance research components of this project or the technical assistance programs of the local demonstration components of this project involves the construction items that will impact the environment and society. Therefore, these projects will not directly impact the

environment and society.

2) The five local demonstration components of this project focus on data mining analysis for the platforms of green freight distribution and intermodal transport, as well as the establishment of a management system and technical standards for the platforms. None of these components involve, or there are sufficient reasons to believe that currently none of these components involve civil construction items. Therefore, these components will have no direct impact the environment or society.

3) Both national and local level studies and plan development activities may have indirect downstream environmental and social implications if the results or recommendations of such studies will be implemented in the future. These downstream issues should be included in the preparation of research and action plans.

4) Other activities include IT system development, data analysis, capacity training, publicity and promotion workshops. These activities have no environmental and social impacts envisaged.

5) The component in Hubei province, i.e. study of policies and guidelines for better managing the inland waterway operation in Han River in Hubei Province, is supporting the ongoing World Bank lending project, namely Yakou inland waterway project, in the province. Environmental and social safeguard issues related to the Yakou project have been addressed in accordance with the Bank safeguard policies under that project.

Based on the above reasons, the ESMF is prepared during the project preparation. It outlines the measures to mitigate, reduce, and mitigate the social risks and impacts of the project. Once the social risks and impacts of the project are identified, measures to tackle the risks and impacts, as well as the relevant organizational arrangements, should be put in place in accordance with the ESMF and the report on the work thereof should be submitted to the World Bank.

4. Identification and Screening of the Environmental and Social Risks and Impacts

During the project preparation, the Project Management Office (PMO) has conducted the preliminary identification and screening of the potential environmental and social risks and impacts of the project, based on the construction items of the project components. See table II for the details.

Table II: Screening of environmental and social impacts

No.	Undertaking units	Project contents	Nature of activities	Environmental impacts	Social impacts
1	Ministry of Transport	Study on medium-long term	General study	Positive environmental benefits; no physical civil	No physical civil works involved;

Environmental and Social Management Framework of the GEF Trust Fund Financed
Achieving Efficient and Green Freight Transport Development in China

		plan for promoting multimodal transport in China		works involved; potential downstream environmental implications	Potential downstream social impacts, such as impacts on small freight logistics companies/individuals.
2	Ministry of Transport	Study on regulations and standardization of multimodal transport in China	General study	Positive environmental benefits; no physical civil works involved; potential downstream environmental implications	No physical civil works involved; Potential downstream social impacts, such as impacts on small freight logistics companies/individuals.
3	Ministry of Transport	Action Plan for Efficient and Green Freight Corridor Improvement in China	Action plan development	Positive environmental benefits; no physical civil works involved; potential downstream environmental implications. The plan may include recommendations for specific infrastructure projects	Potential downstream social impacts, in case specific infrastructure project is recommended, physical civil works may be involved.
4	Ministry of Transport	High efficiency freight transport organization and management plan for freight corridors in China	General study	Positive environmental benefits; no physical civil works involved; potential downstream environmental implications	No physical civil works involved; Potential downstream social impacts, in particular, the impacts on small freight logistics companies/vulnerable groups.
5	Ministry of Transport	Guideline of Intermodal Freight for Yangtze River Economic Belt (YREB) Considering Ecological Civilization	Guidelines development	Positive environmental benefits; no physical civil works involved; potential downstream environmental implications	No physical civil works involved; Potential downstream social impacts, in particular, the impacts on small freight logistics companies/vulnerable groups.
6	Ministry of Transport	Cost Benefit Analysis of Emission Reduction in China's Freight Sector and Action Plan for Key Regions	Study on economic analysis and scheme of freight reduction policies	Positive environmental benefits; no physical civil works involved; potential downstream environmental implications	No physical civil works involved; Potential downstream social impacts, in particular, the impacts on small freight logistics companies/vulnerable groups.
7	Shandong Provincial Department of Transport	Data Analysis for Multimodal Transport	Data analysis	No physical civil works involved; no environmental implications	No physical civil works involved; Collect sex-disaggregated , vulnerable groups/ labors baseline data on the intended beneficiaries of the project;
		Dissemination workshops	Workshops	No physical civil works involved; no environmental implications	Vulnerable groups / small companies, women labors involvement.
8	Shandong Provincial	Study on the Model of Urban	Data collection;	No physical civil works involved; no environmental	No physical civil works involved;

Environmental and Social Management Framework of the GEF Trust Fund Financed
Achieving Efficient and Green Freight Transport Development in China

	Department of Transport	Joint Distribution	Data analysis; Training and workshops	implications	Collect sex-disaggregated , vulnerable groups/ labors baseline data on the intended beneficiaries of the project;
9	Fujian Provincial Department of Transport	Freight Transport Management Platform Development	Software development and IT hardware procurement and installation	No physical civil works involved; no environmental implications	No physical civil works involved; Platform may consider public engagement and Grievance Redress Mechanism (GRM)
		Study on the Optimization of Freight Distribution Organization at Xiamen Port	General study	Positive environmental benefits; no physical civil works involved; potential downstream environmental implications	No physical civil works involved; Potential downstream social implications
10	Guangdong Provincial Department of Transport	Guang-qing Urban-Rural Logistics Integrated Distribution Demonstration,; Development of the public module of the Guangdong Urban-Rural Logistics Integrated Distribution Demonstration; and Study on the Development Mechanism of the Guangdong Urban-rural Logistics Integrated Distribution	General study	Positive environmental benefits; no physical civil works involved; potential downstream environmental implications	No physical civil works involved; Potential downstream social implications
		Capacity building	Training and Dissemination	No physical civil works involved; no environmental implications	Vulnerable groups, small freight companies, and female employment involved
11	Hubei Provincial Department of Transport	Study on the strategic plan for improving the integrated development of Han-River inland waterway	General study	Positive environmental benefits; no physical civil works involved; potential downstream environmental implications	No physical civil works involved; Potential downstream social implications
		Green waterway development; conventional	Equipment replacement	Positive environmental implications; no physical civil works involved.	No physical civil works involved; Potential downstream

Environmental and Social Management Framework of the GEF Trust Fund Financed
Achieving Efficient and Green Freight Transport Development in China

		navigation lights replaced with solar-powered integrated navigation lights			social implications
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5. Management of Environmental and Social Risks and Impacts

Based on the screening and analysis of the potential environmental and social risks and impacts of the project components, the PMO has proposed Environmental and Social Management Framework. Based on the contents of the project components, different measures will be taken during the project preparation and implementation to manage environmental and social risks and impacts. See table III for the details.

Table III: Environmental and social impact management plan

No.	Project contents	Environmental impacts	Environmental management measures	Social impacts	Social management measures	Responsible organizations	Research results
1	Study on medium-long term plan for promoting multimodal transport in China	Positive environmental benefits; no physical civil works involved; potential downstream environmental implications	In the TOR that proposes the research plan, the PMO clearly requires that in the research report there should be a section/sections analyzing the potential downstream implications of intermodal transport and providing the measures to eliminate these impacts.	No physical civil works involved; Potential downstream social impacts, such as impacts on small freight logistics companies/individuals.	In the TOR that proposes the research plan, the PMO clearly requires that in the research report there should be a section/sections analyzing the potential downstream implications of intermodal transport (especially the potential impacts of intermodal transport to small freight companies and individuals) and providing the measures to eliminate these impacts.	Research unit	The corresponding section(s) of the research report
2	Study on regulations and standardization of multimodal transport in China	Positive environmental benefits; no physical civil works involved; potential downstream environmental implications	In the TOR that proposes the research plan, the PMO clearly requires that in the research report there should be a section/sections analyzing the potential downstream implications of intermodal transport standards and rules and providing the measures to eliminate these impacts.	No physical civil works involved; Potential downstream social impacts, such as impacts on small freight logistics companies/individuals.	In the TOR that proposes the research plan, the PMO clearly requires that in the research report there should be a section/sections analyzing the potential downstream implications of intermodal transport standards and rules (especially the potential impacts of intermodal transport standards and rules to small freight companies and individuals) and providing the measures to eliminate these impacts.	Research unit	The corresponding section(s) of the research report

Environmental and Social Management Framework of the GEF Trust Fund Financed
Achieving Efficient and Green Freight Transport Development in China

3	Action Plan for Efficient and Green Freight Corridor Improvement in China	No physical civil works directly involved; research results may cause other interested parties to carry out infrastructure construction, which may have downstream environmental implications.	In the TOR that proposes the research plan, the PMO clearly requires that in the research report there should be a section/sections analyzing the potential impacts of the action plan and providing the measures to eliminate these impacts.	Potential downstream social impacts, in case specific infrastructure project is recommended, physical civil works may be involved.	In the TOR that proposes the research plan, the PMO clearly requires that in the research report there should be a section/sections analyzing the potential impacts of the action plan and providing the measures to eliminate these impacts.	Research unit	The corresponding section(s) of the research report
			If the research report provides the detailed infrastructure construction project proposals, an EIA TOR should be prepared for the downstream project preparation based on the impacts identified.		If the research report provides the detailed infrastructure construction project proposals, TORs for Resettlement Action Plan (RAP) and Social Assessment (SA) should be prepared for the downstream project preparation based on the impacts identified.		
4	High efficiency freight transport organization and management plan for freight corridors in China	Positive environmental benefits; no physical civil works involved; potential downstream environmental implications.	In the TOR that proposes the research plan, the PMO clearly requires that in the research report there should be a section/sections analyzing the potential impacts of the plan and providing the measures to eliminate these impacts.	No physical civil works involved. Potential downstream social impacts, in particular, the impacts on small freight logistics companies/vulnerable groups.	In the TOR that proposes the research plan, the PMO clearly requires that in the research report there should be a section/sections analyzing the potential impacts of the plan, assessing the impacts of the plan to small companies and vulnerable groups, and providing the measures to eliminate these impacts.	Research unit	The corresponding section(s) of the research report

Environmental and Social Management Framework of the GEF Trust Fund Financed
Achieving Efficient and Green Freight Transport Development in China

5	Guideline of Intermodal Freight for Yangtze River Economic Belt (YREB) Considering Ecological Civilization	Positive environmental benefits; no physical civil works involved; potential downstream environmental implications.	In the TOR that proposes the research plan, the PMO clearly requires that in the research report there should be a section/sections analyzing the potential downstream impacts of intermodal transport along the Yangtze River Economic Belt and providing the measures to eliminate these impacts.	No physical civil works involved. Potential downstream social impacts, in particular, the impacts on small freight logistics companies/vulnerable groups.	In the TOR that proposes the research plan, the PMO clearly requires that in the research report there should be a section/sections analyzing the potential downstream impacts of intermodal transport along the Yangtze River Economic Belt, assessing the impacts of intermodal transport along the Yangtze River Economic Belt to small freight companies and vulnerable groups, and providing the measures to eliminate these impacts.	Research unit	The corresponding section(s) of the research report
6	Study on economic analysis and scheme of freight reduction policies	Positive environmental benefits; no physical civil works involved; potential downstream environmental implications	In the TOR that proposes the research plan, the PMO clearly requires that in the research report there should be a section/sections analyzing the potential downstream impacts of intermodal transport along the Yangtze River Economic Belt and providing the measures to eliminate these impacts.	Potential downstream social impacts, in case specific infrastructure project is recommended, physical civil works may be involved.	In the TOR that proposes the research plan, the PMO clearly requires that in the research report there should be a section/sections analyzing the potential downstream impacts of the action plan, and providing the measures to eliminate these impacts.	Research unit	The corresponding section(s) of the research report
7	Data Analysis for Multimodal Transport	No physical civil works involved; no environmental implications	No environmental risks or impacts identified	No physical civil works involved. Collect sex-disaggregated, vulnerable groups/ labors baseline data on the intended beneficiaries of the project.	When commissioning the data analysis task to a researcher, the project component management office requires that the researcher should analyze the impacts of multimodal transport to laborers, vulnerable groups, and gender distribution based on the basic information about the intended beneficiaries of the project, and provide advice on mitigating the potential impacts.	Local project undertaking unit	Social impact analysis report

Environmental and Social Management Framework of the GEF Trust Fund Financed
Achieving Efficient and Green Freight Transport Development in China

	Dissemination workshops	No physical civil works involved; no environmental implications	No environmental risks or impacts identified	Vulnerable groups / small freight companies, women labors involvement.	The affected vulnerable groups, small companies, and female workers will be included in the target group(s) for dissemination and training	Local project management office	
8	Study on the Model of Urban Joint Distribution	No physical civil works involved; no environmental implications	No environmental risks or impacts identified	No physical civil works involved. Collect sex-disaggregated , vulnerable groups/ labors baseline data on the intended beneficiaries of the project.	The impacts of urban distribution to laborers, vulnerable groups, and gender distribution should be analyzed based on the basic information about the intended beneficiaries of the project, and advice on mitigating the potential impacts should be provided.	Local project management office	Social impact analysis report
9	Freight Transport Platform Development	No physical civil works involved; no environmental implications	No environmental risks or impacts identified	No physical civil works involved. Platform may consider public engagement and Grievance Redress Mechanism (GRM).	Public consultation and grievance redress mechanisms will be established in the platform development; Public consultation results will be incorporated into the platform development.	Local project management office	The freight transport management platform into which public consultation/opinions are integrated
	Study on the Optimization of Freight Distribution Organization at Xiamen Port	Positive environmental benefits; no physical civil works involved; potential downstream environmental implications	In the TOR that proposes the research plan, the PMO clearly requires that in the research report there should be a section/sections analyzing the potential downstream impacts of the optimization of freight distribution organization at Xiamen Port and providing the measures to eliminate these impacts.	No physical civil works involved; Potential downstream social implications.	In the TOR that proposes the research plan, the PMO clearly requires that in the research report there should be a section/sections analyzing the potential downstream impacts of the optimization of freight distribution organization at Xiamen Port and providing the measures to eliminate these impacts.	Local project undertaking unit	The corresponding section(s) of the research report

Environmental and Social Management Framework of the GEF Trust Fund Financed
Achieving Efficient and Green Freight Transport Development in China

10	Guang-qing Urban-Rural Logistics Integrated Distribution Demonstration,; Development of the public module of the Guangdong Urban-Rural Logistics Integrated Distribution Demonstration; and Study on the Development Mechanism of the Guangdong Urban-rural Logistics Integrated Distribution	Positive environmental benefits; no physical civil works involved; potential downstream environmental implications	In the TOR that proposes the research plan, the PMO clearly requires that in the research report there should be a section/sections analyzing the potential downstream impacts of the integrated distribution and providing the measures to eliminate these impacts.	No physical civil works involved; Potential downstream social implications.	In the TOR that proposes the research plan, the PMO clearly requires that in the research report there should be a section/sections analyzing the potential downstream impacts of the integrated distribution and providing the measures to eliminate these impacts.	Local project undertaking unit	The corresponding section(s) of the research report
	Capacity building	No physical civil works involved; no environmental implications	No environmental risks or impacts identified	Vulnerable groups, small freight companies, and female employment involved.	The affected vulnerable groups, small companies, and female workers will be included in the target group(s) for training.	Local project management office	
11	Study on the strategic plan for improving the integrated development of Han-River inland waterway	Positive environmental benefits; no physical civil works involved; potential downstream environmental implications	In the TOR that proposes the research plan, the project component management office clearly requires that researchers should analyze the potential downstream impacts of the integrated development of Han-River inland waterway and provide the measures to eliminate these impacts in the research report.	No physical civil works involved; Potential downstream social implications.	In the TOR that proposes the research plan, the project component management office clearly requires that researchers should analyze the potential downstream impacts of the integrated development of Han-River inland waterway and provide the measures to eliminate these impacts in the research report.	Local project undertaking unit	The corresponding section(s) of the research report
	Green waterway development; conventional navigation lights replaced with new solar navigation lights	Positive environmental implications; no substantial civil works involved	No environmental risks or impacts identified	No physical civil works involved.	No social risks or impacts identified.		

6. Management Procedure and Organizations

The PMO will identify and manage environmental and social risks and impacts based on the project's own environmental and social risks and impacts as well as the World Bank's project preparation and management procedures. The basic management procedure is:

1. Environmentalist and sociologists will be invited to join the project management team. The PMO will appoint at least one environmentalist and one sociologist to the project management team. The invited environmentalists and sociologists must have at least 10 years of relevant work experiences. In particular, they should be familiar with the World Bank's environmental and social safeguard policies having headed the environmental and social risk management work for similar projects.
2. According to the World Bank's safeguard policies and the opinions of the relevant expert panel of the World Bank, PMOs are responsible for preparing Terms of References (TORs) for the national-level research projects and local-level components of the project. TORs will list the requirements on the identification of the potential environmental and social risks and impacts during the study including the implementation of the project components, the risk management measures, the risk management procedure, and public consultation.
3. In accordance with the TORs, special organizations or personnel will be arranged by the project component management offices to identify and manage the environmental and social risks and impacts of the project and its components during the study and implementation of the project and its components. The research results of the project will include the environmental and social risks and impacts management contents.
4. During the implementation of the project, the World Bank will inspect and supervise the environmental and social risks and impacts of all components of the project. The environmental and social risk management organizations or personnel of the components are responsible for reporting the relevant work and research results to the World Bank and improving the relevant work in accordance with the World Bank's requirements.
5. At the end of the project, the PMO will evaluate and inspect the environmental and social risk management for different components based on their research results.

Thus, the organizations involved in the environmental and social risk management for the project are as follows:

- (1) Project Management Office (PMO). Its primary responsibilities include defining the components of the
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project; recruiting environmentalists and sociologists to form an environmental and social impact management team; proposing TORs for the management of the environmental and social impacts of the project components; organizing and supervising the implementation of environmental and social risk management for the components; and inspecting and evaluating the implementation of environmental and social risk management. PMO is responsible for arranging special personnel to identify and manage the environmental and social risks and impacts involved in the 6 national-level project components. If it commissions a third party to carry out the research and development work, they should truthfully convey the tasks and requirements of the TORs proposed by the PMO to the third party and supervise the research and development work carried out by the third party. PMO is responsible for inspecting and evaluating the management of the social and environmental risks and impacts of the 6 national-level project components concerned.

(2) Local Project Management Offices (LPMOs). They are responsible for establishing special organizations or arranging special personnel to identify and manage the environmental and social risks and impacts involved in the local-level project components. If they commission a third party to carry out the research and development work, they should truthfully convey the tasks and requirements of the TORs proposed by the PMO to the third party and supervise the research and development work carried out by the third party. Every local project management office is responsible for inspecting and evaluating the management of the social and environmental risks and impacts of its local project component concerned.

(3) Research Units. They are responsible for including the identification and management of environmental and social risks and impacts in the relevant research and developing feasible measures and plans to eliminate environmental and social impacts based on their respective TORs and the characteristics of the 6 national-level project components.

(4) Local Project Undertaking Units. They are responsible for including the identification and management of environmental and social risks and impacts in the relevant research and developing feasible measures and plans to eliminate environmental and social impacts based on their respective TORs and the characteristics of the local-level project components.

7. Public Consultation and Grievance Redress

During the research and implementation of the project components, public consultation should be carried out in order to establish an effective grievance redress mechanism.

Public consultation and the establishment of a grievance redress mechanism shall be explicitly listed in the TORs prepared by the PMO, which will underpin the research and implementation of the project and its components.

In the research and implementation of the project components, information about the grievances and complaints of all stakeholders will be collected; and the relevant processes and results will be recorded in detail.

Public opinions and advice should be taken into consideration when the relevant research is conducted, so that the research results can reflect the results of public consultation. Public consultation and the establishment and operation of the grievance redress mechanism will serve as one of the indicators for evaluating the project outcomes.

8. Capacity Building

Capacity building is crucial to the successful implementation of the activities mentioned above. About the current institutional arrangements, the PMO under the Ministry of Transport and LPMOs should strengthen their capacity building to better fulfill their responsibilities. The cost of capacity building can be covered by the project grant funding or by the counterpart funding that are provided by the Chinese side.

The ability building of environmental and social safeguard will include two aspects: The project office will determine the staffing requirements at different levels and additional staffing requirements for environmental and social safeguard; and then, will train the staffs engaged in the environmental and social security work in each segment of this project.

Table IV: Training programs for people engaged in environmental and social safeguard

No.	Time frame	People involved	Contents
1	Early stage of	Relevant staff of PMO and	Trainings to enhance the knowledge of the

	the project	LPMOs	staff for the fundamental policies, rules, philosophies, and measures regarding the environmental and social safeguard management for the World Bank financed projects.
2	Early stage of the project	Relevant staff of PMO and LPMOs	Discussion about the fundamental policies and rules of the environmental and social safeguard for the World Bank financed projects.
3	Middle stage of the project	Relevant staff of PMO and LPMOs Persons in charge of research units and local project undertaking units	Environmental and social safeguard management practice trainings for the World Bank financed projects; and relevant document management requirements
4	Late stage of the project	Relevant staff of PMO and LPMOs Persons in charge of research units and local project undertaking units	The implementation, guidance, supervision, test, and evaluation of the environmental and social safeguard documents for the World Bank financed projects