European Investment Bank

Luxembourg, 18 September 2024

Environmental and Social Data Sheet

Overview

Project Name:	NAGPUR METRO RAIL PROJECT - PHASE II
Project Number:	2022-0640
Country:	India
Project Description:	The second phase of Nagpur Metro Rail Project will connect the satellite towns of Nagpur city in the state of Maharashtra in India. It will serve as an extension to the ongoing first phase, with four extensions (North, South, East and West) totalling 44km and 32 stations
EIA required:	yes
Project included in Carbon Footprint Exercise[1]:	yes

(details for projects included are provided in section: “EIB Carbon Footprint Exercise”)

Environmental and Social Assessment

The Project represents the second phase of the staged construction of a metro network in the city of Nagpur, in the state of Maharashtra, in India. The Project concerns four (4) extensions, at both ends of the two existing interconnected urban metro rail lines of Phase-I, totalling 43.8 km with 32 stations. Existing depots in Mihan and Hingna, constructed in Phase-I, will also be utilized in Phase II, which both have suitable capacity to manage the additional metro-sets as well. The Project’s alignment is all elevated, except 1.2 km of at grade section. The Promoter is Maharashtra Metro Rail Corporation Limited (‘Maha Metro’), a joint venture of the Government of India (GoI) and the Government of Maharashtra (GoM), and well known to the Bank from previous financed project (Pune Metro).

The Project will significantly upgrade public transport supply for the whole metropolitan area and promote sustainable mobility for citizens. The Project is included in the city’s Comprehensive Mobility Plan (2018) and is consistent with the Nagpur Metropolitan Area Development Plan for 2032 as well as India's National Urban Transport Policy (2014). The Detailed Project Report (DPR) for the four Nagpur Phase-II extensions has been prepared in alignment with the city’s mobility and urban development plans. Both the central government (Government of India-GoI) and the state Government of Maharastra (GoM) have approved the project.

Environmental Assessment

Compliance to environmental legislation:

If located in the EU, the Project would fall under Annex II of EIA Directive 2011/92/EU, in which case it would be subject to screening by the Competent Authority, which would decide whether an EIA procedure is required or not. As per provisions of the Indian EIA Notification Act 2006, any new project or the expansion or modernization of any existing industry or project listed in

[1] Only projects that meet the scope of the Carbon Footprint Exercise, as defined in the EIB Carbon Footprint Methodologies, are included, provided estimated emissions exceed the methodology thresholds: 20,000 tonnes CO2e/year absolute (gross) or 20,000 tonnes CO2e/year relative (net) – both increases and savings.

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Schedule I of the EIA Notification Act shall submit an application for clearance to the Ministry of Environment, Forests and Climate Change (MOEFCC), GoI. Since metro projects are not included in Schedule I of the EIA Notification Act, the Project does not require an environmental clearance certificate from the MOEFCC nor a related EIA procedure. Despite the lack of legal obligation under the Indian law to conduct EIA process for this Project, Project's classification under the lenders' (EIB and ADB) environmental and social policies led to the requirement of a full Environmental and Social Impact Assessment (ESIA). Accordingly, an Environmental Impact Assessment (EIA) and Social Impact Assessment (SIA) reports were drafted, in line with national and EIB requirements. Both reports are disclosed locally. The EIA includes an Environmental Management Plan (EMP), and the Promoter undertakes to implement this EMP, among others by including it in the tender documents for the work and supply contracts.

Environmental impacts and mitigation:

Overall, the Project should have positive environmental impacts once in operation, including reduction in local air/noise emissions, in road traffic generated vibration and in greenhouse gas emissions, because of the expected modal shift from road modes (two wheelers, cars, taxis, shared taxis and buses).

Given its potential to reduce GHG emissions of the transport sector, through modal shift towards electrified collective transport, the project is Paris aligned and contributes to climate action objectives.

According to the EIA, the main residual negative environmental impacts of the Project include: (i) permanent conversion of open lands to metro lines and stations; (ii) felling/transplantation of 538 trees; (iii) use of finite, scarce, sometimes carbon intensive, materials, such as cement; and (iv) noise, vibration, and visual intrusion for properties adjacent to the alignment, during project operation.

Mitigation measures for the aforementioned are included in the EMP, which forms part of the EIA. The main mitigants are: (i) compensatory afforestation and its maintenance, in line with national and state legislation; (ii) various energy saving measures such as regenerative braking and use of solar panels; (iii) noise and vibration reduction measures embedded in system's design to keep noise and vibration levels below the acceptable thresholds during operation (e.g. rubber dampers on the rails and use of a U girder, which acts in part as a noise barrier), (iv) aesthetic structures of viaduct and stations to trade-off for visual intrusion.

Other negative impacts are temporary and localised (likely to occur during the construction phase); most notably, traffic diversions and access restrictions, construction related noise, vibration, air pollution, dust, debris, risk for soil and water contamination (ground and surface water) and solid or water waste. Mitigants, concerning temporary impacts, are also documented in the EMP; main ones include: (i) traffic management plans for traffic diversions and detours to ensure safe access for vehicles and pedestrians (ii) air pollution management and monitoring measures, from simple dust suppression to monitoring/managing emissions from mobile sources, (iii) noise and vibration control measures (iv) waste management plans (for muck, solid, water and hazardous waste) and continuous monitoring of soil and water resources.

According to the EIA, (i) the Project does not affect any nature conservation or similar protected areas, and no rare or endangered species are known in the area of the project, and (ii) no Archaeological or Cultural heritage Monuments or sites are located in the area of the Project.

Climate and Natural Disaster risks:

The Project has low climate risk and no major natural hazards due to climate change are foreseen that might affect the Project. It is envisaged that the climatic conditions prevailing at Nagpur with respect to precipitation, floods, temperature, humidity, winds etc., would not pose any major risk to the proposed metro system. Nevertheless, structural adaptation measures are integrated in Project's design, such as considering highest flood level for foundations of elevated structures or platform level of stations, temperature is considered and taken care by controlling deflections and stresses in structures etc.

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EIB Carbon Footprint Exercise

The annual emissions stemming from Project's operation, in a standard year of operation, were estimated at 22 kT CO2 equivalent per year (absolute emissions). The change in annual emissions, for all other modes, stemming from the reduction of mileage of competing road modes resulting from the shift in demand to the project, were estimated at 28 kT equivalent per year (baseline emissions).

Therefore, the net change of emissions across the transport network due to the project operation, in a standard year of operation, were estimated to be approximately (-) 6 kT of CO2 equivalent per year (relative emissions), a reduction of 22%. These calculations are based on the current country grid[2]. As the carbon footprint of the Indian grid improves, so will the CO2 equivalent performance of the metro system. In addition, the Promoter has an energy efficiency strategy, including traction and non-traction related measures (i.e., regenerative braking, LED at stations etc.) and is also planning to install solar panels stations roof, which could further reduce the carbon footprint of the project.

For the annual accounting purposes of the EIB Carbon Footprint, the Project emissions will be prorated according to the EIB lending amount signed in that year, as a proportion of project cost.

Social Assessment, where applicable

The Project is expected to generate important social benefits during operations by enhancing mobility and accessibility in Nagpur metropolitan area, and by reducing travel time and improving comfort and overall service quality for users. Also, during construction and operation the project will contribute to local employment generation for both skilled and unskilled labour.

Based on the SIA report prepared, the main adverse social impact is related to involuntary resettlement. The Project will acquire about 9.3Ha of land, out of which 5.6Ha is private land, while the rest 3.7Ha is governmental land. Land requirements for this project are the bare minimum, resulting from value engineering approach. For most of the affected private land parcels, only minimum land needs are being acquired, hence the balance large portion of land will remain with the affected landowners.

Based on the SIA, total project affected households/families (PAHs/PAFs) are estimated to be 98 with total project affected people (PAPs) to be 486. Out of the 98 PAHs/PAFs, 51 are title holders (TH) and 47 are non-title holders (NTH). There are no residential and commercial structures of TH, as almost all TH have purchased the land for investment purpose. Regarding the NTH, these are basically street vendors, with no permanent structure (i.e. mobile vendors), located within the Right of Way (ROW) land. No squatters are present in project's area. In addition to these, 3 common property structures (CPS) may be affected (e.g. public toilets, community structure of weekly market). The unavoidable loss of such assets will be compensated through replacement elsewhere or a suitable financial mechanism. No agriculture land is being affected due to the project.

A complete assessment of resettlement impact of the whole project will be known once the final design and subsequently census of affected households/ people are completed.

A Resettlement Policy Framework (RPF) was prepared in engagement with PAPs, as part of the SIA, in line with national and EIB requirements.

The Bank's lending will be subject to Resettlement Action Plan (RAP) preparation, consistent with EIB's Social Standards and overall project's implementation in compliance with the approved RAP and the relevant EIB Social Standards. The RAP will be prepared in consultation with all PAPs and will be disclosed on the website of the Promoter and the EIB. The RAP is to be finalised and implemented in a manner consistent with the handover of site to works

[2] EIB Carbon Footprint Methodologies

contractors. To avoid any disproportionate negative livelihood impacts on vulnerable groups, identified vulnerable households are expected receive additional financial and in-kind assistance.

Other potential social risks arising due to the project are: poor application of relevant labour standards, related to employee working conditions during construction, and/or relevant occupational and community health and safety standards during construction. Compliance with these aspects is managed through the developed EMP, part of EIA, as well as Social Management Plan (SMP), forming part of the SIA; both plans include mitigation measures and requirements for contractors to comply with labour standards, as well as highest safety and security standards for both workers and the community.

Impact on Gender equality: The Promoter has introduced certain measures, as part of the SMP, intended to address gender equality issues and facilitate women's involvement in the project. More specifically, the SMP lays out specific actions to (i) include planning and design features that would enhance access, safety, and security for women, and (ii) support women participation in construction works. Moreover, special support for women during resettlement and rehabilitation (R&R) activities is envisaged in SIA, along with other vulnerable users' categories. Finally, the Promoter has agreed to establish a Gender Action Plan with a quantitative target for Gender employment. Thus, the Project is expected to increase and safeguard women's employment and to overall have a significant positive impact for women in Nagpur and reverse their disproportional disadvantage on affordable, safe, and secure access to economic and social functions.

Public Consultation and Stakeholder Engagement

During drafting of the EIA and SIA (between April and May 2023), including EMP, SMP and RPF, there have been several rounds of consultations with various stakeholders, with a focus on local community members and especially PAPs, through focus group meetings in project adjacent areas.

As part of the stakeholder engagement so far, various concerns have been raised by the public, most notably: alternative land for relocation of market, construction related disturbances and safety of people around construction sites, traffic and access restrictions during works, access to a grievance redressal mechanism and optimum resettlement aspects (timely and adequate compensations); all of which are being addressed by the Promoter in the EIA and SIA reports.

Public consultation meetings concluded in October 2023, after which the reports were finalised by the Promoter with consultations with the Lenders. Since, the effectiveness of the public consultation process is directly related to the degree of continuing involvement of those affected by the Project, thus several additional rounds of consultations will form part of further stages of project preparation and implementation. The Promoter will continue the public consultations throughout the project implementation phase.

A Stakeholder Engagement Plan (SEP) has been prepared, as part of the SIA, identifying and prioritising key stakeholder groups and their engagement methods throughout project's life cycle (preparation, implementation, and operation). Furthermore, the Promoter undertakes to update the SEP detailing future stakeholder engagement activities related to the EMP, SMP and RAP implementation processes and guide their rollout.

The Promoter is establishing a Grievances Redressal Mechanism (GRM) to provide a formal avenue for displaced persons and other affected groups or stakeholders to engage with the Promoter on issues of concern. Various channels of communication will be established to allow people to contact the Promoter.

Other Environmental and Social Aspects

The Promoter will be responsible for overseeing and ensuring implementation of the EMP, SMP and RAP, through the Project Implementation Unit (PIU), headed by the Project Director (PD). The Promoter has sufficient qualified environmental and social staff within the organisation

many of whom have gained experience from implementation of other metro projects, like Nagpur Metro-Phase I and Pune metro. The Promoter will be assisted by a General Consultant (GC).

An independent monitoring and evaluation consultant will be commissioned, who will periodically monitor and report on delivery of the EMP, SMP and RAP as well as perform a mid and end of term evaluation of the implementation of these plans.

Conclusions and Recommendations

The Project will improve urban transport operations in Nagpur metropolitan area and is expected to reduce the emission of pollutants by the transport sector and indirectly contribute to road safety improvement.

The Project was subject to an Environmental and Social Impacts Assessment, completed in 2024 and approved by the Promoter, including an EMP, an SMP and a RPF acceptable to the Bank. Implementation of these Plans will be supported by experienced consultants, through the GC.

The EIB will condition its loan disbursements on:

1. Before first disbursement, the Promoter will provide to the satisfaction of the Bank, copy of the RAP;
2. Before any disbursement, the Promoter will ensure that the project implementation team includes environmental and social/resettlement experts, including the respective experts of the GC, to implement the EMP, the SMP and the RAP.

In addition, the Bank will seek commitments from the Promoter to: (i) comply with Bank's social and environmental standards and monitor and report on its implementation regularly, to the Bank's satisfaction; (ii) ensure that the EMP, SMP and relevant Bank's social and environmental standards are included in the tender documents of the main work contracts; (iii) implement the project in accordance with the agreed EMP, SMP, RPF/RAP and SEP; (iv) report regularly on the status of EMP, SMP and RAP/SEP implementation; (v) ensure that no eviction happens before approval of the RAP and that project affected people, including informal, are compensated in accordance to the approved compensation mechanism; (vi) ensure that the EIA/EMP, SMP, RAP and SEP are updated if needed in case of project modifications, to the satisfaction of the Bank; (vii) present mid and end of term evaluation of EMP, SMP and RAP implementation prepared by a third party, (viii) prepare a Gender Action Plan with a quantitative target for Gender employment of women during project construction and operation.

Subject to the aforementioned environmental and social conditions being met, the Project is expected to be acceptable for EIB financing in Environmental and Social terms.