

(7) Good practices

<Bangladesh>

Good Practice 1: Dhaka Mass Rapid Transit Development Project

1. Stage of EIA Process	② Quality of EIA (Screening, Scoping, Survey/Prediction/Assessment)
2. System/implementation	Implementation
3. Country	Bangladesh
4. Outline of good practice	<p>Dhaka Mass Rapid Transit No.6 line is located along a north-south alignment in Dhaka city, connecting Uttara, Mirpur, Dhanmondi, and Motijheel. Whole line is an elevated railway and overall length is around 20 km. It has 16 stations. The project proponent is Dhaka Mass Transit Company Ltd. (DMTCL). Japan International Cooperation Agency (JICA) provides financial support.</p> <p>EIA report was submitted in 2011 and Environmental Clearance was issued in the same year. After that, Supplemental EIA No.1, No.2 and No.3 was prepared in 2016, 2018 and 2019 respectively. The line is under construction as of 2019, and will be operated in 2020.</p> <p>This project provides us with following good practices:</p> <ul style="list-style-type: none"> • Earthquake risk assessment. • Groundwater quality monitoring. • Surface water quality monitoring. • Ambient air quality monitoring. • Noise level monitoring. • Detailed tree survey. • Historical and archeological sites survey. • Traffic Management Plan. • Stakeholder consultation and public consultation meeting.
5. Background and issues identified (why and how does this good practice was started and evolved?)	<p>Dhaka city falls in seismic Zone-II of the seismic zoning map of Bangladesh. It is classified as being on the upper end of the scale for moderate risk. The country's position adjacent to the very active Himalayan subduction plate in the north, moving east, and the westward movement of the Burma deformation produce the potential for earthquakes. A history of earthquake activity in Bangladesh, focusing on probable effects for Dhaka. Apparently, the risk of a large</p>

magnitude quake is fairly great. For a large-scale development project like metro rail is very important to assess the earthquake risk before starting detail design.

Total groundwater abstraction from licensed production wells operated by the Dhaka Water Supply & Sewerage Authority (DWASA) and private (mainly industrial) operators is around 700 Million Cubic Meters (MCM) per year. Most deep tube wells reach to greater than 400 m. Groundwater levels throughout the City have fallen drastically over the last 15-20 years. Groundwater levels have fallen from 23 to 47 m in three areas of the city near the alignment over the years 1980 to 2007. To analysis the groundwater quality 6 numbers of groundwater samples were collected from different locations of the proposed project area.

Construction activity can pollute surface water quality in the study area. To analysis the surface water quality 6 surface water samples (considering 2 seasons: dry and wet) were collected from different locations in the project area.

Dhaka city is the most polluted area among other cities in Bangladesh.

Construction can generate dust and exhaust emission by operating construction vehicles and equipment and pollute the air quality.

Ambient air quality monitoring was conducted in 3 locations along the metro rail route to determine the baseline condition of ambient air.

Construction activity and vehicles movement increase noise level in the construction site. Noise level was monitored at 5 locations during the preparatory survey of the project and later during detailed EIA stage ambient noise level was monitored at 40 different receptors considering depot area, construction yard, educational institute, hospitals, proposed stations, monuments, mosques, etc. Ambient noise level monitoring duration was 24 hours.

Historical and archeological sites can be affected by excess ground vibrations. A survey was conducted to identify historical and archeological sites of interest within one km of the Metro Line-6. A total of 20 important sites (religious monument of Mughal features, Greek architecture, national heritage, national symbolic importance, etc.) were identified within the range of the survey. These sites were

well known to the design team and were accounted for and protected in the design proposals for the metro.

Day by day the number of populations is increasing in Dhaka city and traffic jam is also increasing. The project area is a densely populated area and they move daily for different purposes. To avoid traffic congestion in construction zones/sites a Traffic Management Plan is prepared and implementing by the EPC contractor.

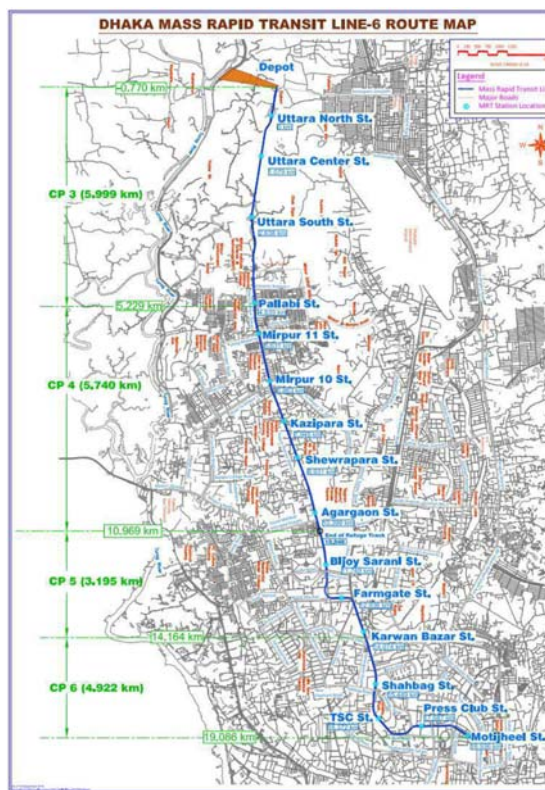
During preparation phase of the proposed metro project, 5 stakeholder consultation meetings were conducted and 24 public consultation meetings were conducted during EIA preparation.

During design phase of the proposed project, 2 public consultation meetings were conducted in March and May 2015 and 7 stakeholder consultation meetings were conducted in cantonment area and almost 30 stakeholder consultation meetings were conducted with Capital Development Authority of the Government of Bangladesh (RAJUK) official.

6. Key features of good practice and its consequences/outcomes

- The project design was based on detail level seismic analysis.
 - Baseline condition of environment parameters like groundwater, surface water, air quality and noise level will help the project authority to evaluate or compare with the changing condition during the construction phase and take mitigation or corrective measures if any risks and negative impacts are found.
 - Historical and archeological sites survey help project proponent and designer to avoid any negative impacts on the historical and archaeological sites (one KM of the metro line-6) due to construction activities and excess ground vibration from the operation of the metro. The design team are well known about the historical and archaeological sites and accounted for protection.
 - During the construction phase, construction traffic management is a great challenge for the contractors specially densely populated city like Dhaka. To avoid conflict with passenger cars and pedestrians and to maintain smooth traffic management is very necessary.
 - Regular monitoring of environmental parameters is ongoing along with the construction activities avoiding any social conflicts with
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	<p>the local community and adequate management of environmental pollution.</p> <ul style="list-style-type: none"> • During stakeholder consultation and public consultation meeting, many important environmental and social issues were raised from the participant's end.
7. Lessons learnt/way forward	<p>Baseline environmental and social assessment during the preparation phase is very important to identify the key issues in the project area, consultation and information disclosure with the local people and consider their comments/suggestions etc. in the project design and planning.</p> <p>To avoid conflict with the local community and disturbance due to construction activities regular monitoring should be ensured.</p> <p>A traffic management plan should be initiated during any project construction period specially in the densely populated area and heavy traffic area.</p> <p>Stakeholder consultation and public consultation should be initiated at the early or preparation stage, it became more empowered and meaningful.</p>
8. Photos	



Route Alignment and Stations of the MRT

Line 6

Source: EIA Report

Appearance of Station Entry/Exit Facilities

Source: EIA Report



Participants in 1st Public Consultation Meeting

Source: EIA Report



Participants in 2nd Public Consultation Meeting

Source: EIA Report

Good Practice 2: Payra 1320 MW Thermal Power Plant Project

1. Stage of EIA Process	③ EMP implementation/monitoring/reporting
2. System/implementation	Implementation
3. Country	Bangladesh
4. Outline of good practice	<p>Payra Coal Thermal Power Plant is an ultra-supercritical coal based thermal power plant with two units of 660 MW each. It is planned in Dhankhali Union of Patuakhali District. The project proponent is Bangladesh China Power Company Limited (BCPCL). BCPCL provides 30% of the capital, and Chinese Export Import bank and other Chinese banks provides 70% of it.</p> <p>< Environmental Management Plan ></p> <ul style="list-style-type: none"> • Good quality Environmental Management Plan by considering all environmental & social impacts during the whole project lifecycle. <p>< Resettlement and Compensation ></p> <ul style="list-style-type: none"> • Resettlement action plan, rehabilitation and compensation. <p>< Monitoring ></p> <ul style="list-style-type: none"> • Environmental monitoring in the construction site and project surrounding areas during the construction period. • Ecological monitoring in the project site and surrounding river, canal, ponds and other waterbodies etc. • Occupational health and safety monitoring during the construction phase of the proposed project.
5. Background and issues identified (why and how does this good practice was started and evolved?)	<p>< Outline of the project ></p> <p>March 2014 North-West Power Generation Company Limited (NWPGL) and China National Machinery Import and Export Corp (CMC) concluded a Memorandum of Understanding.</p> <p>September 2015 NWPGL submitted an EIA report.</p> <p>2016 Department of Environment (DoE) issued Environmental Clearance.</p> <p>December 2017 Construction was started.</p> <p>27th October 2018 The Payra Thermal Power Plant Resettlement Project, “SWPNER THIKANA”, named by Prime Minister of Bangladesh was commenced.</p> <p>2019 Operation will be started.</p>

< SWAPNER THIKANA Resettlement Project>

Resettlement of 130 families were indicated in EIA study, and resettlement and rehabilitation plan was proposed in EIA report. Project proponent developed SWPNER THIKANA Resettlement Project based on the proposal in EIA report. A total of 130 affected families have been rehabilitated under the rehabilitation project where school, mosque, community center, playground and other urban facilities have been ensured. This initiative is a role model for other mega projects in Bangladesh as well as in different countries in the world.

< Environmental monitoring>

To avoid, minimize, mitigate environmental pollution from the construction activities following monitoring are conducted:

- Ambient Air Quality-6 locations, quarterly basis;
- Surface water quality: 2 locations, monthly basis;
- Groundwater Quality: 2 locations, monthly basis;
- Noise Quality: 9 locations, monthly basis;
- Occupational Health and Safety: Monitoring in the construction site, monthly basis; and
- Monthly, quarterly and annual monitoring report is prepared by the consultant and submit to the client and DoE, Barishal Office following the terms and conditions are indicated in the EIA approval from the DoE.

Project surrounding rivers like Rabnabad Channel and Andharmanik River is renowned for the Hilsa fish (national fish of Bangladesh) sanctuary and dolphins. To avoid negative impacts ecological monitoring also conducted in the project area.

Occupational health and safety of the construction workers also monitor in the construction site. Following issues are monitored:

- Types of accommodation;
 - Standards for workers' accommodation;
 - General living facilities;
 - Drainage;
 - Heating, air conditioning, ventilation, and light;
 - Water, waste water and solid waste;
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	<ul style="list-style-type: none"> - Room/dormitories facilities; - Sanitary and toilet facilities; - Canteen-cooking and laundry facilities; - Standards for nutrition and food safety; - Medical facilities; - Leisure, social and telecommunication facilities; - Security on workers' accommodation; and - Consulting and Grievance Mechanism.
6. Key features of good practice and its consequences/outcomes	<p>Project proponent ensures financial compensation and implements rehabilitation project "SWAPNER THIKANA" to rehabilitate the affected people on humanitarian ground. As a result, there is no conflict between the project proponent and resettle community.</p> <p>Proposed project construction activities are ongoing by mitigating adverse environmental and social impacts and avoiding any social conflicts with the local community.</p> <p>Occupational health and safety monitoring help the project proponent to ensure a healthy and safe workplace and rest hall for the workers.</p>
7. Lessons learnt/way forward	<p>To realize sustainable development, it is required for the project proponent to understand that attainment of an EIA approval and ECC is not the ultimate goal for a large development project. Continuous monitoring during pre-construction and construction phase of a project is very important to minimize/mitigate adverse environmental and social risks and impacts, reduce or avoid the conflict/unrest with the local community and project proponent, resolve land acquisition and resettlement related issues. Monitoring activities can help to protect the natural resources in the project surrounding area during the project lifecycle.</p>
8. Photos	



**Existing construction progress of the proposed
Thermal Power Plant project**

Source: EQMS



**Noise level Monitoring at the
resettlement/rehabilitation site during the
construction phase**

Source: EQMS



**Ambient Air quality monitoring inside of the
power plant during the construction phase**

Source: EQMS



**Consultation with the worker community
during the construction phase of the project**

Source: EQMS

**Good Practice 3: Proposed offshore LNG Floating Storage and Re-Gasification Unit (FSRU)
moored at STL (Submerged Turret Loading) Project at Maheshkhali under Cox's Bazar**

1. Stage of EIA Process	④ Information Disclosure & Public Participation
2. System/implementation	Implementation
3. Country	Bangladesh
4. Outline of good practice	This project is to construct LNG Floating Storage and Re-Gasification Unit (FSRU) which is located 6 km offshore from Maheshkhali island in Cox's Bazar District and 91 km pipeline. A national petroleum energy company, Pertobangla will storage and re-gasify LNG imported from Qatar and supply gas for Anwara area

(industrial area) in Chittagong. The project proponent is Summit LNG Terminal Co. (Pvt.) Limited (SLNG). Deutsche Investitions- und Entwicklungsgesellschaft mbH, Nederlandse Financierings-Maatschappij voor Ontwikkelingslanden N.V., and Japan International Cooperation Agency (JICA) provide cofinance. EIA report was submitted and Environmental Clearance Certificate (ECC) was issued in 2018. Operation was started in March, 2019. Through information disclosure and public participation including the followings was conducted:

- Information disclosure about the proposed project among affected peoples and stakeholders.
- Selection of key Stakeholders.
- Objectives and scope of Stakeholders.
- Tools use for the Public Consultation Meetings.
- Content of checklist used in PCMs.

5. Background and issues identified (why and how does this good practice was started and evolved?)

It is very important to disclose the project related information before conducting Public Consultation Meeting with the affected people and stakeholders to get valuable comments on environmental impacts and mitigation measures of the proposed project.

According to the approved ToR for EIA study from DoE, the list of stakeholders was predefined by the DoE. However, the EIA consultant engaged by the project proponent conducted an extensive consultation with local people, government offices/agencies, local administration (Union Parishad) etc.

Stakeholder's consultation aiming at collecting baseline information on the social and environmental sensitivities near project site helped project proponent to grasp the potential impacts as well as helped the public to understand the proposed project.

For uniformity and clarity in conducting the public consultation meetings, a checklist can be used to enable the participants to comprehend the issues easily.

Following issues were included in the checklist: a) Location of consultation, b) Name and occupation of the participants, c) Awareness of the participants about the Project, d) Description of the Project, e) Benefits of the Project, f) Impacts of the Project on social

	<p>and environmental components, g) Concerns about the Project, h) Expectations from the Project, and i) Suggestions about the Project. During the public consultation meetings, social, environmental as well as cross-cutting issues were discussed in detail. The potential impacts of the project activities on environmental and social parameters, risks of disasters, public concerns and expectations from the project discussed at public consultation meeting were reflected in EIA report.</p>
<p>6. Key features of good practice and its consequences/outcomes</p>	<p>Stakeholders consultation meetings and public consultation meetings could ensure effective participation of the affected people in the project and give opportunities to express their opinions / comments / positive suggestions.</p> <p>Project proponent could get valuable information of the environmental and social risks and impacts and suggestions on mitigative measures.</p>
<p>7. Lessons learnt/way forward</p>	<p>Need to confirm information disclosure about the proposed project among the local community before conducting a Public Consultation Meeting. Ensure participation of different occupational groups, age, sex etc. before conducting public consultation meeting. Inform the local community about the public consultation meeting at least 7 days prior to the meeting.</p>

8. Photos



Public Consultation with fisherman

Source: EIA Report



Public Consultation with fisherman & villagers

Source: EIA Report



**Public consultation with Dhalghata residents
affected by the project at GTCL Valve Station**

Source: EIA Report



FGD at UP Office, Boro Moheshkhali

Source: EIA Report
