ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) FOR BERTHS 8-11 IMPROVEMENT PROJECT AND BERTHS 1-7 ELECTRICAL WORKS AT DAR ES SALAAM PORT IN PLOT NO 1/2 MVINJENI MTAA OF KURASINI WARD, TEMEKE MUNICIPALITY,

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EXECUTIVE SUMMARY

Introduction

Tanzania Ports Authority (TPA) as an Implementing Agency of the Governmental of the United Republic of Tanzania, received a loan from the International Development Association (IDA) towards the cost of the Dar es Salaam Maritime Gateway Project (DMGP) intends to undertake Environmental and Social Impact Assessment (ESIA for Dar es Salaam Port Improvement Project.

According to the Environmental Impact Assessment and Audit Regulations, 2005 amended 2018 of Tanzania, the Project falls under Category `A'. These regulations prohibit the carrying out of such projects without an environmental Impact Assessment required under the Environmental Management Act, Cap. 191.

The following project components shall be covered in this ESIA, vis:

(i) Deepening and strengthening of existing Berths 8 - 11 to 14.5 m below CD, and constructing a new quay on piles
(ii) Paving the container stacking yard behind Berths 8-11; and
(iii) Construction Electrical Power supply and installation in berths 1- 11 Ro-Ro Yard and Container Terminal

In that regard, the proponent, Tanzania Ports Authority (whose contacts are included in the table below) have recruited Tansheq Limited (a firm of environmental experts registered by NEMC) to carry out this assignment. Tansheq's contact are detailed in the Table below.

Proponent	Firm of experts conducting EIA
Tanzania Ports Authority (TPA)	Tansheq limited
Director General Tanzania Ports Authority (TPA), Bandari Tower-One Stop Centre Plot No. 1/2, Sokoine Drive, P.O. Box 9184 11105 DAR ES SALAAM Telephone +255-22-2110402/8 Telefax +255-22-2130390/2113938, Dar es Salaam, Tanzania Email: dg@ports.go.tz	Contact address: M/s TANSHEQ LIMITED, House 83 Wakulima Road, Hananasif Estate, P.O. Box 31517, E-mail: info@tansheq.co.tz Tel: +255 735 100 105 Website: www.tansheq.co.tz Dar es Salaam Contact Person: Lusako Raphael

Project Objectives and Justification

The proposed project aimed at deepening Berth 8 – 11 to 14.5 m below CD constructing a new quay on piles, modernization/paving of the Container Terminal Yard behind Berths 8-11 and construction of a substations.

Economic Objective (justification) of the project is to cope with the anticipated increase of traffics in the port. In that regard, deepening and construction a new quay on piles on berths 8-11, paving container stacking yard and the substations shall increase handling capacity and operational efficiency.

In 2020/21, the container terminal (berths 8-11) handled 632,034 TEUs[1], equivalent to 87% while the General Cargo operated by TPA handled 96,402 TEUs that is equivalent to 13% of the total container throughput of the port.

[1] TEU stands for "Twenty-foot Equivalent Unit," which is a standard unit of measurement used to describe the capacity of container ships and container terminals. A TEU is based on the size of a standard intermodal shipping container, which is 20 feet long, 8 feet wide, and 8 feet 6 inches tall.

According to three different studies which have been conducted (Ports Master Plan by Royal Haskoning (ROYAL HASKONING, 2009), Updating of Cargo Traffic by Sheilla and Business Development Case by MTBS), container traffic is expected to reach 2.5 million TEUs in 2032 (more than three times of the current capacity). Therefore, deepening and strengthening of container terminals (berths 8-11) shall increase its capacity to handle full-size - Post-Panamax container vessels[2] to cater for anticipated container traffic.

The project shall also incorporate installation of a substations to provide reliable and efficient power supply to the port (i.e., powering the lighting, cranes, and other equipment needed for loading and unloading cargo, as well as powering administrative buildings and other infrastructure on the port. The substations might also be used to manage the distribution of power to different areas of the port, ensuring that electricity is delivered to where it is needed most at any given time. The substations shall also provide power to ship docked at the Port hence enhancing, among other, environmental performance of the Port (Tanzania Port Authority, 2021).

Project Design

The design criteria for quay on piles and container stacking yard as well as the substations is based on international best practices. After thorough investigation of the existing facilities as well as geotechnical, bathymetric, and topographical survey, the solution adopted is new quay pile. This is mainly because the existing structure is over 50 year and rehabilitation would be a short-term solution and might prove to be costly in a long run.

The pavement structure design for the containers terminal will be designed according to "HEAVY DUTY PAVEMENT - The structural Design of Heavy-Duty Pavements for Ports and other Industries" guide from Interpave – Edition 4. The substations shall be a Gas Insulated with Sulphur Hexafluoride (SF_6) that is deemed appropriate for function and suitable for existing environmental conditions.

Project Activities

Project activities was executed in phases that include mobilization, construction/degrading and operation and maintenance phases. All possible activities were populated, and they were used as basis for identification of their resultant environmental impacts using a modified Leopold Matrix.

Stakeholder Consultation

Stakeholder consultations was done to give an opportunity for interested parties to provide input, feedback, and recommendations on the proposed project's potential environmental, social, and economic impacts. It enabled the consultant to get a comprehensive understanding of the potential environmental, social, and economic impacts of the proposed project.

The stakeholders can provide information about the potential impacts that may not be apparent to the project developers, and this information can be used to improve the accuracy and completeness of the ESIA. Typical stakeholder consulted include the following:

- Ministry of Work and Transport (MoWT)
- Ministry of Land Housing and Human Settlements
- Tanzania Forestry Services (TSF)
- Tanzania International Container Terminal Services (TICTS)
- Tanzania Shipping Agencies Cooperation (TASAC)
- Tanzania Revenue Authority (TRA)
- Tanzania National Roads Agency (TANROADS)
- Marine Parks and Reserved Units (MPRU)
- Tanzania Railway Limited (TRL)
- National Health Insurance Fund (NHIF)
- Energy and Water Utilities Regulatory Authority (EWURA)
- Reli Assets Holding Company (RAHCO)
- Shipping Corporation of Zanzibar (SHIPCO)

[2] Post-Panamax ships can have a TEU capacity of over 8,000, up to 24,000.

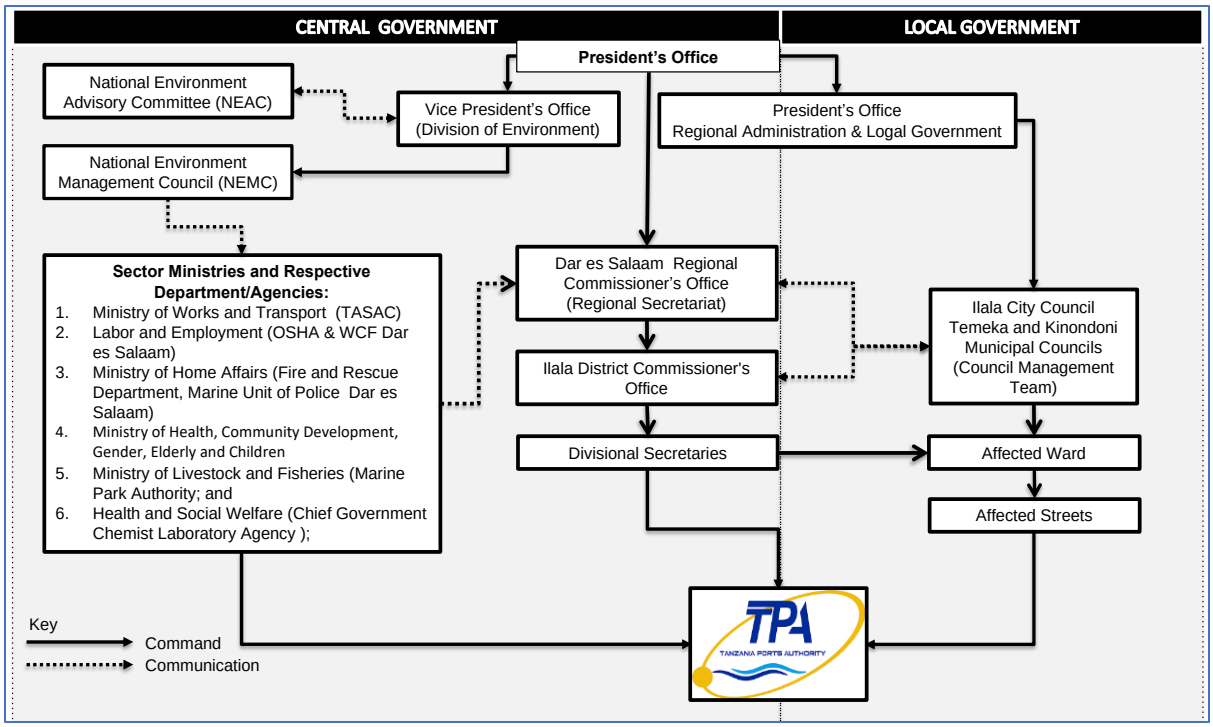
- Mwalimu Nyerere Memorial Academy
- Tanzania Navy Base (Kigamboni)
- Ferry Management
- Regional Government Regional Commissioner (RC) and District Commissioner (DC); and
- Local Government (Dar es Salaam Citu, Temeke and Kigamboni Municipal Council)
- Local Government (Mchafukoge Ward, Kurasini Ward, Kivukoni Street)
- Police Force (Marine Unit)
- Neighbouring institutions such as CRDB, NMB, NHIF etc.

Generally, stakeholders view the proposed project as a positive project for supporting full scale business of Dar es Salaam Port, From the consultations and the workshop, it can be concluded that people are positive about the project as it will generate more employment and enhance business opportunities, and contributions to social economic activities at local level, region and internationally.

Policy, Legal and Administrative Framework

A policy legal and administrative framework is essential for effective environmental management and sustainable development. It is crucial for providing guidelines, regulations, and procedures that ensure compliance with environmental laws and regulations, and it helps to promote sustainable development by balancing economic, social, and environmental considerations.

Policies, Laws and Regulations regarding environmental and/or social to which the project must adhere were thoroughly analysed in this ESIA. This also included international agreements that have been ratified by Tanzania as well as requirements of financier WB/IDA. The institutional framework of the project is detailed in the schematic below



Description of the Major Significant Impacts

The ESIA study identified several environmental and social impacts for the entire life cycle of the project. The potential environmental impacts considered in the ESIA process include impacts to the air quality, water resources, noise and vibration, marine ecology and socioeconomic/cultural conditions during mobilization, construction and operation of the project and associated components/activities.

The social/cultural resources evaluated include labour employment, raw material sources, transportation, and local community services.

Alternative Considered

The alternative analysis is done based on different berth design, dredging techniques or process proposed for the project. This includes selection of design layout, dredging methods, types of dredgers, dredged material disposal sites, along with no Project scenario. Alternatives for different designs for substation were also considered.

Potential Impacts of the Project

The ESIA study identified several environmental and social impacts for the entire life cycle of the project. The potential environmental impacts considered in the ESIA process include impacts to the air quality, water resources, land resources, marine ecology and socioeconomic/cultural conditions during mobilization, construction and operation of the projects and associated components/activities, as summarized below:

Impact	Stage	Significance
1. Climate Change Adaptation and Mitigation	Design and Operation	Major Positive Impact
2. Emissions to the Air	Mobilization, Construction, Demobilization and Maintenance	Moderate Negative Impact
3. Noise and Vibration emissions	Mobilization, Construction, Demobilization and Maintenance	Moderate Negative Impact
4. Water Quality Pollution	Construction and Maintenance	Moderate Negative Impact
5. Dredging & Disposal of Dredged Material	Construction and Maintenance	Moderate Negative Impact
6. Wastewater (sewage & stormwater) generation	Design and Construction	Moderate Negative Impact
7. Hazardous Waste (Spillage)	Construction and Operation	Major Negative Impact
8. Mismanagement Waste	Construction and Operation	Moderate Negative Impact
9. Impacts on Marine ecology	Construction, Operation and Maintenance	Moderate Negative Impact
10. Impacts to other ports operations	Construction	Major Negative Impacts
11. Impacts on Fisheries Activities	Construction and Operation	Moderate Negative Impact
12. Labour and Employment opportunities	Construction	Moderate Positive Impact
13. Impacts on Small Businesses	Construction	Moderate Positive Impact
14. Potential leakage greenhouse gas (SF_6)	Operation/Maintenance	Major Negative Impact
15. Gender based violence	Construction and Operation	Major Negative Impact
16. Impacts on the community Health & Safety	Mobilization, Construction and Demobilisation	Major Negative Impact
17. Occupational Health & Safety	Mobilization, Construction and Demobilisation	Major Negative Impact
18. Traffic jams and vehicle congestion	Construction	Major Negative Impact

The risk assessment was conducted for each impact, and they were most reduced to insignificant risk after consideration for probability of occurrence with or without mitigation measures.

Environmental and Social Management Plan, Proposed Monitoring and Auditing

The ESIA study identified several environmental and social impacts for the entire life cycle of the project. While considering the specificity of the project area and the resultant risks, mitigation measures were derived from various best practices such as IFC EHS guidelines, vis:

- Environmental Health and Safety Guidelines, 2007
- Environmental Health and Safety Guidelines for Shipping of 2007
- Environmental, Health, and Safety Guidelines for Ports, Harbours, and Terminals, 2017, and
- Environmental, Health, and Safety Guidelines for Electric Power Transmission and Distribution (2007)

The potential environmental impacts considered in the ESIA process include impacts to the air quality, water resources, land resources, and socioeconomic/cultural conditions during mobilization, construction and operation and associated components/activities.

The social/cultural resources evaluated include labour employment, raw material sources, transportation, waste disposal, noise level, ambient air quality marine water quality and local community services. Responsibilities for managing environmental and social impacts are for all project implementers, lenders and regulators. However, it is the responsibility of TPA to coordinate involvement of relevant government authorities and service providers to maintain the project conformance as directed in the ESMP.

Resource Evaluation or Cost Benefit Analysis

Resource evaluation discusses the economic cost required for the proposed dredging project, along with the economic & environmental benefits of the project.

The cost of the interventions includes the construction cost, environment, and social management cost (mitigation and monitoring) and operation cost whereas the benefits can be attributed to the additional traffic support, value in timesaving (due to less time in queuing & transport cost). On basis that, it can be said that the overall project is economically beneficial.

Decommissioning

Decommissioning is the last phase of project life. It involves terminating project activities and operations and rehabilitating site to or close to its original state. It is anticipated that the project shall continue if there is a demand for a project, however, individual components of the project shall be decommissioned as need be, proper decommission plan has been discussed in this EIS report.

Summary and Conclusion

Based on the data analysed in this ESIA, we concluded that re-construction of Dar es Salaam port is a project environmentally and socially feasible. Its cumulative and synergistic impacts, and the measures adopted in the environmental programs are:

(i) safe in terms of environmental risks/impacts,
(ii) competitive in terms of operational costs in relation to other alternatives,
(iii) Moreover, encourage the economy and social development of Dar es Salaam, the country and both west, east, and South African countries.

The identified adverse impacts shall be managed through the mitigation measures and implementation regime laid down in this Environmental and Social Management Plan (ESIA Dar es Salaam Port is committed in implementing all the recommendations given in this report.