



Concept Environmental and Social Review Summary

Concept Stage

(ESRS Concept Stage)

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**I. BASIC INFORMATION****A. Basic Project Data**

Country	Region	Project ID	Parent Project ID (if any)
Eastern and Southern Africa	EASTERN AND SOUTHERN AFRICA	P180801	
Project Name	Transport Corridors For Economic Resilience (tracer)		
Practice Area (Lead)	Financing Instrument	Estimated Appraisal Date	Estimated Board Date
Transport	Investment Project Financing	9/18/2023	11/15/2023
Borrower(s)	Implementing Agency(ies)		

Proposed Development Objective

The PDO of the SOP is to strengthen the economic resilience of select countries in Eastern and Southern Africa by increasing the efficiency of regional transport corridors.

The PDO of SOP1 is to strengthen the economic resilience of Zambia and Tanzania by improving transport and trade connectivity between Zambia and and Dar es Salaam port and expanding economic activity along the North-South / Dar es Salaam Corridor.

Financing (in USD Million)	Amount
Total Project Cost	270.00

B. Is the project being prepared in a Situation of Urgent Need of Assistance or Capacity Constraints, as per Bank IPF Policy, para. 12?

No

C. Summary Description of Proposed Project Activities

SOP1 will include transport and trade facilitation improvements along the main transport corridor from Zambia to Nakonde on the border to Tanzania toward Dar es Salaam port as well as support to economic activities along the corridor. Improvements will cover regulatory and policy aspects, capacity building, physical infrastructure and systems. SOP1 will also include preparatory studies for ensuing SOP along the Nacala and Trans Caprivi economic corridors.



D. Environmental and Social Overview

D.1 Overview of Environmental and Social Project Settings

The proposed Program aims at strengthening the economic resilience of Zambia and the region by developing regional transport corridors connecting Zambia with Tanzania, Malawi and Namibia. The proposed project is a Series of Projects (SoP), of which SOP 1 comprises of three components (i) Component 1: Transport and Trade Facilitation along the Dar es Salaam Corridor (US\$ 250 million) (ii) Component 2: Corridor-oriented SMEs development (15 million) and; (iii) Component 3: Institutional development (US\$10 million).

The details of the specific project locations include rehabilitating the Serenje – Mpika 283km road section, the construction of OSBP facilities at Nakonde and a weighbridge facility at Mpika and ESIA studies for the Kazangula – Katima Mulilo 212 km road section, along the Trans-Caprivi Corridor and the Lusaka – Luangwa 275 km road section of the Nacala Corridor. Component 1: The development of the Serenje - Mpika road section passes through high agricultural productivity areas of Mkushi, Chitambo, Lavushimanda and Mpika which are among the main producers of export crops such as maize and wheat. The planned Serenje-Mpika road section already contours or passes through protected areas such as Kasanka National Park (an international bird sanctuary) in Serenje District, Lavushi Manda, Kasanka National Parks, Mpika Protected Forest Reserve, a number of Game Management Areas (GMAs) and tourist destinations such as North Luangwa and South Luangwa, Lumimba, Lavushi Manda National Parks. The planned road section rehabilitation will result in a smooth road surface as opposed to its current uneven surface in a number of sections that has led to many road traffic accidents involving Heavy Good Vehicles. The proposed OSPB at Nakonde is an already established border post area and will require reconfiguration and expansion.

The Kazangula – Katima Mulilo road section of the Trans-Caprivi corridor runs through Caprivi game park, Zambezi National Park and contours the Zambezi River. The Lusaka-Luangwa Road section of the Nacala corridor (particularly from Lusaka to Chanida) is the second busiest corridor in the country. It leads towards both the Nacala port in Mozambique through Malawi and to the Beira port through either Malawi or Zimbabwe. The Lusaka-Luangwa Road section passes through or around national parks, forest reserves and GMAs.

Several villages, settlements, and small- medium businesses, are dotted along stretches of the roads proposed for rehabilitation and expansion. The infrastructure found within the road reserve (within 30 m from the centerline of the road on both sides) mostly consists of huts, kitchens, and pit latrines; shops and vending stalls. Most households along the road corridors fall within the “poor” category and over half of these poor households have income far below the upper poverty line. Zambia is one of the unequal countries globally. Its Gini Index is estimated at 57.1, and as of 2015, nearly 54.4 % population lived for less than US\$1.90 per day (measured in purchasing power parity).

Agriculture is the main land use along the proposed road corridors. Women are key in household farming and roadside trading but have fewer employment opportunities in rural areas-especially in road projects- as compared to men. Apart from agriculture, the project area has well-protected game populations in the National Parks and Game



Management Areas in the valley. The national parks include the North Luangwa National Park, Kasanka National Park, and Lavushi Manda National Park.

Malaria, diarrhoea, bilharzia, respiratory tract infections (RTI) and skin rashes are the most common diseases at the proposed project sites. Malaria vectors are widespread in the project sites especially during the rainy season, and the high. Vulnerability to HIV/AIDS, TB and malaria has continued to threaten lives and overall well-being of the population along the road corridors.

D.2 Overview of Borrower's Institutional Capacity for Managing Environmental and Social Risks and Impacts

The Road Development Agency (RDA), under the Ministry of Infrastructure, Housing and Urban Development (MIHUD) are expected to implement the physical infrastructure, including preparation of studies and designs. The Transport and Logistics services component will be implemented by the Ministry of Transport & Logistics (MTL) in Zambia, in consultation and coordination with the respective ministries in Tanzania and Malawi. Due to the multidisciplinary nature of the activities, a PIU will be established under RDA to manage the projects day-to-day. However, the RDA uses in-house E&S staff for the Improved Rural Connectivity Project (P159330) (IRCP). The staff have not been dedicated to IRCP but instead, conduct their daily duties and supervise the project. The PIU should be headed by full-time project directors and staffed with full-time technical experts and specialists in, inter alia, project management; procurement; financial management; environmental, health and social aspects who are all independent of any other external duties and responsibilities; etc. The provision of a project implementation services consultants will also be considered.

All three entities -RDA, MIHUD and MTL- are actively involved in Bank-financed operations but their E&S capacities and capabilities for overseeing implementation of different project activities are limited. The RDA is implementing IRCP and their current safeguard performance rating is moderately unsatisfactory due to inadequacies managing resettlement impacts; environmental and social incidents; and occupational, health and safety risks and impacts. The MIHUD and MTL's capacity to manage ESF will require an assessment. The borrower's E&S performance and implementation of E&S mitigation measures and plans on P159330 Improved Rural Roads Connectivity Project (IRCP) has proved unreliable and the performance rating has alternated between MS and MU. Substantial technical capacity support will be required during project preparation and implementation to assist the RDA, MIHUD, and MTL, as well as the PIU in designing and implementing the project in a manner which meets the ESF requirements.

The current plan is to use the RDA's Environmental and Social Management Unit (ESMU) in an oversight role to ensure that, the project implementation complies with the environmental and social requirements. The Unit is currently staffed with four specialists who will be adequate to prepare the project but during implementation of the project dedicated environmental, social and OHS specialists are required. The current RDA specialists are dual tasked with other RDA duties and will not be focused on the project. All ESMU Staff in the Unit will require some short-term specialized training in areas such as: World Bank ESF and its ESSs, OHS. The E&S management capacity during implementation should be strengthened through recruitment of suitably qualified environmental and social specialists, gender and GBV specialist OHS specialists, third-party monitoring consultants etc. During project preparation the Bank will perform a capacity assessment and confirm the appropriate ES structure (staffing and



training) for both the PIU and within responsible entities and key project participants (construction and SMEs etc). During project preparation the Bank will perform a capacity assessment and confirm the appropriate ES structure (staffing and training) for both the PIU and within responsible entities

In summary, the Road Development Agency (RDA), under the Ministry of Infrastructure, Housing and Urban Development (MIHUD) and the Ministry of Transport & Logistics capability to develop quality Environmental & Social (E&S) instruments, implement E&S mitigation measures and plans and ensure the Supervising Consultant or Engineer, Third Party Monitoring and contractor are fulfilling their roles is still challenging. There are incidences where agreed E&S actions have not been implemented that has led to severe incidents.

II. SCREENING OF POTENTIAL ENVIRONMENTAL AND SOCIAL RISKS AND IMPACTS

A. Environmental and Social Risk Classification (ESRC)

High

A.1 Environmental Risk Rating

High

The proposed environmental risk rating is High. The environmental risk assessment is focused on the preparatory E&S studies of Series of Projects (SoPs), the physical rehabilitation of the road infrastructure from Serenje to Mpika, construction of a weighbridge and the OSPB, current RDA, MIHUD and MTL E&S capacity, and component 2 will focus on road corridor orientated development and the development of Small Medium Enterprises (SMEs) and Component 3 activities consist of institutional and sectoral capacity development. The environmental risks associated with this large-scale road rehabilitation project are assessed to be substantial. The likely environmental risks and impacts from the proposed project activities are typically direct, indirect and cumulative in nature. The environmental risks and impacts are focused on the potential environmental and OHS risks and impacts from road rehabilitation and operation, existing EHS liabilities along existing targeted road infrastructure and with SMEs that may include (i) the loss of critical and natural habitats (inc flora and fauna) if not identified and managed during preparation from road widening, workers camps, batching areas, laydown areas, temporary access roads or by-pass roads, storage areas and indiscriminate development of borrow pits and quarries; (ii) bulk extraction of raw materials including gravel, sand and water resources will likely result in land degradation, loss of landscape aesthetics, loss of arable and fertile land; (iii) increased localized air pollution from dust, batching and vehicle exhaust; (iv) nuisance and occupational noise and vibration; (v) local soil and water resource contamination from leakages and run off from quarrying, batching activities, bitumen manufacturing, storage of hazardous materials, servicing of equipment etc; (vi) Occupational and Community Health and Safety incidents, vehicle incidents on and off site involving workers, members of the public, and vulnerable road users (pedestrians, motorcycles etc); (vii) local water resource competition from excessive consumption for construction activities, workers camps etc; (viii) increased vehicle speeds due to a high quality road infrastructure resulting in an increased number of road fatalities (ix) Loss, fragmentation and degradation of habitat and severance of animal migration routes and pathways; (x) impacts on cultural heritage; (xi) a heightened risk of borrow pit (activities or legacy pits) drownings (xii) the generation of solid, construction and hazardous wastes (xiii) use of pesticides; (xiv) the removal of vegetation and trees to accommodate possible road widening activities, bypass roads and access roads and; (xv) the limited capacity of RDA, MIHUD and MTL to manage projects effectively under



ESF. In Component 2 activities the SMEs may generate environmental risks and impacts that consist of solid and hazardous waste generation, poor OHS practices, unsustainable land management practices, generation of water and air pollution etc. Component 3 activities consisting of institutional and sectoral capacity development will likely generate OHS risks. Cumulative impacts could be intensified by road rehabilitation and operation by the incremental effects of exhaust pollution along the road length, vehicle emissions contributing to climate change, potential for increased sediment and contaminant runoff from road infrastructure into local waterways and an exponential increase in road traffic fatalities in Zambia.

A.2 Social Risk Rating

High

The project aims to improve transport and trade connectivity between Zambia and Dar es Salaam port, which will expand economic activity along the North-South/Dar es Salaam corridor and provide safer roads and access to jobs. However, the project also poses high social risks and impacts, mainly due to land acquisition and resettlement impacts, risks of SEA/SH due to labor influx, and capacity constraints to manage the social risks. The activities under component 1 and 2, which will finance the rehabilitation of the Serenje-Mpika road, upgrade of the one-stop border post at Nakonde, and the development of SMEs business along the road corridors, will pose most of the social risks. For example, the rehabilitation of the Serenje-Mpika road may affect residential and small businesses along the right-of-way (ROW), leading to the loss of lands, houses, and livelihoods for affected people, some of whom may need to resettle. Similarly, land acquisition will be required for the construction of the Border Post at Nakonde, and temporary land acquisition is also expected for worker/labor camps, storage of machinery, access roads, and borrow pits. Encroachments along the right-of-way may also be affected. The potential negative effects on vulnerable populations, including the elderly, disabled individuals, and female-headed households, will be evaluated once the Environmental and Social Impact Assessment (ESIA) report is completed. However, during the construction phase, there may be an increase in labor influx, which could heighten the risk of SEA/SH for women and girls in the communities along the corridors. This is due to persistent barriers such as gender discrimination and sexual violence, which may prevent women from participating in road construction, transport, and trade-related activities, as the industry in Zambia is predominantly male-dominated. There is also a social risk associated with marginalization and conflict in the selection of Small and Medium Enterprises (SMEs) for socio-economic development along the corridor under component 2 of the project. This could potentially exclude certain groups from benefiting from the project's development initiatives. Additionally, the project will involve the use of direct workers, contractor workers, and primary supply workers, which may pose labor and working condition risks if there is non-compliance with national legislation and ESS2 requirements on working hours, wages, overtime, compensation, and benefits. For example, if workers are not paid fair wages or are forced to work long hours without proper compensation, this could lead to labor exploitation and poor working conditions. In order to mitigate these social risks, the Borrower will develop Environmental and Social Framework (ESF) instruments, such as the Environment and Social Commitment Plan (ESCP), the Stakeholder Engagement Plan (SEP), which includes the Grievance Redress Mechanism (GRM), and the Labor Management Procedures (LMP). The ESIA and the Resettlement Action Plan (RAP) that were prepared in 2018 and revised in 2022 will also be updated to meet the requirements of the ESF. The project will aim to minimize land acquisition and resettlement by assessing alternatives, such as routing, and working within the existing right-of-way (ROW), wherever possible. During project preparation, gender gaps will be examined in detail, and gender actions to address those gaps and indicators to measure progress will be incorporated into the project design. As part of the project's assessment of social and economic development opportunities along the corridor, the risks and impacts, such as marginalization and conflict, in the selection of SMEs will be assessed. Additionally, the selection criteria for the SMEs should be clearly defined with stakeholders and beneficiaries, and aspects such as poverty and vulnerability should be considered critical in the selection process.



B. RELEVANCE OF STANDARDS AND POLICIES AT CONCEPT STAGE

B.1 Relevance of Environmental and Social Standards

ESS1 Assessment and Management of Environmental and Social Risks and Impacts

Component 1 will focus on the development of the Serenje – Mpika section of the North – South corridor and will include (i) update of the feasibility and design studies (ii) rehabilitation of the road section to bituminous standards (iii) provision of supporting infrastructure (systems upgrade of axle load control facilities – weighbridge at Mpika (iv) upgrade of an One Stop Border Post (OSBP) at Nakonde that includes design and construction of access roads, parking areas, building of facilities to incorporate Information Communications Technology (ICT). The component will prepare studies for key sections along the corridors such as feasibility studies, detailed designs, ESIA for identified sections in need of rehabilitation and upgrade along key corridors (Trans Caprivi and Ncala). While the rehabilitation of the North-South corridor is assessed to be a substantial risk project, it is the borrower's capacity and capabilities to effectively implement E&S requirements that has raised the environmental risk rating to High. Component 2 will focus on road corridor orientated development and the development of Small Medium Enterprises (SMEs) and Component 3 activities will consist of institutional and sectoral capacity development.

The likely environmental risks and impacts from the proposed project activities in phase 1 are typically direct, indirect and cumulative environmental impacts. The direct, indirect and cumulative environmental impacts may include (i) the potential loss of critical and natural habitats; (ii) bulk extraction of raw materials; (iii) localized air pollution from dust and vehicle exhaust; (iv) nuisance and occupational noise and vibration; (v) local soil and water resource contamination from leakages and run off; (vi) OHS and CHS incidents and accidents; (vii) local water resource competition and excessive consumption for construction activities, workers camps etc; (viii) increased vehicle speeds; (ix) impacts on cultural heritage; (x) a heightened risk of borrow pit (activities or legacy pits) drownings; (xi) the generation of solid, construction and hazardous wastes; (xii) the use of pesticides; (xiii) the removal of vegetation and trees to accommodate possible road widening activities, bypass roads and access roads (xiv) construction works flooding, soil erosion and sediment run off; (xv) the capability of the RDA, MIHUD and MoTL to develop quality Environmental & Social (E&S) instruments and to effectively implement E&S mitigation measures and plans. Component 2 activities the SMEs may generate environmental risks and impacts that consist of solid and hazardous waste generation, poor OHS practices, unsustainable land management practices, generation of water and air pollution etc. Component 3 consisting of institutional and sectoral capacity development will likely generate OHS risks and will require TORs consistent with the ESS and ESHGs.

The activities under components 1 and 2, which involve financing the rehabilitation of the Serenje-Mpika road, upgrading the one-stop border post at Nakonde, and developing SMEs along the road corridors, are likely to pose key social risks. The rehabilitation of the road may impact residential and small businesses along the right-of-way (ROW), leading to the loss of lands, houses, and livelihoods for affected people, some of whom may need to resettle. Similarly, land acquisition will be required for the construction of the Border Post at Nakonde, and temporary land acquisition is also expected for worker/labor camps, storage of machinery, access roads and borrow pits. The potential negative effects on vulnerable populations, including the elderly, disabled individuals, and female-headed



households, will be evaluated once the Environmental and Social Impact Assessment (ESIA) report is completed. However, during the construction phase, there may be an increase in labor influx, which could heighten the risk of SEA/SH for women and girls in the communities along the corridors. This is due to persistent barriers such as gender discrimination and sexual violence, which may prevent women from participating in road construction, transport, and trade-related activities, as the industry in Zambia is predominantly male-dominated. In addition, there is a social risk associated with marginalization and conflict in the selection of Small and Medium Enterprises (SMEs) for socio-economic development along the corridor under component 2 of the project. This could potentially exclude certain groups from benefiting from the project's development initiatives. Moreover, the project will involve the use of direct workers, contractor workers, and primary supply workers, which may pose labor and working condition risks if there is non-compliance with national legislation and ESS2 requirements on working hours, wages, overtime, compensation, and benefits. For example, if workers are not paid fair wages, this could lead to labor exploitation and poor working conditions.

The required actions to manage environmental and social risk management include; (i) update the Environmental and Social Impact Assessment (ESIA) and Resettlement Action Plan (RAP) for the Serenje-Mpika section of the North-South Corridor by an independent and qualified expert(s); (ii) prepare studies for key sections along the corridors such as feasibility studies, detailed designs, ESIA for identified sections in need of rehabilitation and upgrade along key corridors (Trans Caprivi and Ncala); (iii) conduct E&S screening of the OSPB at Nkonde and weighbridge and develop appropriate E&S instruments to manage E&S risks and impacts; (iv) the development of Health Safety Management Plans (HSMPs) and Contractor' ESMPs (CESMPs) during the implementation of Serenje-Mpika rehabilitation, OSBP and weighbridge; (v) Environmental and Social Commitment Plan (ESCP); (vi) Labor Management Procedures (LMP); (vii) Stakeholder Engagement Plan (SEP); and (viii) an SEA/SH Action Plan and an accountability and response framework consisting of procedures detailing how to respond to SEA/SH allegations. The preparation of the listed E&S instruments will undergo public consultations and the documents will be disclosed. The SEP will be finalized and publicly disclosed before appraisal. The E&S risk classification will be re-assessed and accordingly revised/updated before project appraisal, after more project design details are known. All three entities (RDA, MIHUD & MTL) are actively involved in Bank-financed operations and have low E&S capacities and capabilities to oversee the implementation of the different activities under phase 1. During project preparation, gender gaps will be examined in detail and gender actions to address those gaps and indicators to measure progress will be incorporated into the project design. As part of the project's assessment of social and economic development opportunities along the corridor, the risks and impacts, such as marginalization. The proposed TA activities under component 3 are not anticipated to have significant downstream or induced impacts. Nevertheless, the Borrower will incorporate specific provisions to enhance environmental and social considerations in the ToRs for the capacity building activities. This will ensure that the outcomes of the TA align with the ESF.

The E&S management requirements will be reassessed for the purpose of this proposed project with a view to developing a gold standard of E&S capacities and capabilities requirements through recruitment of suitably qualified Environmental and Social Specialists, OHS specialists, undergo ESF training, review of all TORs for SE, SC, Third Party Monitoring Consultants, endorsement of selected PIU staff, development and implementation of a training plan for PIU, consultants and contractors, ensure integration of OHS and other E&S requirements into all procurement and contracting activities, awareness of available contractual remedies, development of an ESMF etc.

Areas where "Use of Borrower Framework" is being considered:



N/A

ESS10 Stakeholder Engagement and Information Disclosure

The project stakeholders will be diverse and will include various trade and transport stakeholders, local communities, and individuals living around the project areas. These stakeholders will include business and trade associations, transport operators, media, civil society, NGOs, and academic and research organizations.

The project will engage with relevant stakeholders from the early stages of preparation and throughout its implementation. A stakeholder engagement plan (SEP) will be prepared prior to appraisal, which will be proportionate to the overall risks, impacts, and concerns related to the activities. Consultation and engagement with stakeholders will start from an early stage of the project's preparation, with the SEP providing detailed modalities and approaches for engagement with stakeholders in line with their relevance to the project.

The SEP will include a detailed plan of activities to engage stakeholders and a grievance redress mechanism (GRM) to receive and address project-related complaints and grievances from project-affected people, groups, and stakeholders. The SEP will also detail the program's communication strategy and provide feedback mechanisms that will systematically facilitate the uptake and use of stakeholder concerns. This will ensure that the project takes into account the concerns and needs of all stakeholders, including vulnerable and disadvantaged groups, and that their grievances are addressed in a timely and effective manner.

ESS2 Labor and Working Conditions

The standard is considered relevant. The proposed project will require a significant amount of labor force, particularly for the rehabilitation of the Serenje-Mpika road and the OSPB construction. The majority of the labor force will be hired locally, except for skilled workers who may not be available in the local communities. The Serenje-Mpika road section spans approximately 283 km and will involve civil works, which may require labor camps. The project activities will involve three types of workers: direct workers (public and civil servants responsible for project operations and technical specialists hired from the market), contracted workers (workers hired by civil contractors), and primary-supply workers (workers from construction-material suppliers, such as sand and gravel and loading/construction material-transport services). The involvement of community workers is yet to be determined and will be assessed during the appraisal stage.

The project activities under the Serenje-Mpika rehabilitation and OSPB construction will generate multiple hazards such as; (i) worker exposure and impact with fast-moving, overloaded, unsafe vehicular traffic and motorcycles exacerbated by low light conditions, poor visibility and a lack of traffic management; (ii) exposure to live electrical conductors running parallel to the road; (iii) over exertion, fatigue, dehydration and exhaustion (including heat); (iv) impact with onsite vehicles and plant equipment; (v) trips, slips and falls; (vi) noise and hand arm vibration; (vii) possible landslides; (viii) impact injuries from dropped/fallen equipment and loads; (ix) inhalation of fumes and dust from vehicles, plant machinery, hazardous materials, batching operations resulting in fainting or collapse, acute or chronic lung diseases and illnesses; (x) exposure to other hazardous materials including fuel, chemical additives; (xi)



entrapment within machinery moving parts etc; (xii) vehicle accidents on site. Other key labor risks include failing to abide by national legislation regarding working hours, wages, overtime, compensation, benefits, child or forced labor, discrimination and SEA/SH.

An appropriately scaled and detailed OHS plan based on ESHGs, GIIP and national laws will be required that includes hazard identification, risk assessments, method statements, emergency prevention and preparedness and response arrangements, OHS training and communication and road safety, contractor's OHS committees, site OHS inspection checklists and checklists other activities and areas of concerns. The PIU, third party monitoring consultants, Supervising Engineers and contractors should be sufficiently staffed with qualified and experienced OHS officers. There is a requirement for a properly mapped out and staffed OHS organization to effectively implement the OHS risk control measures. All TORs for PIU E&S, OHS staff and Supervising Engineers should be reviewed and given No Objection by the Bank to ensure OHS provisions, qualifications and OHS responsibilities are included in the contracts. Likewise, all contracts and procurement related documents are to include the appropriate OHS clauses, remedies, actions and responsibilities.

In line with the requirements of the standards, the PIUs will prepare labor management procedures (LMP) with details regarding the modalities for hiring and disengaging workers, procedures to ensure that all workers receive clear contractual agreements with detailed wage/remuneration rates and payment schedules/timelines, code of conduct (including relating to SEA/SH), age of employment, non-discrimination in hiring especially related to women's employment and provision of safe working conditions, and contractor management, based on the provisions of ESS2 and in the ESHGs, and considering national laws and regulations. The LMP will also determine the resources required to address labor-related issues. To ensure the proper implementation of labor issues, contractors will need to hire staff with relevant skills. The PIU Social Specialists will provide overall guidance, while the Supervision Engineer's team will include staff with expertise in labor issues. Both the PIU and contractors will be responsible for ensuring that primary supply workers have systems in place to meet their obligations under ESS2. Additionally, the LMP will include provisions/procedures for a labor specific GRM, where all project workers can raise their work-related grievances including SEA/SH. Contractors will develop respective GRM and include them in the C-ESMP.

ESS3 Resource Efficiency and Pollution Prevention and Management

ESS 3 is relevant to the project because the activities will likely generate impacts related to air pollution, water use, raw material use, management of hazardous and non-hazardous wastes and the management of chemicals and hazardous materials. The likely environmental risks and impacts related to ESS 3 from all components are generated from (i) bulk extraction of raw materials including gravel, sand and water resources will likely result in land degradation, loss of landscape aesthetics, loss of arable and fertile land; (ii) increased localized air pollution from dust, batching and vehicle exhaust; (iii) local soil and water resource contamination from leakages and run off from quarrying, batching activities, bitumen manufacturing, bulk storage of hazardous materials, servicing of equipment etc; (iv) local water resource competition from excessive consumption for road construction activities, dust suppression, batching, workers camps etc; (v) the generation of solid, construction and hazardous wastes; (vi) the use of pesticides in road maintenance; (vii) the removal of vegetation and trees to accommodate possible road widening activities, bypass roads and access roads; (viii) existing liabilities along the existing road infrastructure (solid waste,



contaminated land etc); (ix) soil erosion and sedimentation through increased storm water runoff during the wet season and; (x) the generation of solid and hazardous waste, poor OHS practices, unsustainable land management practices, generation of water and air pollution etc from SME activities.

The updated ESIA for the Serenje-Mpika rehabilitation and E&S instruments for OSPB construction, operation and maintenance will be reviewed to ensure all potential direct, indirect and cumulative environmental risk and impacts associated with ESS 3 are assessed and appropriate mitigation measures and plans are in place. The ESIA will be developed and include appropriate scaled ESMPs and relevant management plans such as (i) wastewater and water management plans, solid, construction, hazardous waste management plans (ii) Hazardous Materials (Hazmat) storage plan (fuel and other chemicals) to ensure containment, prevention of fires, emergency response plans etc; (iii) Pesticide Management Plan (iv) borrow pit management plans where legal and licensed sources of materials will be extracted and to prevent drownings and other OHS risks and; (v) capacity building and training requirements (vi) monitoring activities (vii) the appropriate siting of large concrete or asphalt batching plants or similar construction material manufacturing plants away from areas of critical and natural habitats, population centres, water resources and other natural, critical or community sensitive areas. Risks and impacts associated with project feasibility studies, E&S instrument development and SME activities are likely to be substantial due to the current low E&S technical capacity but mitigated and managed by adopting an activity Terms of Reference coordinated and managed by a project ESMF in accordance with ESS 3.

ESS4 Community Health and Safety

ESS 4 is considered relevant because the likely risks and impacts are related to traffic and road safety, ecosystem services, management and safety of hazardous materials and emergency preparedness and response. The main potential health and safety risks to the local community are hazards associated with subproject construction and operational activities that will likely include (i) traffic and road safety risks resulting from and an expected significant increase in construction traffic in rural areas leading to vehicle impacts with local community members and livestock (ii) inappropriate sized and standardized infrastructure (including roads, bridges, culverts) leading to road surface flooding, blockages and collapse during operational use and extreme weather events (iii) spread of Covid-19, contraction of Malaria and other communicable diseases to the local communities due to worker influx into the rural areas; (iv) inappropriate disposal of wastes of all types (wastewater, solid, hazardous) leading to the spread of infectious diseases among the local community, increase in the number of local community members engaged in waste picking, and community health impacts from local water resource contamination and air pollution from burning of solid and hazardous waste etc; (v) batching plants, maintenance areas and workers camps could store bulk fuel and chemicals resulting in fuel and chemical leakage from compromised containment into the ground water or protected waterway or a catastrophic loss of fuel due to an accident or a loss of containment leading to a fire that could spread to nearby communities or pollute local water resources; (vi) a lack of emergency response coordination at project sites leading to the uncontrolled spread of contaminants, fire and delayed treatment for any road traffic casualties etc; (vii) inappropriate storage of hazardous materials (other than fuel) resulting in inadvertent community exposure through water and air pollution; (viii) irreversible damage to local ecosystem function and; (ix) incidents SEA/SH especially of women and girls in the communities.



The safety and protection of vulnerable road users (Pedestrians including children, mothers with children, motorcycles, bicycles etc.) and other road users (trucks, cars, public transport etc) is critical throughout road rehabilitation and road operations. Road traffic incidents are likely; (i) where there are road works and construction activities; (ii) where vulnerable road users are canalized next to moving traffic; (iii) construction vehicles traveling on narrow roads unpaved or paved roads to borrow pits, batching plants (iv) where construction traffic is detoured or diverted through populated areas, schools, community centres, areas of commerce etc; (v) off site at or near contractor's camps where long vehicles are turning or where unlicensed or untrained, inexperienced drivers and operators are driving or operating vehicles and plant machinery etc. During road operations traffic accidents are likely to occur where there are (i) overtaking traffic colliding with pedestrians, oncoming and turning vehicles; (ii) poorly lit and signed bends, curves, brows of a hill, crossing areas; (iii) hidden junctions and entry and egress points; (iv) narrow parts of the road (iv) at night; (v) disobedience of the highway code; (vi) unsafe drivers who are physically impaired, distracted, speeding, reckless or otherwise dangerous; (vi) poorly maintained vehicles; (vii) poor weather conditions; (viii) unmaintained and potholed roads and; (ix) young and inexperienced drivers etc.

The ESIA associated ESMP for each section of road rehabilitation will require the borrower to incorporate road safety aspects from the Good Practice Note on Road Safety such as (i) thoroughly assess the potential traffic and road safety risks to all vulnerable road users, other community members, contracted workers, other members of the public throughout all phases of the road rehabilitation (pre construction, construction, operations and decommissioning (removal of the contractor, asphalt plants etc); (ii) the incorporation into the road design practical and feasible measures to mitigate against such risks; (iii) if necessary, undertake a road safety assessment of the completed sections of road and implement improvement measures; (iv) ensure safe driver, safe vehicle and safe journey by conducting driver training, driver licensing, vehicle licensing, maintenance and roadworthiness tests, oversight and monitoring measures, driver alcohol and substance testing, speed monitoring, comprehensive driver contracts; (v) preplanned and safe routes for construction traffic and; (vi) traffic management plans on works sites and the physical separation of vulnerable road users from works and normal traffic flows.

Community health and safety risks will be screened in the ESIA's and the mitigation measures may include (i) appropriate road safety policies, plans, construction standards and mitigation measures detailed in the ESMPs (ii) appropriate use of international recognized infrastructure construction codes with an emphasis on climate resilience (iii) appropriate waste management plans including the use of the standards and management procedures set out in the WB ESHGs and agreed GIIP where appropriate (v) comprehensive and well-rehearsed emergency response measures to address potential subproject anticipated incidents, arising from both natural and man-made hazards along the road corridors that includes but is not limited to a catastrophic fuel leak into a waterway or ground water from a bulk fuel installation, an explosion of a fuel installation, a flood, a road traffic casualty etc.; (vi) the appropriate level of Covid 19, Malaria and other current communicable diseases mitigation measures for worker camps and on site (vii) the ESIA should include a thorough assessment of the potential for pollution events that will contaminate local community water resources etc. (vii) the appropriate management of hazardous materials to prevent discharge to the environment, fire or accidental or intentional access by local community members and, (viii) preparation and adoption of a SEA/SH Action Plan, and also incorporate relevant provisions in contractor bidding documents including a Code of Conduct for the workers, set up a SEA/SH compliant Grievance Management and raise awareness on SEA/SH among the beneficiaries. Risks and impacts associated with project feasibility studies and E&S instrument development are likely to be low to moderate and mitigated by adopting an activity Terms of Reference coordinated and managed by a project ESMP in accordance with ESS 4.



ESS5 Land Acquisition, Restrictions on Land Use and Involuntary Resettlement

This standard is considered relevant due to the potential risks of land acquisition and involuntary resettlement associated with the activities under component 1 and 2. These activities include the rehabilitation of the Serenje-Mpika road and the upgrade of the one-stop border post at Nakonde. The rehabilitation of the road may result in the loss of lands, houses, and livelihoods for affected people, some of whom may need to resettle. Similarly, land acquisition will be required for the construction of the Border Post at Nakonde, and temporary land acquisition is also expected for worker/labor camps, storage of machinery, access roads, and borrow pits. Encroachments along the right-of-way may also be affected. However, the extent of displacement and resettlement is currently unknown and will be determined when feasibility studies and designs are complete.

To mitigate these risks, the implementing agency will update the Resettlement Action Plan (RAP) for the Serenje-Mpika section. An independent and qualified expert(s) will be responsible for updating the RAP to ensure that it meets the requirements of the ESF. The implementing agencies will then implement the site-specific RAP before any land-take or construction activities begin. The Project Implementation Unit (PIU) staff will include a Resettlement Specialist who will be supported by consultants for RAP implementation. RAPs for the upgrade of the one-stop border post at Nakonde and the temporary land use such as access roads and borrow pits will be prepared and implemented by Contractors who will be expected to have the necessary staff in place. The implementation of the RAPs will be overseen by Supervision Engineers.

The RAPs will be developed based on a comprehensive census and inventory of the project-affected persons (PAPs) and assets. This process will involve engaging PAPs and other relevant stakeholders in meaningful consultations, disclosing project impacts and benefits to stakeholders, and providing them with opportunities to contribute to the resettlement planning process. The RAP will also include detailed data on gender and other vulnerable PAPs, and specialized assistance will be provided to address specific issues relevant to female-headed and vulnerable households.

ESS6 Biodiversity Conservation and Sustainable Management of Living Natural Resources

ESS 6 is considered relevant to this project because of possible direct and indirect impacts on biodiversity and habitats from the inappropriate extraction of raw materials and natural resources, poor borrow pit and contractor's camps siting, the use of unlicensed primary suppliers and the impacts to the sustainable management of living natural resources. The national parks are unlikely to be directly impacted from the road rehabilitation and any realignment because the North Luangwa National Park is approximately 50km to the SE of the project site, Kasanka National Park is approximately 80km to the north, and Lavushi Manda National Park approximately 40km to the NW.

The existing road does not pass directly through any environmental sensitive areas. The rehabilitation of the roads, construction of bypass routes, access roads, contractor's camps, laydown areas, use of areas for batching plants and other areas in both phases may lead indirectly to the loss and degradation of natural, modified or critical habitats, pollution of aquatic habitats, degradation of the environment etc. Other risks to biodiversity from road rehabilitation include (i) the project's cumulative and direct contribution to pollution from solid, hazardous and construction waste



disposal, spillages from hazardous material storage, batching areas, discharges of fuel and oil from vehicles and plant machinery; (ii) the construction of impermeable road surfaces may increase point and diffuse sources of oil or fuel water run-off and concentrated in sediment run off and other pollutants; (iii) exploitation and destruction of forest areas through abstraction of raw materials for project activities and from accidental fires started by workers or other project activities; (iv) legal and illegal extraction of sand and gravel inside and outside of sensitive areas for road construction material leading to land and habitat degradation, clearing vegetation for workers camps, batching areas, laydown areas and; (v) negatively impact on climate change resilience through over exploitation of water resources for construction activities in drought prone areas.

The ESIA should influence project design of the road sections by careful project siting, avoid protected areas and other critical and natural habitats, including forested areas etc. Environmental risks and impacts can be mitigated by, to the extent possible, undertaking the following measures; (i) the project design follows the current alignment of the roads; (ii) access roads and bypass roads avoid critical and natural habitat; (iii) construction and maintenance of good drainage and natural water flows; (iv) minimize roadside habitat loss; (v) exercise due diligence in the siting and design of borrow pits, construction camps, and other complementary facilities. Mitigation measures should extend out to the contractors to include remedies for noncompliance that need to be incorporated within bidding documents and contracts; (vi) avoid natural and critical habitats and creating impacts by careful spatial placement of infrastructure; (vii) water-use and pollution prevention by effective solid waste and wastewater management and effective management of hazardous materials and; (viii) evaluation and verification of primary suppliers' systems and practices. The ESIA must include an assessment of critical and natural habitats along the road length and in other areas of activity. The ESIA will include an ESMP, a BMP if required and will guide project design using the mitigation hierarchy (following the principles of avoidance, minimization, restoration, and offsets) based on ESSs, ESHG and GIIP. Risks and impacts associated with project feasibility studies and E&S instrument development are likely to High and mitigated by adopting an activity Terms of Reference coordinated and managed by a project ESMP in accordance with ESS 6.

ESS7 Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities

ESS7 is not considered relevant to this project as there are no distinct social and cultural groups in the project area that exhibit characteristics of indigenous or traditionally under-served communities as spelled out under this standard. Should a subsequent screening process indicate that a particular group meets the requirements of ESS7 and will be impacted by this project, a social development plan which accords with this standard will be developed.

ESS8 Cultural Heritage

ESS 8 is considered relevant. In Zambia cultural heritage includes archeological heritage (some 2337 identified sites), traditional heritage (tangible and intangible heritage of approx. 151 sites), historical heritage (bridges, buildings etc.) and natural heritage (waterfalls, lakes, caves etc with approx. 353 sites). Most cultural heritage sites in Zambia fall within sensitive ecological areas, rural areas, and remote areas, but are not necessarily co-located with the alignment of the roads in all phases of the project. Most cultural heritage in Zambia is protected by law (Forest Act, National



Heritage Conservation Commission Act etc) and are gazetted. Therefore, the ESIA's should assess the impacts on tangible and intangible cultural heritage within the project areas and provide suitable mitigation strategies. In addition, a chance find procedure will be prepared as part of the ESMP for the contractors.

ESS9 Financial Intermediaries

This standard is not currently relevant.

C. Legal Operational Policies that Apply

OP 7.50 Projects on International Waterways No

OP 7.60 Projects in Disputed Areas No

III. World Bank Environmental and Social Due Diligence

A. Use of Common Approach No

Financing Partners

N/A

B. Proposed Measures, Actions and Timing (Borrower's commitments)

Actions to be completed prior to Bank Board Approval:

The following instruments will need to be prepared: (i) and ESMF (ii) Update the Serenje - Mpika ESIA and associated ESMPs to ESF; (iii) Update the Serenje - Mpika RAP; (iv) Stakeholder Engagement Plan (SEP); (v) Labor Management Procedures (LMP); (vi) Process Framework; and the (vii) Environmental and Social Commitment Plan (ESCP). These instruments will be reviewed and approved by the Bank and publicly disclosed prior to Appraisal.

Possible issues to be addressed in the Borrower Environmental and Social Commitment Plan (ESCP):

(i) Recruitment of qualified Environmental Specialist, Social Development Specialist and Gender and GBV specialist as key staff in Project Implementation Unit (PIU).

(ii) ESF and ESHG capacity building

(iii) Preparation (if required) of a Bio-diversity Management Plan (BMP) and Cultural Heritage Management Plan (CHMP), Resettlement Action Plans (RAPs) after project effectiveness.

(iv) Update the Stakeholder Engagement Plan (SEP) and re-disclose prior to project effectiveness.

(v) Publicize and operate an accessible grievance redress mechanism, to receive and facilitate resolution of grievances.

(vi) Develop and implement SEA/SH action plan and an accountability and response framework which consist of procedures that detail how to respond to SEA/SH allegations



C. Timing

Tentative target date for preparing the Appraisal Stage ESRS

20-Aug-2023

IV. CONTACT POINTS

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VI. APPROVAL

Task Team Leader(s): Aymen Ahmed Osman Ali, Moustafa Baher El-Hefnawy

Practice Manager (ENR/Social) Iain G. Shuker Recommended on 28-Jun-2023 at 11:10:12 EDT

Safeguards Advisor ESSA Martin Henry Lenihan (SAESSA) Cleared on 09-Aug-2023 at 10:23:48 EDT