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IDA/R2017-0230/1

June 13, 2017

Closing Date: Friday, June 30, 2017 at 6 p.m.

FROM: Vice President and Corporate Secretary

Tanzania - Dar es Salaam Maritime Gateway Project

Project Appraisal Document

Attached is the Project Appraisal Document regarding a proposed Scale-Up Facility credit to Tanzania for a Dar es Salaam Maritime Gateway Project (IDA/R2017-0230), which is being processed on an absence-of-objection basis.

Distribution:

Executive Directors and Alternates
President
Bank Group Senior Management
Vice Presidents, Bank, IFC and MIGA
Directors and Department Heads, Bank, IFC and MIGA

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The World Bank

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Report No: PAD1462

INTERNATIONAL DEVELOPMENT ASSOCIATION

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED SCALE UP FACILITY CREDIT

IN THE AMOUNT OF US$345 MILLION

FOR THE

DAR ES SALAAM MARITIME GATEWAY PROJECT

June 9, 2017

Transport and ICT Global Practice (GTI01)
Africa Region

CURRENCY EQUIVALENTS

(Exchange Rate Effective May 31, 2017)

Currency Unit = Tanzanian Shillings (TZS)
US$1 = TZS 2,185.35

FISCAL YEAR

July 1 – June 30

ABBREVIATIONS AND ACRONYMS

AADT	Average Annual Daily Traffic
AfDB	African Development Bank
AICD	Africa Infrastructure Country Diagnostic
AIDS	Acquired Immunodeficiency Syndrome
AWPB	Annual work plan and budget
BRN	Big Results Now Program
CAS	Country Assistance Strategy
CASPR	Country Assistance Strategy Progress Report
CCP	Container Control Program
CD	Chart Datum
DFID	Department for International Development, United Kingdom
DG	Director General
DRC	Democratic Republic of the Congo
DSMGP	Dar es Salaam Maritime Gateway Project
DSRA	Debt Service Reserve Account
DWT	Deadweight Tons
EA	Environmental Assessment
EAC	East African Community
EHSMP	Environmental Health Safety Management Plan
EIB	European Investment Bank
EIRR	Economic Internal Rate of Return
EMS	Environmental Management Section
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
ESSP	Environmental and Social Strengthening Plan
FIRR	Financial Internal Rate of Return
GAC	Governance and Anti-Corruption
GDP	Gross Domestic Product
GIF	Global Infrastructure Facility
GoT	Government of Tanzania
HBS	Household Budget Survey
HIV	Human Immunodeficiency Virus
IBRD	International Bank for Reconstruction and Development
ICD	Inland Container Depot
IDA	International Development Association
IEG	Independent Evaluation Group
IFC	International Finance Corporation
IFRs	Interim Financial Reports
IPF	Investment Project Financing
IMO	International Maritime Organization

ISO	International Standards Organization
ISPS	International Ship and Port Facility Security Code
JICA	Japanese International Co-operation Agency
KOJ	Kurasini Oil Jetty
LAT	Lowest Astronomical Tide
LOA	Length Overall
MDU	Ministerial Delivery Unit
MoWTC	Ministry of Works, Transport, and Communications Tanzania
NCB	National Competitive Bidding
NEMC	National Environment Management Council, Tanzania
NPV	Net Present Value
NSC	North South Corridor
PAP	Project Affected People
PDO	Project Development Objective
PDU	Presidential Delivery Unit
PIP	Project Implementation Plan
PIT	Project Implementation Team
PPA	Public Procurement Act
PPP	Public Private Partnership
PPRA	Public Procurement Regulatory Authority
RAHCO	Rail Assets Holding Company
RAP	Resettlement Action Plan
REC	Regional Economic Community
RPF	Resettlement Policy Framework
SPM	Single Point Mooring
SADC	Southern African Development Community
SUF	Scale up Facility
TANROADS	Tanzania National Roads Agency
TANZAM	Tanzania-Zambia Highway
TAZARA	Tanzania-Zambia Railway
TEU	Twenty Foot Equivalent Unit
TICTS	Tanzania International Container Terminal Services
TIRP	Tanzania Intermodal and Rail Development Project
TRL	Tanzania Railways Limited
TMEA	TradeMark East Africa
TPA	Tanzania Ports Authority
TRA	Tanzania Revenue Authority
TZS	Tanzania Shilling
UNODC	United Nations Office on Drugs and Crime
WCO	World Customs Organization

Regional Vice President:	Makhtar Diop
Country Director:	Bella Bird
Senior Global Practice Director:	Jose Luis Irigoyen
Practice Manager:	Aurelio Menendez
Task Team Leader:	Richard Martin Humphreys

TANZANIA
DAR ES SALAAM MARITIME GATEWAY PROJECT

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PAD DATA SHEET

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Dar es Salaam Maritime Gateway Project (P150496)

PROJECT APPRAISAL DOCUMENT

AFRICA

GTIDR

Report No.: PAD1462

Basic Information			
Project ID P150496	EA Category A - Full Assessment		Team Leader(s) Richard Martin Humphreys
Lending Instrument Investment Project Financing	Fragile and/or Capacity Constraints [ ]		
	Financial Intermediaries [ ]		
	Series of Projects [ ]		
Project Implementation Start Date June 30, 2017	Project Implementation End Date December 31, 2023		
Expected Effectiveness Date September 29, 2017	Expected Closing Date June 30, 2024		
Joint IFC No			
Practice Manager/Manager	Senior Global Practice Director	Country Director	Regional Vice President
Aurelio Menendez	Jose Luis Irigoyen	Bella Bird	Makhtar Diop
Borrower: THE UNITED REPUBLIC OF TANZANIA			
Responsible Agency: Tanzania Ports Authority			
Contact:	Eng. Deusdedit Kakoko	Title:	Director General
Telephone No.:	(255-22) 211-6250	Email:	dg@tanzaniaports.com
Project Financing Data (in USD Million)			

[ ]	Loan	[ ]	IDA Grant	[Guarantee]
[X]	Credit	[X]	Grant	[Other]

Total Project Cost:	421.00	Total Bank Financing:	345.00
Financing Gap:	0.00		

Financing Source	**Amount**
Borrower	64.00
International Development Association	345.00
Transport Corridors for Growth MDTF	12.00
Total	421.00

Expected Disbursements (in USD Million)

Fiscal Year	2017	2018	2019	2020	2021	2022	2023	2024	0000	0000
Annual	0.00	50.00	55.00	65.00	65.00	65.00	43.00	14.00	0.00	0.00
Cumulative	0.00	50.00	105.00	170.00	235.00	300.00	343.00	357.00	0.00	0.00

Institutional Data

Practice Area (Lead)

Transport & ICT (GTI01)

Contributing Practice Areas

Cross Cutting Topics

[X]	Climate Change
[ ]	Fragile, Conflict & Violence
[X]	Gender
[ ]	Jobs
[ ]	Public Private Partnership

Sectors / Climate Change

Sector (Maximum 5 and total % must equal 100)

Major Sector	Sector	%	Adaptation Co-benefits %	Mitigation Co-benefits %
Transportation	Ports, waterways and shipping	85		10
Transportation	Railways	5		
Total		100		

[ ] I certify that there are no Adaptation and Mitigation Climate Change Co-benefits information applicable to this project.

Themes

Theme (Maximum 5 and total % must equal 100)

Major theme	Theme	%
Trade and integration	Trade facilitation and market access	80
Trade and integration	Regional integration	10
Financial and private sector development	State-owned enterprise restructuring and privatization	10
Total		100

Proposed Development Objective(s)

The Project Development Objective is to improve the effectiveness and efficiency of the Port of Dar es Salaam for the benefit of public and private stakeholders.

Components

Component Name	**Cost (USD Millions)**
Improving the Physical Infrastructure	400.00
Institutional Strengthening and Implementation Assistance	21.00

Systematic Operations Risk- Rating Tool (SORT)

Risk Category	**Rating**
1. Political and Governance	Substantial
2. Macroeconomic	Substantial
3. Sector Strategies and Policies	Moderate
4. Technical Design of Project or Program	Substantial
5. Institutional Capacity for Implementation and Sustainability	Substantial
6. Fiduciary	Substantial
7. Environment and Social	Substantial
8. Stakeholders	Substantial
9. Other	
OVERALL	Substantial

Compliance

Policy		
Does the project depart from the CAS in content or in other significant respects?	Yes [ ]	No [X]
Does the project require any waivers of Bank policies?	Yes [ ]	No [X]
Have these been approved by Bank management?	Yes [ ]	No [ ]
Is approval for any policy waiver sought from the Board?	Yes [ ]	No [X]
Does the project meet the Regional criteria for readiness for implementation?	Yes [X]	No [ ]

Safeguard Policies Triggered by the Project	Yes	No
Environmental Assessment OP/BP 4.01	X	
Natural Habitats OP/BP 4.04	X	
Forests OP/BP 4.36		X
Pest Management OP 4.09		X
Physical Cultural Resources OP/BP 4.11	X	
Indigenous Peoples OP/BP 4.10		X
Involuntary Resettlement OP/BP 4.12		X
Safety of Dams OP/BP 4.37		X
Projects on International Waterways OP/BP 7.50		X
Projects in Disputed Areas OP/BP 7.60		X

Legal Covenants

Name	Recurrent	Due Date	Frequency
Draft restructuring plan for TPA		September 30, 2017	Once

Description of Covenant

Not later than September 30, 2017, the Recipient shall submit to the Association a draft restructuring plan for the Tanzania Ports Authority for comment.

Legal Covenants

Name	Recurrent	Due Date	Frequency
Implement restructuring plan for TPA		June 30, 2018	Once

Not later than June 30, 2018, the Recipient shall complete the implementation of the restructuring plan for the Tanzania Ports Authority.

Legal Covenants

Name	Recurrent	Due Date	Frequency
Retroactive Financing			

Description of Covenant
Notwithstanding the provisions of Section IV of Schedule 2 of the Financing Agreement, no withdrawal shall be made for payments made prior to the date of this Financing Agreement, except that withdrawals up to an aggregate amount not to exceed US$ 40 million may be made for payments made prior to this date but on or after on or after April 1, 2017, for Eligible Expenditures under Category (1);

Conditions

Source of Funds	Name	Type
IDA	Subsidiary Agreement	Effectiveness

Description of Covenant

The Subsidiary Agreement acceptable to the Association has been executed on behalf of the Recipient and TPA.

Source of Funds	Name	Type	Recurrent
IDA	Project Implementation Plan	Effectiveness	

Description of Covenant

The Recipient has caused TPA to adopt the Project Implementation Plan, acceptable to the Association.

Source of Funds	Name	Type
IDA	Co-Financing Grant Agreement	Effectiveness

Description of Covenant

The Transport Corridors for Growth (TCFG) Grant Agreement between the Recipient and the Association, acting as administrator of the TCFG Multi-Donor Trust Fund, providing an amount equivalent to $12,000,000 to assist in financing the Project has been executed and delivered and all conditions precedent to its effectiveness or to the right of the Recipient to make withdrawals under it (other than the effectiveness of this Agreement) have been fulfilled.

Source of Funds	Name	Type
IDA	Assurance of non-interruption of container business	Disbursement

Description of Condition
Notwithstanding the provisions of Section IV of Schedule 2 of the Financing Agreement, no withdrawal shall be made under Category (2), until the Association has received satisfactory evidence showing that the Recipient has operational arrangements in place for Berths 8-11 to ensure no business interruption by maintaining the current level of operations of said container terminal during rehabilitation under Part 1 of the Project.

Team Composition

Bank Staff

Name	Role	Title	Specialization	Unit
Richard Martin Humphreys	Team Leader	Lead Transport Economist		GTIDR

	(ADM Responsible)			
Yonas Mchomvu	Transport Specialist	Senior Transport Specialist		GTIDR
Winter M. Chinamale	Procurement	Senior Procurement Specialist	Procurement	GGODR
Anjani Kumar	Procurement Specialist	Senior Procurement Specialist	Procurement	GGODR
Michael Eriu Okuny	Financial Management	Sr. Financial Management Specialist	Financial Management	GGODR
Mary C.K. Bitekerezo	Safeguards	Sr. Social Development Scientist	Social Safeguards	GSURR
Julie Babinard	Team Member	Sr. Transport. Spec.	Gender	GTIDR
Marco Zambrano	Safeguards	Environment Specialist	Environment Safeguards	GEN04
Julie Rieger	Counsel	Senior Counsel	Lawyer	LEGAM
Loy Nabeta	Team Member	Communications Officer	Communications	AFREC
Helen Martin	Team Member	Sr. PPP Specialist	PPPs	GCPGF

Extended Team

Name	**Title**	**Office Phone**	**Location**
Cornelius Kruk	Port Specialist		The Netherlands
Marco Zambrano	Environmental Specialist		San Jose

Locations

Country	**First Administrative Division**	**Location**	**Planned**	**Actual**	**Comments**
Tanzania	Dar es Salaam	Dar es Salaam		**X**	Dar es Salaam Metropolitan area

Consultants (Will be disclosed in the Monthly Operational Summary)

Consultants will be required

I. STRATEGIC CONTEXT

A. Country Context

1. ***Tanzania is a low-income country and one of the largest East African nations.*** The country is around 947 thousand square kilometers in size and home to over 52 million people. With a GDP of USD 48.06 billion (current prices), Tanzania is the second largest economy in the East African Community (EAC) and the twelfth largest in Africa, ranking below Kenya and above Uganda. Tanzania's assets offer it unique economic opportunities compared to many other African countries. First, it is endowed with rich and diverse natural resources, both renewable and nonrenewable, that can provide the basis for current and future economic development and people's livelihoods. Second, as a coastal economy bordering eight countries, six of which are nearly or completely land-locked, the country is well-situated to expand as a regional hub. Third, it has enjoyed decades of sociopolitical stability, with significantly fewer and shorter conflicts than any other East African country.

2. ***Tanzania has achieved strong economic growth over the last decade, and signs of economic diversification are emerging.*** For the past 10 years the country's macroeconomic performance has been robust, with GDP growing annually at an average of 6.5 percent—higher than the Sub-Saharan African average and that of many regional peers. The growth of the economy has also been quite steady. The economic reforms that started in the 1980s and accelerated in the 1990s and early 2000s facilitated growth in both private and public investments. As a consequence, Tanzania saw productivity grow in the 2000s. This helped to create a buffer against external shocks like the 2008–09 global financial crisis. The economy has also become more diversified. While agriculture continues to be the mainstay for the vast majority of the population, emerging dynamic sectors, such as finance and communication, are propelling the economy forward. Meanwhile, its exports have substantially diversified from the country's earlier dependence on traditional exports of raw commodities. Manufactured exports to regional markets are now growing.

3. Pro-poor growth has helped reduce poverty and narrow the income gap between poor and rich. After plateauing between 2001 and 2007, the poverty rate fell from 34 to 28 percent in 2012 and extreme poverty dropped by about 2 percentage points. The decline in poverty has been accompanied by a reduction of inequality between income groups, with a substantial drop in the Gini coefficient. In fact, signs are emerging that growth has been pro-poor, with the incomes of poorer households rising faster than those of richer households. For people in the bottom 40 percent, consumption has gone up by about 14 percent. Driving this reduction in poverty have been engagement in commercial agriculture and nonfarm activities, ownership of communication and transport equipment, and rural access to roads and markets. Financial transfers also contributed to alleviation of poverty. To reduce extreme poverty, the Government has put in place a nationwide productive social safety net program, the Tanzania Social Action Fund (TASAF).

4. ***But if Tanzania is to move up to the next level of development, there is still much to be done.*** With population growth high, per capita income—about $900 today—is growing only slowly. Even though Tanzania's poverty rate has gone down, the absolute number of its poor is high; about 12 million people are still under the national poverty line, almost the same as in 2007. If Tanzania is to see faster per capita income growth, which it needs to reach middle-income-

country (MIC) status, growth of the economy must accelerate. It is well to keep in mind that poverty reduction is not a one-way path: A large number of Tanzanians live just above or below the poverty line. Poverty would be substantially reduced if those just below the line were to receive more income. However, if there is an economic shock, many of those just above the line are at risk of slipping back into poverty. In addition, these disparities are more likely to affect women since the distribution of men and women across economic sectors in Tanzania is uneven: While women play a substantial role in Tanzania's economy, they are more active in agriculture, which accounts for 82 percent of the labor force.[1]

5. ***Improving the regional transport network, of which Dar es Salaam is a foundation stone, is important to meet the twin goals of eliminating extreme poverty and boosting shared prosperity nationally and regionally***. The Doing Business 2016 survey shows an improvement in Tanzania's position to 132nd overall, but the country still does poorly on the sub-indicator for trading across borders ranking Tanzania 180 out of 189 countries, below the median for the regional average for SSA.[2] The 2016 Logistic Performance Index ranks Tanzania at 61 out of 160 countries surveyed, a marked improvement over the 2014 ranking of 138. The cost of trade between China and Tanzania is more than 70 percent higher (in 2010) than between China and Brazil, despite the distance being less.[3] Transport costs are high at US$150-US$210 per ton for inland areas and land-locked countries, representing a major obstacle to stimulating trade, regional integration, and increasing competitiveness and economic growth. Since approximately 90 percent of Tanzania's international transactions transit through the port of Dar es Salaam, and 35 percent of the total throughput of the port is intended for the landlocked countries of the interior, improving the efficiency of the key maritime gateway is a key element for the regional transport network. An integrated approach to the development of the key regional corridors is seen as having the potential to dramatically change the economic structure of the region.[4]

6. ***Tanzania is also vulnerable to the impacts of existing climate variability and of climate change***. Data from Tanzania Meteorological Agency show that minimum and maximum temperatures have been rising since the 1960s. Climate models project increasing mean annual and seasonal temperatures of 3.2C and wetter conditions by 7% for East Africa, by 2080s. Although the Global Circulation Models suggest the number of extremely dry and extremely wet years will increase (e.g. 20-30% increase in extreme wet seasons), there is uncertainty on how climate change will impact extreme events, like storms. Over the next 20-100 years, sea level is predicted to rise by between 0.1-1 meter, bringing inundation and flooding to coastal areas, which is particularly problematic in low-lying and heavily populated areas, like Dar es Salaam. This could have a significant impact on landside access to the port.

B. Sector Context

7. ***The port of Dar es Salaam serves as the 'anchor' connecting the landlocked countries***

[1] Ellis, Amanda; Blackden, Mark; Cutura, Josephine; MacCulloch, Fiona; Seebens, Holger. 2007. *Gender and Economic Growth in Tanzania : Creating Opportunities for Women*. Washington, DC: World Bank

[2] IFC Doing Business (2016) the Trading across Border indicator refers to a case study scenario of a warehouse in the largest business city of an economy trading with the main import and export partner through the economy's main border crossing: Tanzania scores 20.21, against a regional SSA average of 48.96, and against the best performer (100).

[3] The World Bank (2013) *Tanzania Economic Update: Opening the Gates*, Dar es Salaam.

[4] The World Bank/EAC (2015) *Building a Reform Consensus for Integrated Corridor Development in the East African Community: Pillar 1 - A Strategy and Action Plan for Intermodal Development*

of the interior via the Central and Dar Corridors to global markets. The former, the Central Corridor, extends 2,170 km from Dar es Salaam and connects Uganda, Rwanda, Burundi, and DRC, and Central and Northern Tanzania. The latter, the Dar Corridor, forms part of the North-South Corridor (NSC), extending for about 1,900 km from the Port of Dar es Salaam in Tanzania to Kapiri Mposhi in Zambia, and connecting Tanzania, Malawi, Zambia and the Democratic Republic of Congo (DRC). The broader NSC extends some 3,900 km from Dar es Salaam in Tanzania to the Port of Durban in South Africa. Both corridors encompass both road and rail networks, maritime and inland water ports, and are key strategic trade routes.

8. ***The total volume handled by the port of Dar es Salaam reached 13.8 million tons in 2016, up from 13.1 million tons in 2013, and 10.4 million tons in 2011***. Whilst 2016 performance was slightly down (4.8 percent) from 14.5 million tons in 2015, reflecting lower commodity prices, and the depreciation of the South African Rand, enhancing the competitiveness of Durban for transit traffic, on average, over the last 5 years, port volumes have been growing by 9 percent per year. Liquid bulk and container volumes have been increasing even faster, straining the operational capacity ceiling of the port. The latest forecasts suggest that the volumes through the port could increase to 38 million tons by 2030 in an unconstrained scenario. Transit trade through the port accounted for as much as 35 percent of total volume in 2015 or just over 5.1 million tons, with forecasts suggesting this could increase to 9.7 million tons by 2030. Fourteen percent of the trade of the six neighboring landlocked countries transits through the port, a segment that had been growing at 16.5 percent annually.

9. ***This growth is placing considerable strain on the port of Dar es Salaam***. All the indicators of port performance and utilization, including *inter alia* waiting time for ships at anchorage, berth occupancy (49 percent for the dry bulk and general cargo berths and 65 percent at the container terminal in 2015, although down slightly in 2016 reflecting the slight reductions in volumes) and cargo dwell time compare poorly to the 'best' ports in the region: Container vessels were queuing for 10 days on average (up to a maximum of 25 days in some cases) to get a berth in the port, although this figure has fallen recently. The delay is exacerbated by limitations in operational efficiency at the quay and lack of storage, lengthening the time required to unload and load a container ship, and inadequate integration between key actors. This also impacts on the waiting time for a berth for dry bulk vessels, which reached an average of 4.5 days in 2013, as the conventional berths are increasingly congested by container vessels.[5] In 2014, transit containers recorded an average dwell time of 10.2 days while domestic containers recorded an average dwell time in port of 7.7 days, compared to, for example, 4 days in the port of Durban in South Africa.

10. ***Dar es Salaam port also faces problems of maritime access.*** The entrance to Dar es Salaam Port from the sea is through a 2.8 km long, 140 m wide access channel. Entry to the port is restricted to vessels with a maximum length of 234 meters Length Overall (LOA). This allows Panamax sized vessels, which are generally between 204m and 268m LOA, to enter during high tide, but prevents the entry of post-Panamax vessels, with a length exceeding 295m LOA,[6] or the full use of vessel capacity. However, even the Panamax vessels face restrictions, as the depth of the access

[5] Although the investment in new cranes, and the resulting improvement in efficiency, and the softening of the market has reduced this markedly this year.
[6] Post-Panamax sized container ships run between 300 meters and 365 meters in length.

channel is reported to be about -9.1m Chart Datum (CD)[7], below the norm of -13 m CD required to accommodate fully loaded vessels of Panamax size, i.e. 75,000 deadweight tons (DWT) and/or 4,000-5,000 Twenty Foot Equivalent Units (TEU).[8] At present, the port is only able to accommodate ships of up to about 40,000 DWT and 2,000 TEU. These impediments are reflected in higher freight rates to Dar es Salaam, and are becoming more relevant with the worldwide movement towards larger container and bulk vessels to attain economies of scale.

11. ***Dar es Salaam port also faces severe problems in landside access.*** Road capacity on the key access and egress roads into and out of the port is currently inadequate to cope with the growing number of vehicles, a shortage that is exacerbated by poor gate and traffic management. As a first step, TradeMark East Africa (TMEA) are supporting the repaving and widening of the immediate access roads, the installation of new gates, and improved traffic flow within the port. On the main arteries, which are 2+2 carriageway roads, the heterogeneous traffic mix, the volume of port traffic, in conjunction with growing urban traffic, and limited traffic management is overwhelming the current road network. In addition, there is a lack of parking, leading to trucks stopping on the road-side, and there is no effective gate management system operated by TPA, further exacerbating congestion.[9] The main bottlenecks are the Nyerere Road, Mandela Road, Bandari road, and Kilwa Road, and the delay in the development of the Southern Bypass. The upgrading of these links in parallel will be an important complement to the development of the port, and are part of the GoT's development plans (Five Year Development Plan-II). Preparatory work is ongoing to support interventions on these corridors in a subsequent Bank financed project,[10] under preparation now, with the objective of making a substantive contribution to congestion alleviation in Dar es Salaam. The 2008 Urban Transport Masterplan is being updated currently, with support from Japanese International Co-operation Agency (JICA).

12. ***Rail access is currently little better***. The available rail infrastructure within the port consists of a rail link and rail loops of meter gauge (1,000mm) which connects to the Tanzania Railway Limited (TRL) operated Central Line, and a link and loops to the Tanzania-Zambia railway (TAZARA) network (gauge 1,067mm). Rail access to the port from the central line traverses the Malindi marshaling yard, which lies just outside the port area. From Malindi marshalling yard, two branch lines enter the port area: The first branch line routes towards the existing port manager's office (adjacent to berth no. 1) where it branches through a right-hand turn-out to run parallel with the quay and along the back of the transit sheds. The other branch line extends up to the container terminal, which is provided with two sidings, each of approximately 300 meters in length, which sometimes require trains to be broken to fit. There is no mainline looping system, reversing track or turn-back, and trains routing to the container terminal have to use the same line to enter and leave the port. These issues will be addressed through the Dar es Salaam Maritime Gateway Project (DSMGP). The necessary preparatory work is being financed through the Tanzania Intermodal and Rail Development Project (TIRP) currently under implementation.[11]

[7] A Chart Datum is the level of water that charted depths displayed on a nautical chart are measured from - which in the case of the United Kingdom Hydrographical Office is the Lowest Astronomical Tide (LAT).
[8] A standardized unit for 20' and 40' containers.
[9] One recent estimate is that in Dar es Salaam, residents spend an average of 82 minutes commuting (one-way), while the average travel time by buses is around 95 minutes.
[10] This is proposed for support in the DSMGP Port Access Roads Project which is scheduled for FY19 Delivery.
[11] IDA Credit 54140 approved in May 2014.

13. ***The railway infrastructure on the Central corridor is being improved.*** Dar es Salaam port is connected by rail to Lake Tanganyika and Lake Victoria and serves Rwanda and Burundi via the Central line. The Central line extends from Dar es Salaam to Tabora (840km), with branches to Kigoma (411km) and Mwanza (379km). The railway network on the Central line is operated by TRL, while the assets are owned by Reli Asset Holding Company (RAHCO) who manage 2,700km of single track meter gauge line (1000m). Additionally, the port is connected to the TAZARA line of 1.067m gauge, which serves Zambia, the Democratic Republic of the Congo (DRC) and Malawi. However, neither railway is operating either efficiently, or close to their respective design capacity: Freight carried by TRL has fallen 87 percent over the period 2002 to 2011, and now amounts to just 200,000 tons per annum, compared to a peak volume of 1.5 million tons in 2002. The GoT is now prioritizing the revitalization of both lines, and has invested in new locomotives and rolling stock for TRL. In the case of the Central line, the TIRP is supporting the rehabilitation of rail infrastructure between Dar es Salaam and Isaka, the rehabilitation of the Inland Container Deport (ICD) at Isaka, and the piloting of 'block' trains to carry containers between Dar port and the ICD on a regular non-stop service. With these plans, these lines are more than capable of handling the demand from the port over the medium to longer term. The GoT have also committed to develop a new Standard Gauge Railway in parallel over the medium to long term, and a new inland container depot (ICD) at Ruvu, which is to be linked to the port by rail, offering the potential for increased vertical integration.

14. ***Currently there is little integration between the modes, and the development of a modern logistical chain has not started.*** The modern era of international trade is one of increasingly complex interactions between people, firms, and organizations. Supply chains cross countries and regions. Trade has become a 24/7 business and good performance in trade requires connectivity along not only roads, rail and sea, but in telecommunications, financial markets and information-processing. Having inefficient or inadequate systems of transportation, logistics and trade-related infrastructure can severely impede a country's ability to compete on a global scale. Logistics plays a key role in the economy in that it supports the movement and flow of many economic transactions. It is an important activity with regard to the facilitation of the sale of practically all goods and services: If goods do not arrive on time, if they do not arrive in the correct place or condition or correct price, customers will not buy them. Currently, the different actors in the logistic chain in Tanzania and the region are essentially operating as independent links. Dar es Salaam port is considered to be a *first generation port*, merely acting as an interface location between land and sea transport for cargo,[12] compared to more modern second, third, or even fourth generation ports, which reflect the growing move towards vertical integration between shipping lines, terminal operators, logistics providers, and hinterland transport links. By contrast, the level of integration between the different stakeholders within and outside the port currently is minimal: there is no functioning Port Community System, no electronic Terminal Operating System on the TPA berths, there is no systemic dialogue with private stakeholders; no integration between the port and the railway system (TRL or Tazara), the improvement of which would both increase the efficiency of the port and reduce congestion outside the port; there is little integration with the inland container depots, or the road haulage companies. Trucks waiting to enter the port simply queue on a first come, first served basis.

15. ***Efficient Ports and modern shipping today cannot operate effectively without***

[12] UNCTAD (1992) Port marketing and the third generation port, Geneva.

comprehensive Management Information Systems. These include Automatic Identification Systems (AIS), Vessel Traffic Management System (VTMS) and Port Operating Systems (POS). Such systems, when combined with a Port Community System acting as the hub, are able to offer a wide range of advantages to the transport sector in the country and the region by improving the efficiency and productivity of port operations. The benefits of these improvements pass not only to port operators but also to port customers including shipping lines, freight forwarders, and shipping agents. At the national level, the entire Port community and those who depend on it can benefit from the provision of an enhanced and economic logistic chain for international shipping. Port Community systems, at the national level, can provide logistic chains, which improve the coordination and cooperation of land transport, maritime transport and the ports operations in the region. By linking all members of the port community, the network system would be of significant benefit to TRA, Police, Immigration, Ministry of Works, Transport and Communications, etc.

16. ***The proposed Dar es Salaam Maritime Gateway Project (DSMGP) will be contributing to improvements in all these areas, and acting as the foundation for a series of potentially transformative interventions on the main corridors.*** This program reflects the Strategy[13] adopted by the EAC Heads of State Meeting in Nairobi in November 2014**.** This strategy outlines an integrated development plan for the main corridors, centered on the development of an efficient intermodal system for carrying freight. The key tenets of the strategy were identified as: (i) Reviving inland waterway transport on Lakes Victoria and Tanganyika; (ii) Rehabilitating key road and railway links that connect the lake ports and the land-locked countries with the two corridors and the maritime gateway so that people and goods can move more easily and efficiently within the region; (iii) Improving the efficiency, and enhancing the capacity, of the sea ports of Mombasa and Dar es-Salaam; and (iv) Supporting the formulation and implementation of institutional frameworks to facilitate safe and efficient lake/marine transport. The resulting priorities of the GoT will be implemented through the DSMGP, ongoing projects (such as the TIRP[14]), and pipeline operations such as the Lake Victoria Transport Program in Rwanda, Uganda and Tanzania (for FY18 delivery), the port access roads and southern bypass road in Dar es Salaam (for FY19 delivery), and the prospective Lake Tanganyika Transport Program (for FY20 delivery).

17. ***There also remains considerable scope for improvements in operational and spatial efficiency within the port***. One of the conclusions of the Africa Infrastructure Diagnostic[15]was that the majority of ports in the East Africa region are only just beginning to focus on issues such as cargo-handling performance, cost, and service quality. The report went on to note that the majority of ports, Dar es Salaam included, have not focused on meeting certain performance standards or delivering a given service within a given price range, but on the much more basic need of making some sort of service available day to day. The earlier Big Results Now (BRN) program highlighted a number of necessary actions to improve the spatial and operating efficiency of Dar es Salaam port. There is ongoing parallel TMEA support to assist the Tanzania Ports Authority (TPA) to implement some of the priority actions. These include the following, *inter alia*:

[13] World Bank/EAC (2015) *Building a Reform Consensus for Integrated Corridor Development in the East African Community: Pillar 1 - A Strategy and Action Plan for Intermodal Development.*
[14] IDA Credit 54140 approved in May 2014.
[15] World Bank/AfDB/Agence Française de Développement, (2010) *Africa's Infrastructure:A Time for Transformation*. Washington D.C.

- Reallocating space and improving port layout by the demolition and relocation of sheds 2-7 and the midport shed;
- Instituting a single flow of road traffic and single entry/exit points by improving access roads to gates 4, 5 and 8;
- Improving the flow of traffic on public roads immediately outside the port by upgrading and widening the Bandari and Mivinjeni roads to dual 2 -lane;
- Improving port productivity by establishing new Standard Operating Procedures, and Key Performance Indicators, to provide incentives for more efficient operations; and
- Supporting the dialogue between the public and private stakeholders in the port by establishing a port improvement consultative group to identify productivity improvements.

18. ***Tanzania commenced the reform of the maritime sector, with the passage of the Port Act No. 17 of 2004, and the establishment of the TPA***. TPA's responsibilities include all sea ports on the mainland coast of Tanzania, as well as all the ports within Tanzania's inland waters [Lakes Victoria, Tanganyika and Nyasa]. Under the law, TPA was established as a Parastatal, operating under a Board of Directors, reporting to the then Ministry of Transport, with the mandate to act as the 'landlord' and the service provider in the ports under its control. Generally, under the 'landlord' port management model, the Public Port Authority is the owner, developer and maintainer of the port infrastructure, whilst the cargo handling is undertaken by a specialist operator (s) under a long term lease style contract. In the many ports in the world, marine services such as towage, pilotage and/or mooring and unmooring services are also privately operated. The reasons why many ports in the world are adopting the 'landlord' model are: (i) Cargo handling is a specialized activity and requires large investment; (ii) a specialist operator is more efficient; (iii) has lower costs; and (iv) the market is demanding increased vertical integration between shipping lines, terminal operators, and logistics providers. The DSMGP will support the restructuring of TPA to reflect the twin objectives of corporatization of functional business units under TPA for those berths where TPA will remain the operator, whilst enhancing TPA's capacity to act as a landlord, manager and developer of the ports in Tanzania.

19. ***Private sector involvement in service provision in Dar es Salaam port.*** Tanzania International Container Terminal Services (TICTS) operates a dedicated container terminal on Berths 8-11. In May 2000, the TICTS[16] consortium was assigned a 10-year concession to manage the existing container terminal on Berths 9-11. In September 2005, the GoT extended the concession period to 2025, and instructed TPA to also hand over Berth 8 and the Ubungo Inland Container Deport (ICD) to TICTS. Approximately 30 percent of the total throughput of the port by volume is handled by TICTS, or 70 percent of all container traffic. Currently, TPA remains the service provider on berths 5-7, where it handles spillover container traffic, and the bulk, break-bulk, and Roll on-Roll off (RoRo) terminals (on berths 1-4), the Kurasini oil jetty and the Single Point Mooring (SPM) for petroleum products. TPA is also responsible for the provision of harbor master services (such as vessel traffic management, arranged on a first-come first serviced principal), and marine services (such as pilotage, berthing and mooring/unmooring services). TMEA are providing support to develop the business cases for the corporatization of functional

[16] A joint venture between Hutchinson Port Holdings Ltd and some Tanzanian investors was granted a concession in 2000, which was extended in 2005 to 2025.

business units under TPA for those berths where TPA will remain the operator, and for a potential new container terminal on three new berths 12-14. The implementation of the former will be supported through this project, the development of this latter initiative, pending a GoT decision, could be included in a future World Bank supported project.

20. ***The regulation of the port sector is the responsibility of SUMATRA.*** The Surface and Marine Transport Regulatory Authority (SUMATRA) is Government of the United Republic of Tanzania's multi-sector regulatory agency. It was established by Act no. 9 of 2001 and came into operation on the 20th August 2004. SUMATRA operates under the Ministry of Transport and has a duty of enhancing the welfare of Tanzania society by promoting effective competition and economic efficiency. Among other things, its functions include: (i) Establishing standards for regulated services; (ii) Establishing terms and conditions for supply of regulated services; (iii) Regulation of rates and charges; (iv) To make rules and issue, renew or cancel licences for regulated services; (v) To monitor the performance of regulated services. In the maritime transport sector, it is specifically responsible for: (i) the regulation of services of shipping agents, shipping lines, port operators, clearing and forwarding agents and cargo consolidators; (ii) the development of rules and standards to regulate port and shipping businesses; and (iii) ensuring compliance of good conduct and practice by port and shipping service providers. The Transport Corridors for Growth Trust Fund (TCFG TF) will be supporting SUMATRA to undertake a review of the scale and structure of tariffs in the port of Dar es Salaam, to bring them into line with international best practice.

21. ***The port has faced a number of governance challenges in recent years***. As a result of inefficiencies and governance issues in the port, one recent study[17] estimated the aggregate welfare loss of the inefficiencies at US$ 2.4 billion, or 25 percent of the total volume of merchandising imported into Tanzania in 2012. More recently, the authorities have discovered the release of a significant number of containers and vehicles without payment of wharfage[18] or custom duties, primarily from the Inland Container Depots. These events reduce revenues both for the Tanzanian state and the port, which handles a lower volume of merchandise than would be the case if the port were managed efficiently. The inefficiency and governance issues in the port also affects neighboring landlocked countries in a similar way, increasing transit costs and reducing trade. The new Government has been quick both to recognize and react to the problems. A new Director General and Acting Deputy Director General have been appointed, along with a new Board, and further steps are being developed to strengthen the technical capacity of TPA. TPA are introducing a new Integrated Electronic Payment System (IePS), replacing a cash based system, which will allow for the electronic collection of all port charges via multiple delivery channels including Mobile, ATM, POS and Web. All revenues from wharfage, which represents the majority of TPA revenues, are now being collected directly by TRA. In addition, the project will support TPA in establishing new terminal operating systems for all those berths which will remain in TPA operation, and a new port community system. TRA are also moving forwards with the development of an electronic National Single Window, but the implementation timeline is unclear at this time.

22. ***One assessment also revealed that Tanzania and the port of Dar es Salaam are exposed***

[17] The World Bank (2013) *Tanzania – 3rd Economic Update*, Washington D.C.

[18] Wharfage is an *ad valorem* charge payable in US$ of between 1.25%-1.6% (for imports as an example) of value on all cargo passing over the quays of TPA, contrary to best international practice.

to various threats of transnational trafficking. The United Nations Office on Drugs and Crime (UNODC) completed an assessment of the exposure of Tanzania and the port of Dar es Salaam to transnational trafficking in late 2014.[19] The report revealed that whilst the port of Dar es Salaam was compliant with the International Ship and Port Facility Security Code (ISPS),[20] it remained exposed to the risk of trafficking of illegal drugs, illegal wildlife trade, illegal logging and wood products, and counterfeit goods. In a similar vein, another recent report examining the movement of illegal ivory and rhino horn[21] found considerable evidence that Tanzanian ports played a key role in the movement of these illicit consignments over the period 2000-2013, primarily via containers through the ports of Dar es Salaam and Zanzibar. An ongoing TMEA program is assisting TPA to procure additional scanners for the port, to be operated by TRA. In addition, the Container Control Program (CCP) is being implemented by UNODC and the World Customs Organization (WCO), [22] in parallel to the project.

C. Higher Level Objectives to which the Project Contributes

23. ***The DSMGP is consistent with the national development strategy in Tanzania***. The new national FYDP (FYDP-II) of FY2017–21 of June 2016 is based on Tanzania's Development Vision 2025. This strategy aims to transform Tanzania into a middle-income country by 2025. The strategy notes that the private sector is constrained by poor infrastructure and an inadequate business environment and recommends, among others, improving the infrastructure for road and railway transport, ports and harbors and facilitating transit traffic. The strategy notes the private sector is constrained by poor infrastructure and an inadequate business environment, and recommends, *inter alia*, improving the infrastructure for road and railway transport, ports and harbors, and facilitating transit traffic.

24. ***The DSMGP is also consistent with the Africa Regional Strategy.*** The strategy[23] has two pillars, (a) competitiveness and employment, and (b) vulnerability and resilience, and a foundation—governance and public sector capacity. The first pillar represents the way to harness private sector growth for sustainable poverty reduction, and ultimately wealth creation. It recognizes that Africa's weak investment climate is caused by three main factors: (a) poor infrastructure, (b) poor business environment (policies and access to finance), and (c) insufficient technical skills. Africa's infrastructure seriously lags that of other developing regions, and the gap is widening over time. The transport sector is seen as a key pillar to improving competitiveness.

25. ***The DSMGP is also aligned with the WB's Country Assistance Strategy (CAS) for***

[19] UNODC, (2014) *Container Control Program Port Assessment Port of Dar es Salaam*. Geneva.
[20] The International Ship and Port Facility Security Code (ISPS) has been developed by the International Maritime Organization (IMO), and prescribes stakeholders to "…detect security threats and take preventative measures…in ships and ports used for international trade…"
[21] TRAFFIC International (2014) *Illegal trade in Ivory and Rhino Horn*, Cambridge, United Kingdom.
[22] The UNODC and the WCO have come together to elaborate the UNODC-WCO Container Control Program (CCP). The CCP has a global reach and aims to fortify the structures and processes which allow for the application of sustainable laws for States and selected ports, so as to minimize the exploitation of maritime containers for the illicit trafficking of drugs, and other transnational organized crime activities. Further detail is provided in Annex 8.
[23] The World Bank (2011) Africa's Future and the World Bank's Support to it. Washington D.C.

Tanzania for FY12-FY15,[24] and the CAS Progress Report.[25] The CAS has four main Pillars: (i) promote inclusive and sustainable private sector-led growth; (ii) build infrastructure and deliver services; (iii) strengthen human capital and safety nets; and (iv) to promote accountability and governance, as a crossing-cut outcome. Pillar 2 focuses on four key outcomes: (i) improved access, quality, and sustainability of electricity; (ii) increased access and quality of transport; (iii) increased access and quality of water and sanitation services; and (iv) improving management and delivery of urban services. The CASPR, which reviewed progress in the implementation of the CAS, given the latest political and economic developments in the country and the Government's shifting priorities, proposed five key adjustments to sharpen the focus of WBG's engagements in the country on promoting inclusive growth to alleviate poverty and boost shared prosperity. Within infrastructure, this focuses support on assisting the GoT to implement the flagship BRN initiative.

26. ***The DSMGP also reflects the Memorandum of Understanding and Cooperation (MoU) signed in September 2014.*** The MoU was signed between the Ministry of Transport, the World Bank, the United Kingdom Department for International Development (DFID), and TMEA, and reflects the commitment of the parties to support the implementation of the objectives of the GoT in the Maritime Sub-Sector. Some of the activities in the MoU, specifically *inter alia* the removal of sheds, which are no longer needed due to the growing containerization of all traffics, changes to traffic flow in the port, the paving of access roads, and the introduction of a port community system, are already underway, funded by TMEA. Other parallel initiatives which starting include a baseline survey and productivity study, funded by TMEA, and a Green Port Study, funded by DFID. These will both inform the design of the physical interventions to ensure climate resilience, and contribute to the definition of the scope of the technical assistance.

27. ***The DSMGP is also consistent with the Letter of Sector Development Policy (LSDP) for the maritime sector.*** The LSDP, dated April 25, 2017, which reflects the commitment of the GoT to restructuring TPA, with the view of enhancing managerial autonomy and commercial efficiency of each business unit in a manner consistent with its statutory role as a landlord and operator of the Tanzania ports. The process of commercialization is the introduction of commercial principles and practices into the management and operation of the business units in the port, to ensure transparency in their costs and revenues, and allowing the units to operate to a certain extent under market principles. The GoT is also committed to enhancing governance, monitoring, transparency, accountability and competition in the maritime sub sector.

II. PROJECT DEVELOPMENT OBJECTIVES

A. The Project Objective (PDO) and Key Indicators

28. The Project Development Objective is to improve the effectiveness and efficiency of the Port of Dar es Salaam for the benefit of public and private stakeholders.

Project Beneficiaries

29. ***The beneficiaries of the project will encompass the direct and indirect public and private stakeholders of the port***. In the former case, this will encompass the shipping companies, importers

[24] IDA/IFC/MIGA (2011) Country Assistance Strategy for the United Republic of Tanzania for the period 2012-2015. Washington D.C. Report No. 60269-TZ.
[25] IDA/IFC/MIGA (2014) Country Assistance Strategy Progress Report for the United Republic of Tanzania for the period 2012-2015. Washington D.C. Report No. 80313-TZ.

and exporters, freight forwarders, road haulers, rail operators, and employees of the port. In the indirect case, beneficiaries will include employees in supportive business and their families, together with tradable sectors of the economy and region, and ultimately, consumers and producers both inside and outside the sub-region. Investment in the port will bring down trade and intermediary costs for all other businesses, strengthening the competitiveness of the entire region.

30. ***The impact of the project on poverty in Tanzania and the region.*** An assessment of the welfare impact in Tanzania and neighboring countries of the modernisation of the Dar es Salaam port was undertaken as part of the preparation of the DSMGP.[26] The analysis acknowledges that the current state of Dar es Salaam port is a severe constraint for further growth, and focused on estimating the poverty impact of the proposed investments in the port. The study used a two-step approach: Firstly it undertook an assessment of how the infrastructure project would affect trade flows and how those changes in trading opportunities would affect the price of goods and production factors. This step requires an assessment of the effect of the reform on border prices and how those changes on border prices would be transmitted to retail and producer prices and potentially to wages. The second step then utilized household surveys to assess the poverty impacts of those changes in trade, given the distribution of poverty in Tanzania. The study found the effects of the enhancement of Dar es Salaam port on poverty in Tanzania and neighbouring countries were expected to be modest in the short term, reflecting the very low incidence of international trade both in the consumption basket and as a source of income for the poor, rigidities in the market, and the high cost of hinterland transport. However, over the medium to longer term, the impact is expected to be significant, particularly if the hinterland connectivity is improved in parallel and pipeline operations. Further detail is provided in Annex 8.

PDO Level Results Indicators

31. ***The PDO will be realized by the following two components***: (i) Component 1: Improving the Physical Infrastructure; and Component 2: Institutional Strengthening and Implementation Assistance. Progress towards the attainment of the PDO will be assessed through the outcome and

PDO level Results Indicators

- Ship waiting time (Hours);
- Berth Occupancy (Percentage);
- Operational Productivity (Boxes per crane hour);
- Actual throughput capacity (Mill Tons);
- Vessel Turnaround Time (Hours); and
- TPA restructured to reflect new responsibilities.

Intermediate Output Indicators

- Entrance Channel and Turning Basin dredged to -15.5m CD;
- Berths 1-7 strengthened and deepened to -14.5m CD;
- Berths 8-11 strengthened and deepened to -14.5m CD;
- Multipurpose berth constructed and operational; and
- Port Community System and Terminal Operating Systems implemented.

[26] Depetris-Chauvin N., Depetris-Chauvin P., & Mulangu F., (2015) *An Assessment of the Poverty Impact of Modernising Dar es Salaam Port*, a study undertaken for the World Bank and DFID.

output indicators presented in the accompanying text box (The complete Results Framework is provided in Annex 1):

III. PROJECT DESCRIPTION

A. Project Components

32. ***The DSMGP has been developed as a multi-development partner initiative to improve the effectiveness and efficiency of the Port of Dar es Salaam***. The following list of components are included in the DSMGP (more detailed information on the components is provided in Annex 2):

33. **Component 1: Improving the Physical Infrastructure (Estimated cost US$ 400 million)**. The first component comprises the essential civil works in the port, and the key access infrastructure:

(i) Deepening and strengthening of existing Berths 1 to 7 to 14.5 m below CD, and constructing a new multipurpose berth at Gerezani Creek;
(ii) Deepening and widening the entrance channel and turning basin in the port to the end of Berth 11 to 15.5 m below CD;
(iii) Improving the rail linkages and platform in the port;[27] and
(iv) Deepening and strengthening of existing Berths 8-11, to 14.5 m below CD.

34. **Component 2: Institutional Strengthening and Implementation Assistance (Estimated cost US$21 million)**. The final component comprises the following two sub-components:

(i) ***The Institutional Strengthening of TPA***

(a) Technical assistance to support the restructuring of TPA to reflect the twin objectives of corporatization of functional business units under TPA for those berths where TPA will remain the operator, whilst enhancing TPA's capacity to act as a landlord, manager and developer of the ports in Tanzania; and assess future private sector participation;
(b) Capacity building/training for TPA staff to take on the above responsibilities, as a result of the restructuring, including *inter alia* necessary support to implement the Environmental and Social Strengthening Plan (ESSP) and obtain the ISO 14001 Certificate, and building capacity and awareness of climate resilience; and
(c) Procurement of management information systems, Terminal Operating Systems for those berths where TPA will remain the operator, and a Port Community System for Dar es Salaam port.[28]

(ii) ***Implementation Assistance***

(a) Supervision of construction and dredging works in the port;

[27] The detailed design is being funded by the TIRP (IDA Credit 54140).
[28] The GoT has reserved the right to fund this sub-component from their own resources, but retains the option of using project funds should they so desire.

(b) Technical Assistance, as required, to the TPA PIT to facilitate the implementation of the project (including TA to supervise the implementation of the cost accounting manual);
(c) Independent technical auditor; and
(d) Technical Assistance to update the National Port Master-plan to guide the strategic development of the maritime sector and its hinterland in Tanzania.

35. The following table summarizes the different activities, status, and the funding source, being implemented or planned, for the port of Dar es Salaam.

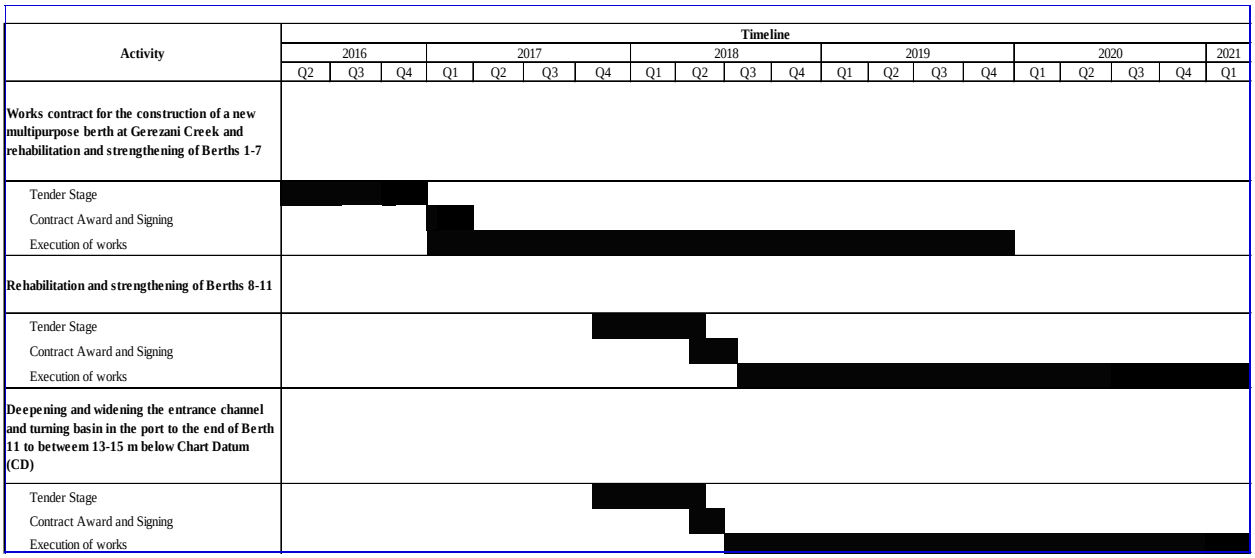
A Summary of Activities in the Port		
Activity	**Status**	**Funding Source**
Reallocating space and improving port layout by the demolition and relocation of sheds 2-7 and the midport shed	ongoing	TMEA
Instituting a single flow of road traffic and single entry/exit points by improving access roads to gates 4, 5 and 8	ongoing	TMEA
Improving the flow of traffic on public roads immediately outside the port by upgrading and widening the Bandari and Mivinjeni roads to dual 2 -lane	ongoing	TMEA
Establishing new Standard Operating Procedures and Key Performance Indicators	ongoing	TMEA
Establishing Port Improvement Committee and Action Plan for Efficiency Improvements	ongoing	TPA/TMEA/WB
Review of structure and scope of port charges	Planned	TCFG TF
Procurement of new scanners	Planned	TPA
Introduction of Integrated Electronic Payment System (IePS)	Planned	TPA
Introduction of new Terminal Operating Systems (ToS)	Planned	TPA/World Bank
Introduction of Port Community System (PCS)	Planned	TPA/World Bank
The realignment of the rail loops in the port	Design stage	TPA/World Bank
Reform of the Tanzania Port Authority	Design stage	TPA/World Bank
Implementation of the Container Control Program (CCP)	ongoing	UNODC

36. In parallel to the above, the Transport Corridors for Growth Trust Fund (TCFG TF), supported by the United Kingdom Department for International Development (DFID), will be supporting an evaluation of the capacity/resources and curriculum of the three relevant education facilities in the maritime sector: Bandari College, which is the vocational training facility run by TPA, and the Dar Maritime Institute, and the College of Engineering and Technology at the University of Dar es Salaam. The TCFG TF will also support the implementation of recommendations to strengthen the functioning of these establishments, under a separate grant to the co-financing of the activities in the DSMGP. In addition, the latter two institutions are also being encouraged to submit an application for consideration under the Education and Skills for Productive jobs (ESPJ) Program for Results Project, supported by the World Bank,[29] which includes transport and logistics (including the maritime sector) as one of the six key sectors targeted for skill development, at short term, vocational, technical college and university level. The mechanism for support is a skills development fund to which training providers can apply for support. The local institutions are also being encouraged to apply to provide opportunities for training and intern possibilities for current and recent graduates.

37. ***The sequencing of the interventions***. The provision of the restructuring plan for TPA and the subsequent implementation of the reform plan are dated covenants. The first works contract for the construction of a new multipurpose berth at Gerezani Creek, to the north end of the port, and the rehabilitation and strengthening of Berths 1-7 is expected to be signed in July 2017. The

[29] IDA Credit 58190.

works will commence with the construction of the former, which will allow the cascading of vessels onto the new quay, as the rehabilitation work proceeds along the quay wall. This minimizes the impact on TPA's cashflow over the construction period, and a similar sequencing will take place for the rehabilitation and strengthening of Berths 8-11. Given Berths 8-11 handle 70 percent of all container traffic, TPA have been asked to confirm to the Bank by letter that there will be no business interruption during the rehabilitation of those berths. The dredging of the entrance channel and turning basin will be undertaken in sequence to ensure that the greater draught is available as the rehabilitated/constructed quay is available. The following represents a simple schematic of implementation for the key contracts.



B. Project Financing

38. The lending instrument to support the DSMGP is Investment Project Financing (IPF), supported by an International Development Association (IDA) Credit in the amount of US$345 million from the Scale-up Facility (SUF) to the United Republic of Tanzania, at standard SUF terms. The IDA SUF Credit is to be on-lent to TPA at the same terms. Tanzania currently faces a low risk of external debt distress as well as low risks from domestic public debts. In light of the project's financial viability as well as the TPA's financial position, the proposed IDA Credit will be serviced out of the revenue flows of TPA. However, if the GoT is required to step in and service the debt, the impact to Tanzania's overall debt situation should be manageable.

39. ***DFID have pledged co-financing in the amount of US$12 million to co-finance the DSMGP***. These monies will be passed to the Bank via the TCFG TF, and the Grant Agreement will be signed in parallel with the Financing Agreement for the IDA Credit. During project preparation, the Bank led the assessment of technical and economic viability, the review of the necessary social safeguards and the environmental impact assessments, and the review of the proposed design. During project implementation, the Bank will be formally responsible and pay for implementation support for those activities financed in whole or in part by the project, with a contribution from DFID. The blending of the IDA SUF Credit, and the DFID grant financing, increases the concessionality of the total package.

40. The breakdown of responsibility for cost coverage of all components in the project is IDA 82 percent, DFID 2.95 percent, and the Borrower the remaining 15.05 percent.

Project Cost and Financing

Project Components	Project cost (US$M)	IDA and DFID Financing	% Financing
1.Improving Physical Infrastructure	400.00	338.33	85
2. Institutional Strengthening and Implementation Assistance	21.00	17.80	85
Total Costs	421.00	356.13	85
Total Project Costs	421.00	356.13	85
Front-End Fees	0.87	0.87	0
Total Financing Required	421.87	357.00	85

C. Lessons Learned and Reflected in the Project Design

41. The major lessons learned and experience with earlier port and transport projects, both in Africa and elsewhere in the world, reflected in the design of this project are considered to be the following: Firstly, the IEG report[30] which reviewed a decade of World Bank transport projects noted the full introduction of the 'landlord port management model' had not progressed to anywhere near the same degree in Africa as in some other regions. The explanation for this lag was reportedly the strength of the local labor unions, suspicion of the motives of external partners, sometimes outright opposition amongst public servants to the introduction of the private sector, and a weak institutional framework with little regulatory capacity. The IEG report went on to note that bringing about substantive change in the public-private balance in such circumstances is not a short process and requires continued support over a long period of time, as well as considerable political skill in building the necessary political consensus, communicating with all stakeholders, and careful implementation, ensuring the rights of all are respected. This guidance has informed the approach of the development partners in the design of this project, and reflected in both the implementation period of the DSMGP, and the phased development of the port.

42. Secondly, the Government has committed itself to investigating greater private sector participation in the port, and business cases are being prepared for all berths in Dar es Salaam port, and a potential container terminal on three new berths (12-14). Decisions on whether to proceed with the preparation of any concession will wait until the business cases have been prepared, and the GoT has the basis to make an informed decision. The DSMGP will provide support to develop capacity in TPA and the line ministry to assess proposals involving private finance in future.

43. Thirdly, given the size and potential complexity of the project, the Project Implementation Team (PIT) in TPA needs to be adequately staffed, and supported, with external assistance if necessary, throughout the preparation and implementation of the project.[31] In this particular case, TMEA have been providing support to TPA to procure a firm of engineering consultants to support the TPA PIT. The selected firm of consulting engineers commenced their assignment on October 20, 2015, and are providing a Project Manager, a Maritime Engineer, a Contracts Manager, and a Procurement Specialist. TPA also has the option to draw down additional expertise as and when

[30] World Bank (2007) *A Decade of Action in Transport 1995-2005*, Independent Evaluation Group, Washington DC.
[31] Dar es Salaam Port Modernization Project (IDA Credit 20950) which closed in 2000.

necessary in a diverse range of areas, including *inter alia* an Environmental Specialist, Marine Hydrologist etc. This support will continue for the duration of the project.

44. Finally, based on the experience in designing and implementing earlier transport projects in Tanzania, the DSMGP has been designed to ensure the following: (a) the simplification of project objectives, implementation arrangements, robust assessment and design of proposed components; (b) early preparation of engineering, social, environmental, and institutional aspects to ensure quality at entry; (c) close coordination with the National Environment Management Council (NEMC); (d) extensive consultation with key stakeholders to ensure increased ownership; (e) improved cross sectoral and donor coordination to support necessary institutional reforms; and (f) careful selection of the physical infrastructure to ensure maximum economic and social impact.

IV. IMPLEMENTATION

A. Institutional and Implementation Arrangements

45. The project will be implemented by a dedicated Project Implementation Team (PIT) of full-time employees of TPA, supported by TPA management and the Board of Directors of TPA. The PIT will comprise a senior Project Manager/Director, a Financial Management Specialist, two Procurement Specialists, an Environmental Specialist, a senior Port Engineer, a Financial Analyst, and necessary support staff.[32]

46. Whilst TPA has some earlier experience in implementing World Bank financed projects, it was some time ago.[33] TPA does have more recent experience in projects financed by other development partners.[34] However, existing capacities within TPA will be challenged by a project of this scale. Accordingly, the TPA PIT are being supported by additional expertise in the form of procurement support by individual consultants, and technical support from a firm of maritime engineering consultants, which commenced its assignment on October 20, 2015. The latter are currently providing a Maritime Engineer, a Contracts Manager, and an additional Procurement Specialist. TPA also has the option to draw down additional expertise as and when necessary in a diverse range of areas, including *inter alia* a Marine Engineer, Marine Hydrologist etc.

47. The responsibilities of TPA during the implementation of the DSMGP will include, *inter alia*: (a) the management of the designated accounts; (b) financial management and reporting on the overall project; (c) ensuring the execution of the audit of the project; (d) preparation of quarterly financial and bi-annual progress reports; (e) the management of environmental and social safeguards; (f) undertaking all procurement and contract management activities for all components; and (g) undertaking the necessary monitoring and evaluation for the project. The TPA PIT will be accountable to the Director General (DG) of TPA, and ultimately the Board of TPA. TPA will also report to a project steering committee, administered by the Ministry of Works, Transport and Communications (MoWTC), with representation from different stakeholders.

48. In respect of safeguards, the Environmental Management Section (EMS) within TPA has prepared an Environmental and Social Strengthening Plan (ESSP) in order to improve the capacity of TPA to manage environmental and social issues in the ports. The main objective of the ESSP is to achieve long-term environmental, social, and economic benefits through resource conservation,

[32] The key members of the PIT were confirmed to the Bank by letter dated March 27 2017.
[33] The Port Modernization Project (IDA Credit 20950) that closed in 2000, although TPA did implement a component in the EATTFP in 2006 (IDA Credit 41490).
[34] Such as the ongoing activities financed by TMEA.

waste reduction, and pollution prevention. The ESSP include some activities related to training, equipment, and some initiatives to comply with international standards to be a green port and to obtain the ISO 14001 Certificate. The project will support the implementation of the ESSP.

B. Results Monitoring and Evaluation

49. The project includes a set of monitoring indicators to allow the effective measurement of the outcome and results of the project. These indicators together with the monitoring and evaluation arrangements are detailed in Annex 1. The overall responsibility for monitoring and evaluation of outcomes of the project will formally lie with the TPA. TPA will prepare half yearly progress reports, and forward the reports within 45 days from the end of the reporting period. These reports will detail physical progress of the various sub-projects and progress in respect of the monitoring indicators in the results framework (see Annex 1). The reports will also contain a summary of the status of the Environmental and Social Management Plans (ESMPs) implementation in respect of the components. The TCFG TF will provide support under a separate grant to undertake a formal Impact Evaluation for the DSMGP, and related corridor activities.

C. Sustainability

50. The sustainability of the interventions in the project will depend on careful preparation, robust implementation support, and oversight, and the subsequent management and maintenance of the facilities. TPA has been provided with support to assist them in realizing these outcomes. In addition, TPA has a strong and growing revenue stream and sufficient resources to maintain the rehabilitated berths, the entrance channel and turning basin, undertaking any recurrent dredging as required. Capacity building and training will also be provided[35] for TPA staff to ensure the reformed organization has the capacity to fulfil its functions. The indicators have been carefully chosen to reflect the components in the project, with the focus on the maritime side. A delay in the improvement of the access infrastructure, whilst detrimental to Tanzania, would not unduly impact the expected outcomes from the project.

V. KEY RISKS

A. Risk Ratings Summary

Table 1: Risk Summary Table

Risk Category		Rating
1.	Political and Governance	Substantial
2.	Macroeconomic	Substantial
3.	Sector Strategies and Policies	Moderate
4.	Technical Design of Project or Program	Substantial
5.	Institutional capacity for Implementation and Sustainability	Substantial
6.	Fiduciary	Substantial
7.	Environment and Social	Substantial
8.	Stakeholders	Substantial

[35] This support is being provided both within the project, but also in parallel by TMEA, as part of the broader program of engagement.

9. Other	
Overall	Substantial

B. Overall Risk Rating and Explanation of Key Risks

51. Tanzania has committed itself to undertake wide ranging reforms to overcome the existing political deadlock and to break the previously protected vested interests. So far, Tanzania's strategic planning, structured by the first Five Year Development Plan (FYDP-I), has faced some challenges because of a lack of coordinated and coherent policies; a set of development goals that were probably too ambitious; and the absence of adequate skills and institutions to support the reform agenda. The political economy of the port sector is particularly complex, reflecting both its importance in terms of national and regional economic development, but also the commercial nature of the sector, and the myriad opportunities for rent seeking behavior. One example of this is the recent discovery of the leaking of containers and vehicles from some of the ICDs without payment of tax or wharfage. The Government's response has been swift, and measures have been implemented (see paragraph 21) which will mitigate the risk in future, if properly implemented.

52. In addition, there is always a risk that any multi-partner program that requires improvement in the processes, or the restructuring, of a major public sector institution may be delayed/impeded by the shifting interests of different stakeholders, particularly when preparation/implementation straddles national elections. Balanced against that, the proposed program has a high level of political support, and some flexibility to reconsider financial responsibilities as the project unfolds. But the operation involves a major program of investment, with complex civil works, and potential environmental risk from the dredging operations, and the disposal of spoil. It also represents a challenge for the implementing agency, particularly as it will be restructured in parallel, and has limited experience in implementing Bank financed operations. Procurement risks, before mitigation measures are seen as High, moderated by the Financial Management Risks. These risks are mitigated by the establishment of a dedicated project implementation team, supported by external consultants (see paragraph 43), and a carefully monitored dredging disposal plan. There are also additional development plans in the sector, such as the proposed Bagamoyo port development,[36] which depending on the scale, scope and timing of the intervention, could impact on the outcomes of the DSMGP. Appropriate sensitivity analysis has been undertaken. The overall risk rating is seen as Substantial.

Governance and Anti-Corruption Action Plan

53. A Governance and Anti-Corruption (GAC) Action Plan has been prepared for the project to contribute to improved governance in TPA and improve the security of Dar es Salaam port, by strengthening the procurement and financial management systems and procedures, together with additional specific actions such as an independent technical auditor for all civil works (see Annex 8). The Bank team has also been involved closely in the preparation of the bidding documents for the works, and other preparatory documents, to strengthen the rigor of project preparation, reassure potential bidders, and deliver a better outcome for stakeholders. In addition, the Borrower will be required to implement the project in accordance with the Anti-Corruption Guidelines. The project

[36] The position of the GoT is that this project will proceed, and in a first phase involve the development of a 1000m quay, and a bulk, break bulk, and container terminal. It is expected to commence operations in 2023/2024, and the impact has been explicitly considered in the economic and financial analysis of the project components, and the sensitivity analysis.

will also fund an independent technical auditor for all civil works, support the implementation of the Container Control Program (CCP) in Dar es Salaam port, and improve stakeholder engagement both internal and externally.

VI. APPRAISAL SUMMARY

A. Economic and Financial Analysis

54. ***The Economic Analysis***. The economic analysis of the project compares the costs and benefits of the proposed investments from the perspective of maximizing social welfare in economic terms for Tanzania, and the region. It is to be distinguished from a financial analysis of the proposed investments, which would concern itself with the costs and benefits from the narrower viewpoint of TPA, and hence generally represent a subset of the former.

55. ***The rationale for public investment.*** Whilst the port sector can be considered commercial, in a 'landlord port management model', the responsibility for investment in the sub-structure, quays, ensuring sufficient depth of water, the access infrastructure etc. generally remains the responsibility of the public sector, the port authority. The justification for public investment reflects the fact that most of the common economic benefits of port construction – for example, reductions in ships' queuing costs, reductions in ship times at berth, economies of ship size resulting from dredging, reduction in unit costs of inland transport, or avoidance of inland transport costs from more distant ports - do not appear in the accounts of the port authority or in a financial analysis, and hence provide the justification for public investment. Conversely, financial revenues to the port from a new terminal (i.e. income from tariffs) are not counted as economic benefits to Tanzania because they are cancelled out by the increased charges made by the shipping lines, or the port operator, in order to recover port costs from importers and exporters. With investments in the public components of the port, the project will set the foundations for expanded engagement of private operators or service providers. The operators or services providers will be ultimately responsible for investments in the necessary super-structure, such as gantry cranes, etc.

56. ***The value added of Bank Support***. The World Bank has been consistent in promoting the removal of barriers to trade and regional integration as key development priorities for the region. Inadequate and unreliable infrastructure services increase input costs, raise transaction costs, and lower productivity. In this case, the added value of the World Bank is the knowledge that it brings in preparing similar projects in the port sector, in supporting the advancement of key institutional reforms and actions for enhanced incentives and port efficiency, in mobilizing private investment in infrastructure where necessary, together with the expertise garnered in preparing and implementing large and complex multidisciplinary infrastructure projects.

57. ***Methodology***. The economic evaluation in this case was undertaken using a standard partial equilibrium Cost Benefit Analysis (CBA), which estimated the costs and benefits for all identified alternatives for a defined appraisal period, compared to an identified "do- minimum" alternative. The flows are discounted back using a 12 percent discount rate, and aggregated to produce the economic internal rate of return (EIRR) and the Net Present Value (NPV). Costs and benefits are expressed in constant prices (to a defined base year price), with a defined residual value at the end of the appraisal period. The benefits of the identified alternatives are the following:

- The economies of scale resulting from the use of larger vessels as a result of the dredging of the access channel, turning basin and at the quay;
- The reduction in queuing costs at anchor as result of the creation of additional berth capacity; and
- The reduction in the time spent by vessels at berth, due to quicker loading/unloading facilitated by the better facilities/strengthened berths and more efficient operations.

58. ***The Results of the Economic Analysis***. The result of the economic analysis, in terms of the Economic Internal Rate of Return (EIRR), the Net Present Value (NPV at a 12 percent discount rate) and the Benefit Cost Ratio (BCR), for the individual components is presented in Table 2. The results indicate that the individual components are viable, and the subsequent sensitivity analysis, which assessed the impact of variation in the key parameters, showed the results to also be robust. (Further detail on the economic analysis is provided in Annex 5). Appropriate sensitivity analysis was conducted on key parameters of interest, and support the conclusion that all components of the project are economically justified, and robust to changes in the key parameters of interest.

Table 2: Results of Economic Analysis for Defined Components (NPV, US$ m)

Component	Capital Cost (US$ millions)	NPV (US$ millions)	EIRR (%)	B/C Ratio
Dredging to -15 m CD (5% hard rock) and rehabilitation of Berths 1-7, 8-11, and Gerezani Creek	187.16	227	26	3.0
Dredging to -15 m CD (20% hard rock) and rehabilitation of Berths 1-7, 8-11, and Gerezani Creek	232.39	196	23	2.6
New Multipurpose berth at Gerezani Creek	40.0	27	24	2.9

59. ***The Financial Analysis***. The financial analysis was undertaken on the proposed project components in terms of their impact on the cash flow of TPA. The financial analysis focuses on the impact on revenues and operating costs, comparing the 'do nothing' case at Berths 1-7 with a 'with project' case involving berth strengthening and channel deepening, the rehabilitation of Berths 8-11, and the construction of an additional multi-purpose berth at Gerezani Creek. The financial analysis has been undertaken on the composite program, as the financial benefits of some of the project components are dependent on other project components going ahead.

60. ***The Results of the Financial Analysis***. The results reveal a financial internal rate of return (FIRR) of 19.6 percent, and a Net Present Value (NPV) of US$ 261 million, using a 12 percent discount rate. This confirms the DSMGP program is financially viable.

B. Technical

61. ***The Institutional Strengthening***. The DSMGP will provide technical assistance to support the necessary institutional restructuring and capacity building to develop TPA to act as a landlord, and to develop, manage and operate ports, and building capacity to assess future private sector participation in Dar es Salaam port. Dar es Salaam port accounts for approximately 95 percent of total traffic handled by TPA, and establish functional business units for those areas where TPA will remain the service provider. This will require changes to the structure, functions, and capacities of TPA's Headquarters and DSM Port itself. TPA have confirmed that the project will have no impact on TPA employees, and should any reduction in numbers prove necessary in

future, it will be handled through natural attrition. The DSMGP will offer the option of support for the procurement of management information systems, Terminal Operating Systems for those berths where TPA will remain the operator, and a Port Community System for Dar es Salaam port.

62. The DSMGP will also, as part of the above, support TPA to strengthen its capacity in terms of environmental management. In parallel to the modernization and expansion of the port of Dar es Salaam, TPA wish to ensure that all improvements are climate-smart and consistent with the aspiration to become a 'green port.' Whilst it appears that the port may not be at direct risk from sea level rise brought about by global warming, changes in sediment flow outside the port (reducing channel depth), and increasingly frequent extreme run-off events on the landside (again increasing sediment flows) may present challenges to port operations. In addition, the movement to larger vessels increases the risk and the challenge presented in responding to incidents (collision, spillage etc.) within the port area. TPA wish to both strengthen the capacity of their Environmental Management Systems, but also investigate the potential of other green practices for the port, and endeavor to obtain the ISO 14001 Certificate, as well as building capacity and awareness of climate resilience. For instance, the efficiency of time spent at the outer anchorage as well as the speed of approach to berths, as those have impacts on the fuel bill, carbon and other particulate emissions. Standards and practices relating to air pollution and energy, waste and water management of both port operations and client shipping can also be defined/ improved to increase environmental resilience; more broadly, climate proofing measures should be assessed for value for money. The UK DFID are providing support in parallel for the development of a Green Port Policy for Dar es Salaam, including recommendations for climate smart improvements. The policy and plan will stipulate ways in which TPA can minimize/mitigate negative impact of climate change and the environment risks in its operations and enhance the climate change and environmental opportunities in its future work. The implementation of the recommendations of this plan will be supported by the DSMGP.

63. ***The physical investments***. The port of Dar es Salaam is situated at Latitude 6.49 South; Longitude 39.19 East. It is the largest of a series of ports developed along the mainland coast of Tanzania and is constructed along a narrow strip of land on the western side of Dar es Salaam harbor. It is currently equipped with eleven berths, seven of which (Berths 1-7 with a length of 1,280m) are currently dedicated to general cargo (including container, dry bulk, break bulk and RoRo operations) and four to dedicated container operations (Berths 8-11 with a length of 720m). The design depth for the berths was 12.2m below CD at Berth 7. Other facilities include the Malindi and lighter wharves (for coastal trades), the Kurasini Oil Jetties (KOJ), and the Single Point Mooring (SPM) outside the port. The port was designed to handle Panamax size vessels although the length of vessels able to access the port is currently restricted to 230m LOA, and there are further restrictions in the turning circle, access channel, and at some of the berths, due to the accumulation of sediments. The access channel was deepened and straightened in 1997 to a minimum depth of 10.1m below CD, but larger vessels can only access and egress the port at high tide. The depth within the southern creek has been dredged to -10.0m CD, but in places is less than that now, particularly at the berths, sometimes markedly less, reflecting an accumulation of sediments. If the access channel and turning circle are dredged to a nominal water depth of 15.5m below CD, it will facilitate unrestricted access of Panamax vessels (and potentially some Post-Panamax vessels). This will require the removal of an estimated 10,000,000 m^3 spoil from the turning basin, 13,000,000 m^3 of spoil from the access channel, and between approximately 270,000 m^3 and 340,000 m^3 from the berths. Recurrent requirements are not predicted to be significant. The

resulting spoil will be deposited in the Indian Ocean in a carefully vetted location, with an appropriate dredging monitoring plan, to ensure no non-transient environmental impact.

64. The first deep water berths (Berths 1-3) were built in 1953-56. They are block wall constructions and provided with an apron with a width of about 30 meters. Berths 4-11 were constructed in the 1970's. These berths are of open piled construction with a suspended deck of approximately 33m wide. In order to maintain the serviceability of the quay wall the following rehabilitation is required: (i) Due to cracks of concrete in the pavement, parts of the slab have to be replaced in accordance with best practice; (ii) Where duct covers are missing or where the existing covers are not in an appropriate condition new concrete or steel duct covers needs to be installed; (iii) Some of the fenders and ladders are damaged and need to be replaced; and (iv) damage has been detected at the foundation piles at Berth 4. Common rehabilitation measures are the removal of weakened concrete, cleaning and coating of reinforcement and replacement of corroded concrete. The proposed solution for deepening Berths 1 to 7 consists of a suspended deck slab founded on vertical and raked reinforced concrete piles in front of the existing structures. Depending on future cargo handling operations, this includes an option to expand the quay apron seawards up to approximately 11.50 m (or more, if required). Whilst Berths 8-11 are provided with a double row of foundation piles along the cope edge to support ship shore gantry cranes, the proposed procurement of larger cranes, the corresponding need to increase the bearing capacity of the quay, and to ensure continuity of quay, requires a similar intervention. In order to create more space, a new multipurpose berth is to be constructed by backfilling Gerezani Creek with suitable material. The new berth and storage space will cover an area 93,000 m² and will partly incorporate Malindi Wharf.

65. At present Dar es Salaam's container traffic is handled at two terminals, operated by TICTS and TPA. The TICTS terminal has four berths (with 720 meters of quay) and the TPA has three berths allocated to containers. The first handles 70-80 percent of the container traffic[37] and the second, which handles the spillover traffic and handles 20-30 percent. The current handling speeds are low by international standards: TPA's statistics show an average handling speed for all five berths of 575 TEU per ship-day at berth (with TICTS getting 730 TEU per ship day, suggesting TPA gets 420 TEU per ship-day at berth). The average handling rate shown in the ship agents' association's statistics is 16-17 moves per crane hour. At these handling speeds the berth occupancies in 2015 were 72 percent at the TICTS terminal and 36 percent at TPA, giving an average of 57 percent for the five berths. The continuation of growth at current rates will lead to the exhaustion of capacity by 2018/20, rising queuing costs, which would be passed onto importers and exporters, underlining the case for further capacity enhancement.

66. All rail infrastructure in the port is owned and maintained by the Tanzania Ports Authority and consists of a combination of 1,000mm gauge (RAHCO network) and 1,067mm gauge (TAZARA network) track. Except for the rail transfer terminal at the TICTS terminal, there are no dedicated areas for rail cargo handling within the port. The rail network was designed originally to allow railway wagons to be shunted along the quay, when slow speed and small scale of general cargo operations allowed direct delivery to rail transport. Currently, the rail lines do not allow a looping of trains, and sometimes requires a breaking of the trains to meet length restrictions. The emphasis on the speed required in a modern port necessitates a change in the track layout. The

[37] 2015 figures TICTS handled 496,773 TEUs out of an annual total 639,230 (TPA Statistics).

project will support a rail looping system, and the upgrading and leveling of the rail facility in the TICTS terminal to facilitate faster loading and unloading and prompt access and egress.

C. Financial Management

67. TPA will be the implementing agency for the project, and will also be responsible for all financial management aspects related to the project. As part of project preparation, a financial management assessment was carried out for the TPA in accordance with the Bank Directive: Financial Management Manual for World Bank Investment Project Financing Operations issued February 4, 2015 and effective from March 1, 2010; and the Bank Guidance: Financial Management in World Bank Investment Project Financing Operations Issued and Effective February 24, 2015. The assessment indicates that there are adequate financial management arrangements at TPA to manage the project finances. TPA implemented a USD 25.5 million component within the East Africa Trade and Transport Facilitation Project that closed on 30th September 2015. In that regard TPA has experience in implementing Bank supported projects and will apply the same to this project. All project financial records will be maintained at TPA.

D. Procurement

68. All Procurement will be carried out in accordance with the World Bank *Guidelines: Procurement of Goods, Works, and Non Consulting Services under IBRD Loans and IDA Credits & Grants by World Bank Borrowers*, dated January 2011, Revised July 2014; *Guidelines: Selection and Employment of Consultants under IBRD Loans and IDA Credits and Grants by World Bank Borrowers,* dated January 2011, Revised July 2014; *Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD* Loans *and IDA Credits and Grants*, dated October 15, 2006 and revised in January 2011, and provisions stipulated in the Financing Agreement. TPA will be responsible for all procurement activities and will also carry out the oversight function in procurement and contract management activities. The Procurement Plan for the first 18 months was approved by the Bank on February 23, 2017. The Procurement Plan will be updated at least every 12 months, or as required, to reflect the actual project implementation needs but shall require Bank's approval with each update. As a Bank-wide requirement for all recipient executed Projects, the Project Procurement Plan will be required to be in in STEP (Systematic Tracking of Exchanges in Procurement). All procurement plans will be automatically published upon approval in STEP, in accordance with the Bank's disclosure policy

69. TPA has appointed one Procurement Officer who is dedicated to Development Partner funded projects. Due to the workload, an additional Procurement Specialist (Consultant) has been hired, funded by Trade Mark East Africa (TMEA), on an initial two-year period (from May 2015) to assist TPA. The Bank carried out a procurement assessment on September 16, 2015 followed by an update in March 2017. It was noted that TPA has implemented the recommendations made by PPRA, in an assessment carried out in 2014, but some weaknesses still exist. Record management for TPA has not changed generally. However, it was noted that there is an acceptable system of record management specifically created for the project, following recommendations made in September 2015.

70. Further strengthening is required in the following areas to improve procurement management: (i) quality of BOQs, TORs and technical specifications and terms of reference from

user departments, which is an ongoing issue; (ii) equipment for the procurement personnel to effectively carry out their duties; (iii) clearance of draft contracts by the legal unit; and (iv) contract management. The overall project procurement risk was assessed to be High. With mitigation measures in place (Annex 3), the residual risk would be reduced to Moderate.

E. Social (including Safeguards)

71. All the major project activities are expected to take place within the port boundaries, on TPA owned land and therefore no land acquisition is envisaged for project activities. TPA's current work force, both formal and informal in the port, as at March 31, 2016, amounted to 3,691 permanent staff, of which 2,793 are male and 898 are female. The majority of these employees work in Dar es Salaam Port. TPA has confirmed that the project will have no impact on TPA employees, or casual workers in the port.

72. The main social impact is the potential impact resulting from an influx of people into the area during construction, for example, increase in the incidence of HIV/AIDS/STD infections in the project area, etc. As part of their Environmental, Health and Safety Management Plan (EHSMP), contractors/construction companies will establish a HIV/AIDS/STD management plan that includes education and sensitization on HIV/AIDS/STD, zero-tolerance on sexual harassment, exploitation of minors, etc., which will be implemented in collaboration with the relevant existing district systems and structures. Following recent events elsewhere in the East Africa Region, this project will benefit from the guidance note that has been prepared on this specific topic.

73. While the project primarily focuses on improving the efficiency of the port infrastructure, the project will also consider gender dimensions that the project activities could help support. Gender differences persist across many spheres in Tanzania, including in education, health, legal status, cultural perceptions, and in the economic arena. Most of these disparities have implications for the country's growth potential—agriculture, the mainstay of the economy, is likely to remain below its productivity frontier because of women's unequal access to land and other productive resources. Selected gender relevant aspects that will be considered in the project will include:

- Employment creation in the project area (vendors during construction, economic areas created in project areas, ensuring women's participation to labor opportunities);
- Limiting HIV/AIDS/STD transmission for both men and women (construction workers, communities in project areas); and
- Investments in facilities in the port that may benefit men and women (lights, sidewalks, road crossings, shelters).

F. Environment (including Safeguards)

74. The project is classified as Category A according to the World Bank policy on Environmental Assessment (OP/BP 4.01) and was also judged to have triggered the World Bank's Natural Habitat Policy (OP/BP 4.04) and Physical Cultural Resources Policy (OP/BP 4.11). A comprehensive Environmental and Social Impact Assessment (ESIA) was undertaken for the initial capital works proposed in the Project, and to guide the preparation of subsequent ESMPs. The main potential environmental negative impacts identified were: i) Extraction of raw materials from quarry sites; ii) Increased demand on existing infrastructure and utilities in Temeke

Municipal; iii) potential flooding of upper Gerezani Creek area due to accidental blocking of water flow into the harbor during the construction period; iv) reduced berth space at Malindi Wharf impacting existing users transporting goods to Zanzibar; v) increased vehicular traffic; vi) changes in marine water quality due to the potential release of chemicals and heavy metals while dredging or backfilling; vii) marine pollution from the disposal of dredged materials in the ocean; viii) occupational risks and accidents; ix) increase in invasive species from increased shipping traffic; x) increased marine pollution from improper disposal of waste from marine vessels; xi) an increase in HIV/AIDs/STD infection rates due to the influx of construction workers; xii) accidental vessel collisions during dredging; xiii) accidental collisions of vehicles and trains within the port area; and xiv) accidental spills of oils, and other oil-based liquids.

75. The ESIA included a detailed analysis of alternatives, and specific mitigation measures for each component of the project in order to select the best option from the technical, economic, environmental and social point of view. Appropriate consultation was undertaken on the terms of reference, the draft, and the final version, consistent with the domestic legislation and the World Bank's operational policies. The approval process has been completed and NEMC issued the Environment Certificate on December 23, 2016. A number of rounds of consultations were undertaken between August 2015 and February 2016. The final version of the ESIA was disclosed at Infoshop on February 26, 2016, and in country on the TPA website on February 26, 2016. This ESIA covers the construction of the multipurpose berth at Gerezani Creek, and the rehabilitation and strengthening of Berths 1-7, with a climate resilient design. The ESIA includes the guiding principles for the preparation of separate ESMP for each subsequent project activity; including the dredging of the entrance channel and turning basin, and the rehabilitation and strengthening of berths 8-11, again all with climate resilient designs.[38] The procurement of consultants to undertake the ESIA for the Dredging of Entrance Channel and Turning Basin is at an advanced stage.

76. The TPA will be responsible for environmental and social management under the project, ensuring compliance with the national law and the Bank's safeguard policies. The TPA unit responsible for the environmental and social management is the Environment Management Section (EMS) established in 2010. The EMS has the experience and the capacity to manage the environmental aspects of the proposed project, but requires further strengthening to meet the risk associated with the increased traffic. The EMS in TPA has developed an Environmental Management System in order to implemented good environmental and social practices in the Tanzanian's ports, and to achieve international accreditation ISO 14001-2004 (in process). Additionally, the EMS has developed an Occupational Safety, Health, and Environment (OSHE) Policy in 2008; the TPA OSHE Regulations in 2010; and the TPA OSHE Guidelines and Procedures in March 2013. In order to strength the capacity building on environmental and social management, the project will support the implementation of the Environmental and Social Strengthening Plan (ESSP), prepared by the EMS within TPA. All the initiatives mentioned before should be aligned under the Green Port initiative supported by DFID. The DFID financed Green Port Study is now underway.

77. Whilst the adaptation and mitigation climate change co-benefits appear modest at this stage, the Green Port Study will identify ways in which TPA can minimize/mitigate negative

[38] The DIFD supported Green Port Study will be examining ways in which the Authority can minimize/mitigate negative impact of climate change and the environment risks in its operations and enhance the climate change and environmental opportunities in its future work.

impact of climate change and the environment risks in its operations and enhance the climate change and environmental opportunities in its future work. These will focus on exploring climate resilient and low carbon opportunities in design, planning and development of port infrastructure and investment. The recommendations will be implemented in parallel to the project.

B. Other Safeguards Policies Triggered

Safeguard Policies Triggered by the Project	Yes	No
Environmental Assessment OP/BP 4.01	Yes	
Natural Habitats OP/BP 4.04	Yes	
Forests OP/BP 4.36		No
Pest Management OP 4.09		No
Physical Cultural Resources OP/BP 4.11	Yes	
Indigenous Peoples OP/BP 4.10		No
Involuntary Resettlement OP/BP 4.12		No
Safety of Dams OP/BP 4.37		No
Projects on International Waterways OP/BP 7.50		No
Projects in Disputed Areas OP/BP 7.60		No

C. World Bank Grievance Redress

89. Communities and individuals who believe that they are adversely affected by a World Bank (WB) supported project may submit complaints to existing project-level grievance redress mechanisms or the WB's Grievance Redress Service (GRS). The GRS ensures that complaints received are promptly reviewed in order to address project-related concerns. Project affected communities and individuals may submit their complaint to the WB's independent Inspection Panel which determines whether harm occurred, or could occur, as a result of WB non-compliance with its policies and procedures. Complaints may be submitted at any time after concerns have been brought directly to the World Bank's attention, and Bank Management has been given an opportunity to respond. For information on how to submit complaints to the World Bank's corporate Grievance Redress Service (GRS), please visit http://www.worldbank.org/GRS. For information on how to submit complaints to the World Bank Inspection Panel, please visit www.inspectionpanel.org.

Annex 1: Results Framework and Monitoring

Country: Tanzania

Project Name: Dar es Salaam Maritime Gateway Project (P150496)

Results Framework

Project Development Objectives

PDO Statement

The Project Development Objective is to improve the effectiveness and efficiency of the Port of Dar es Salaam for the benefit of public and private stakeholders.

These results are at	Project Level

Project Development Objective Indicators

Indicator Name	Baseline End of 2016	Cumulative Target Values							
		YR1	YR2	YR3	YR4	YR5	YR6	YR7	End Target
Actual throughput capacity (mill tons) (Number)	15.00	15.0	16.0	17.0	18.0	22.0	25.0	25.0	25.0
Ship Waiting Time (Hours)	80.00	80.00	80.00	80.00	60.00	50.00	40.00	30.00	30.00
Berth Occupancy (Percentage)	55.00	55.00	55.00	55.00	50.00	45.00	40.00	40.00	40.00
Operational Productivity – boxes per crane hour (Number)	16.0	16.0	16.0	18.0	20.0	22.0	24.0	24.0	24.0

Vessel Turnaround Time (Hours)	80.0	80.0	80.0	75.0	75.0	70.0	65.0	60.0	60.0
TPA restructured to reflect new responsibilities (Custom)	Current Structure			New Structure Operational	New Structure Operational				New Structure Operational

Intermediate Results Indicators

		Cumulative Target Values							
Indicator Name	Baseline	YR1	YR2	YR3	YR4	YR5	YR6	YR7	End Target
Multipurpose berth constructed and operational (Percentage)	0.00	0.00	25.00	75.00	100.00	100.00	100.00	100.00	100.00
Berths 8-11 Strengthened and Deepened to -14.5m CD (Percentage)	0.00	0.00	0.00	25.00	75.00	100.00	100.00	100.00	100.00
Entrance Channel and Turning Basin Dredged to -15.5 m CD (Number)	10.00	10.00	10.00	10.00	15.50	15.50	15.50	15.50	15.5
Berths 1-7 Strengthened and Deepened to -14.5m CD (Percentage)	0.00	0.00	25.00	75.00	100.00	100.00	100.00	100.00	100.00
Port community system and terminal	Not implemented					New Systems			New Systems Operational

operating systems implemented (Custom)						implemented			

Indicator Description

Project Development Objective Indicators

Indicator Name	Description (indicator definition etc.)	Frequency	Data Source / Methodology	Responsibility for Data Collection
Actual throughput capacity	Million Tons per annum TEU	Six-Monthly	TPA Records	The definition of the indicator is standard and is based on the definition already being used by the TPA.
Ship Waiting Time	This indicator will reflect the progress in reducing the average ship waiting time at anchor for access to Dar port and the berths	Six-monthly	TPA records / validated by vessel owners	The definition of the indicator is standard and is based on the definition already being used by the TPA.
Berth Occupancy	Measure of berth utilization, split by TICTs/ TPA berths	Six monthly	TPA Records	The definition of the indicator is standard and is based on the definition already being used by the TPA.
Operational Productivity	Boxes moved per crane hour	Six-monthly	TPA/TICTS Records	The definition of the indicator is standard and is based on the definition already being used by the TPA.
Vessel Turnaround time (Hours)	Measure of operational efficiency. Baseline is average of 2015 figures for all terminals (TICTs, TPA Containers, dry bulk, break bulk, RoRo)	Six monthly	TPA Records	The definition of the indicator is standard and is based on the definition already being used by the TPA.
TPA restructured to reflect new responsibilities (Custom)	TPA restructured and strengthened to implement the landlord port management model, and establish functional business units for remaining areas of service	Six monthly	TPA Records	TPA.

	provision, and develop, manage and operate ports.			

Intermediate Results Indicators

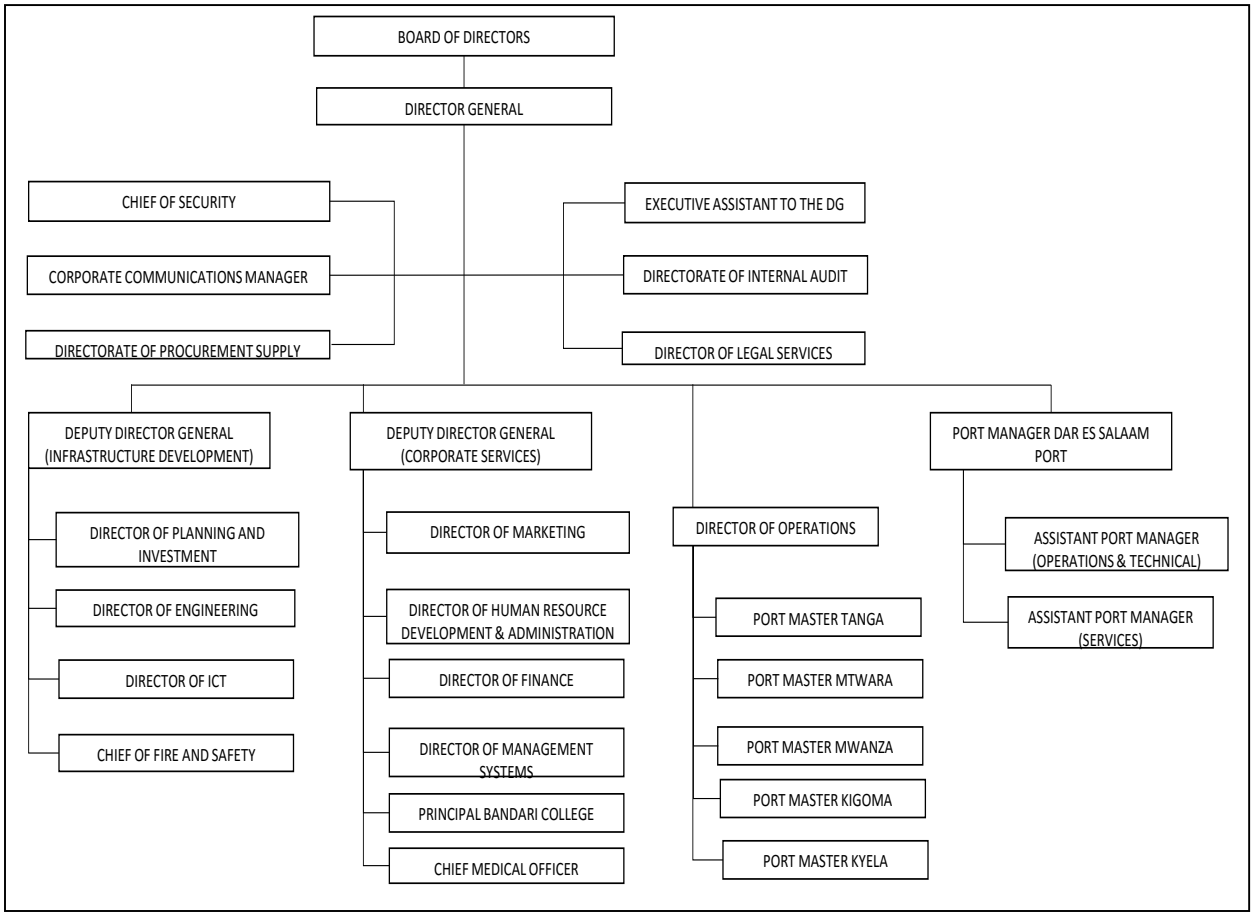
Indicator Name	Description (indicator definition etc.)	Frequency	Data Source / Methodology	Responsibility for Data Collection
Multipurpose berth constructed and operational	Percentage constructed and operational. The unit of measurement has been used to reflect that the berth will come into full operational in a gradual manner.	Six-Monthly	Supervision Consultant Reports	TPA
Berths 8-11 Strengthened and Deepened to -14.5m CD	Percentage of works completed. The unit of measurement has been used to reflect that the berths will come into full operational in a gradual manner.	Six-monthly	Supervision Consultant Reports	TPA
Entrance Channel and Turning Basin Dredged	Dredged to -15.5m CD	Six-monthly	Supervision Consultant Reports	TPA
Berths 1-7 Strengthened and Deepened to -14.5m CD	Percentage of output achieved. The unit of measurement has been used to reflect that the berths will come into full operational in a gradual manner, reflecting the phased approach.	Six-Monthly	Supervision Consultant Reports	TPA
Port Community System and Terminal Operating Systems implemented	A key part of the restructuring is the introduction of an effective port community system, and terminal operating systems for each TPA operated berth.	Six-Monthly	TPA	TPA.

Annex 2: Detailed Project Description

Tanzania: Dar es Salaam Maritime Gateway Project (P150496)

The Institutional Infrastructure

1. ***Tanzania commenced the reform of the maritime sector, with the passage of the Port Act No. 17 of 2004, and the establishment of the TPA as a landlord and port operator***. TPA's responsibilities include all sea ports on the mainland coast of Tanzania, as well as all the ports within Tanzania's inland waters [Lakes Victoria, Tanganyika and Nyasa]. Under the law, TPA was established as a Parastatal, operating under a Board of Directors, and reporting to the Ministry of Transport, with the mandate to act as the 'landlord' and, where necessary, the service provider in the ports under its control. TPA is headed by a Director General (DG), who oversees the management of the authority and reports to the Board of Directors. TPA's current organizational structure consists of five directorates, which report to the DG: Security, Corporate



Communications, Legal Services, Procurement, and Internal Audit, and four divisions: Infrastructure Development, Corporate Services, Port Operations (for all ports except Dar port) and Dar es Salaam port, the latter headed by the Port Manager. As at March 31, 2016, TPA employed 3,691 permanent staff, of which 2,793 are male and 898 are female. The majority of

these, 2,428 are employed in Dar es Salaam port, with a further 389 staff in TPA headquarters. An organogram of TPA is provided below (as at June 30, 2014).

2. ***Under the 'landlord' port management model, the port authority is, in broad terms, the owner, developer and maintainer of the port infrastructure, which is concessioned to specialist operators under a long term type of lease contract***. The traditional public service port[39] is responsible for all aspects of port management and operation including: (i) port administration; (ii) nautical management; (iii) nautical infrastructure; (iv) port infrastructure; (v) superstructure (equipment); (vi) superstructure (buildings); (vii) cargo handling activities; (viii) pilotage; (ix) mooring services; (x) towing; and (xi) other services. By contrast, a 'landlord port authority' would only be fully responsible for the first four elements. Cargo handling would be executed by specialist private companies leasing land from the Port Authority, and the former would provide the superstructure. In the many landlord ports, marine services such as towage, pilotage and/or mooring and unmooring services are also concessioned to private operators. There are good reasons why many ports in the world have adopted the 'landlord' model: (i) Cargo handling is a specialized activity and requires large investment; (ii) the specialized providers are more efficient; (iii) it leads to lower costs; and (iv) there is increasing demand in the market for greater horizontal integration in the logistical chain, meaning ports who fail to reform could be left behind.

3. ***The DSMGP will provide technical assistance to support the restructuring of TPA to reflect the twin objectives of corporatization of functional business units within TPA, and enhancing TPA's capacity to act as a landlord, develop, manage and operate ports, and assess future private sector participation.*** Currently, TPA operates all the lake ports, and the all the maritime ports, with the exception of Dar es Salaam, as public service ports. In Dar es Salaam port which accounts for approximately 95 percent of all traffic handled, TPA currently acts partially as a landlord, having concessioned Berths 8-11 to a private operator, and partially as a public service port, operating all the remaining berths and other functions as a public provider. The proposed reform will have two aspects: (i) the commercialization of the remaining berths so that they operate as self-standing functional business units under TPA; and (ii) the restructuring of port operations in Dar es Salaam port and in TPA Headquarters to reflect these changes, with capacity building to support the changed functions.

4. ***Efficient Ports and modern shipping today cannot operate effectively without comprehensive Management Information Systems***. These include Automatic Identification Systems (AIS), Vessel Traffic Management System (VTMS) and Port Operating Systems (POS). Such systems, when combined with a Port Community System acting as the hub, are able to offer a wide range of advantages to the transport sector in the country and the region by improving the efficiency and productivity of port operations. The benefits of these improvements pass not only to port operators but also to port customers including shipping lines, freight forwarders, and shipping agents. At the national level, the entire Port community and those who depend on it can benefit from the provision of an enhanced and economic logistic chain for international shipping. Port Community systems, at the national level, can provide logistic chains, which improve the coordination and cooperation of land transport, maritime transport and the ports operations in the region. By linking all members of the port community, the network system is of benefit to TRA, police, Immigration, MoWTC, and many others. At the regional level, a comprehensive

[39] World Bank (2007) *Port Reform Toolkit*, Second Edition.

Port/Terminal IT System will maintain data on ship arrivals, cargo quantity and nature, channel maintenance, customs, and other vital information that in an electronic format that can be exchanged with other ports (including port users and authorities) in the region. This exchange of data will make direct cooperation between ports and land transport more efficient and professional, and will also be a method for promoting further cooperation in the entire transport sector. For TPA, the benefit from implementing a modern, comprehensive, and integrated Port/Terminal IT System will result in less paperwork, less time and effort spent, better decision-making, reduction of unnecessary cost, increase of productivity, less error and redundancy, and an increase in overall satisfaction for the port's stakeholders.

5. ***Strengthening the capacity of TPA in terms of environmental management***. In parallel to the modernization and expansion of the operations of the port of Dar es Salaam, TPA wish to ensure that all improvements are climate-smart and consistent with the aspiration to become a 'green port.' Whilst it appears that the port may not be at direct risk from sea level rise brought about by global warming, changes in sediment flow outside the port (reducing channel depth), and increasingly frequent extreme run-off events on the landside (again increasing sediment flows) may present challenges to port operations. In addition, the movement to larger vessels increases the risk and the challenge presented in responding to incidents (collision, spillage etc.) within the port area. TPA wish to both strengthen the capacity of their Environmental Management Systems, but also investigate the potential of other green practices for the port. For instance, the efficiency of time spent at the outer anchorage as well as the speed of approach to berths, as those have impacts on the fuel bill, carbon and other particulate emissions. Standards and practices relating to air pollution and energy, waste and water management of both port operations and client shipping can also be defined/ improved to increase environmental resilience; more broadly, climate proofing measures should be assessed for value for money. The UK DFID are providing support in parallel for the development of a Green Port Policy for Dar es Salaam, including recommendations for climate smart improvements. The policy and plan will stipulate ways in which the Authority can minimize/mitigate negative impact of climate change and the environment risks in its operations and enhance the climate change and environmental opportunities in its future work. The implementation of the recommendations of this plan will be supported by the DSMGP.

6. ***Improving Gate Management***. Many seaports are facing serious congestion both at gate and in yard due to a large number of trucks arriving at terminal during peak periods. Meanwhile, serious congestion leads to longer truck waiting time, higher air pollution and lower terminal operation efficiency. Therefore, how to decrease the truck turnaround time in the terminal is an important issue for terminal operator, truck fleet and government regulators. In response to heavy congestion, some international ports have implemented a truck appointment system. Using this system, a port or terminal operator limits the maximum number of appointments during each period. Truckers can make reservations during the period they prefer, and until that point is reached, they are directed to truck holding areas away from the port. When the appointment time is reached, or the consignment is awaiting collection, the truck is directed to the port and provided with a port pass. The DSMGP will provide support to strengthen TPA's gate management system.

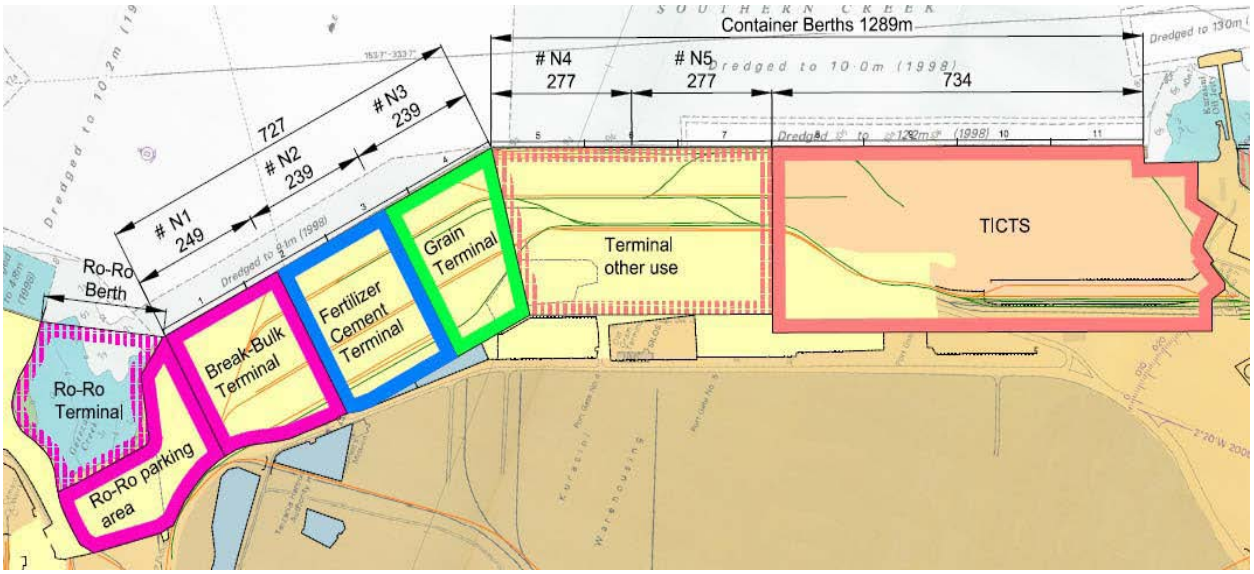
The Physical Infrastructure.

7. The port of Dar es Salaam is situated at Latitude 6.49 South; Longitude 39.19 East. It is the largest of a series of ports developed along the mainland coast of Tanzania and is constructed along a narrow strip of land on the western side of Dar es Salaam harbor. It is currently equipped

with eleven berths, seven of which (berths 1-7 with a length of 1,280m) are currently dedicated to general cargo (including container, dry bulk, break bulk and RoRo operations) and four to dedicated container operations (berths 8-11 with a length of 720m). The design depth for the berths was 12.2m below chart datum (CD) at berth 7. Other facilities include the Malindi and lighter wharves (for coastal trades), the Kurasini Oil Jetties (KOJ), and the Single Point Mooring (SPM).

8. The port was designed to handle Panamax size vessels although the length of vessels is currently restricted to 230m LOA (Length Overall), and there are further restrictions in the turning circle and access channel due to the accumulation of sediments. KOJ is designed for tankers up-to 45,000 Deadweight Tons (DWT) and the SPM, developed outside the port at Mjimwema Bay, for tankers up-to 120,000 DWT. The channel was deepened and straightened in 1997 to a minimum depth of 10.1 meters relative to Chart Datum (CD). The depth within the southern creek (fronting berths 1-11) has been dredged to 10.0m CD, but in places is less than that now, reflecting an accumulation of sediments. If the access channel and turning circle are to be dredged to a nominal water depth of -15.5 m CD to allow unrestricted access of Panamax vessels, it is estimated that between 10,000,000 m^3 and 13,000,000 m^3 of spoil will need dredging from the access channel, and approximately between 270,000 m^3 and 340,000 m^3 from the berths.

9. The first deep water berths (Berths 1-3 – see following figure) were built in 1953-56. They are block wall constructions and provided with an apron with a width of about 30 meters. Berths 4-11 were constructed in the 1970's. These berths are of open piled construction with a suspended deck of approximately 33 meters wide. In order to maintain the serviceability of the quay wall the following parts will require measures of rehabilitation: (i) Due to cracks of concrete in the pavement, parts of the slab have to be replaced in accordance with best practice; (ii) Where duct covers are missing or where the existing covers are not in an appropriate condition new concrete or steel duct covers needs to be installed; (iii) Some of the fenders and ladders are severely damaged and need to be replaced; and (iv) Damage has been detected at the foundation piles at Berth 4. Common rehabilitation measures are the removal of concrete affected by chlorides, cleaning and coating of reinforcement and replacement of corroded concrete with a climate resilient design. The proposed solution for deepening Berths 1 to 7 generally consist of a suspended deck slab founded on vertical and raked reinforced concrete piles in front of the existing structures. Depending on future cargo handling operations, this includes an option to expand the quay apron seawards up to approximately 11.50 m (or more, if required). Whilst Berths 8-11 are provided with a double row of foundation piles along the cope edge to support ship shore gantry cranes, the proposed procurement of larger cranes, and to ensure continuity of quay, a similar intervention will be required for Berths 8-11.



10. Within the general cargo terminal (Berths 1-7) sheds, open stacking areas and similar facilities are developed on the immediate backshore adjacent to the berths. The exception to the above is the grain silo, which is developed adjacent to Bandari Road overlooking the port. The General Cargo Terminal occupies approximately 50 hectares of land with a total of 1,283 meters of quay (over seven berths). Paved open storage space behind the quays measures approximately 72,400 square meters and is mainly used for the storage of containers and vehicles. But space is at a premium throughout the port, and improved use of the existing space, and extending the space available, were central to the BRN proposals. In order to create more space, a new multipurpose berth is to be constructed by backfilling Gerezani Creek with suitable material. The new berth and storage space will cover an area 93,000 m² and will partly incorporate Malindi Wharf. The most appropriate solution for the quay is considered to be a pile structure with a suspended deck slab similar to that proposed for Berths 1 to 7.

11. Besides the warehouses on Malindi Wharf (fronting the city and used for coastal trades, including passengers embarking on the Zanzibar ferries), the port has seven transit sheds. These are located immediately adjacent to the apron and are designed for short-term storage and act as a general and break-bulk cargo consolidation area for the different loading and unloading requirements of ships and land transport. Long term covered storage space is provided by three additional sheds, including: the 10 day cargo shed at the back of berth 7, and the mid port and back port sheds on berth 3. These sheds are currently being removed with the support of TMEA to improve the spatial efficiency of the port. A grain terminal with a capacity of 30,000 tons is located in the back port area, adjacent to Bandari Road. There is an existing silo at the port but experiences many operational problems including; (i) silo cells are not clean; (ii) there is dust settlement all over the plant; (iii) dust filters do not operate properly; (iv) coupling of elevator 14-R7 is damaged; and (v) there are frequent power cuts. In addition, the holding capacity of 30,000 tons grain is too small for prospective Panamax bulk carriers of up to 70,000 tons deadweight capacity. The silo capacity is also too small for the bulk carriers with a combined discharge capacity of 500 tons per hour. TPA are investigating the introduction of high-capacity grab unloaders with a nominal capacity of 1,200 tons per hour each will require increased capacity to be provided.

12. In 1988, Berths 9 to 11 were converted for dedicated container terminal use on an area of approximately 18 hectares. Of this, about 12 hectares was developed as a container-stacking yard using rubber-tyred gantries (RTG). In 1999, the Government of Tanzania approved a reform strategy to involve the private sector in operational aspects of the port. In May 2000, the Tanzania International Container Terminal Services (TICTS) consortium was assigned a 10-year concession to manage the container terminal. In September 2005, the Government of Tanzania extended the concession period to 2025 and instructed that Berth 8 and the Ubungo ICD be handed over to TICTS. Incorporation of Berth no. 8 and the adjacent back-port area has increased the area of the container terminal by 5.5 hectares (bringing the total area to over 23.5 hectares). This area has been redeveloped for dedicated container yard operations, but the growth in traffic means that space remains at a premium.

13. All rail infrastructure in the port is owned and maintained by the Tanzania Ports Authority and consists of a combination of 1,000mm gauge (RAHCO network) and 1,067mm gauge (TAZARA network). Except for the rail transfer terminal at the TICTS terminal, there are no dedicated areas for rail cargo handling within the port. The rail network was designed to allow railway wagons to be shunted along the quay when the slow rate and small scale of general cargo operations allowed a high percentage of direct delivery to rail transport. Currently, the rail lines do not allow a looping of trains, and sometimes requires a breaking of the trains to meet length restrictions. The project proposes to support the construction of a rail looping system, and upgrading and leveling of the rail facility in the TICTS terminal to facilitate faster loading and unloading and prompt access and egress.

The Specific Components

14. The components are entirely consistent with the objectives of the Government of Tanzania, to address spatial, operational, and physical constraints in the port of Dar es Salaam, as outlined above:

15. **Component 1: Improving the Physical Infrastructure (Estimated cost US$ 400 million)**. The first component comprises the essential civil works in the port, and the key access infrastructure:

(i) Deepening and strengthening of existing Berths 1 to 7, to 14.5 m below Chart Datum (CD), and constructing a new multipurpose berth at Gerezani Creek;
(ii) Deepening and widening the entrance channel and turning basin in the port to the end of Berth 11, to 15.5 m below Chart Datum (CD);
(iii) Improving the rail linkages and platform in the port; and
(iv) Deepening and strengthening of existing Berths 8-11, to 14.5 m below Chart Datum (CD).

16. **Component 2: Institutional Strengthening and Implementation Assistance (Estimated cost US$21 million)**. The final component comprises the following two sub-components:

(i) ***The Institutional Strengthening of TPA***

(a) Technical assistance to support the restructuring of TPA to reflect the twin objectives of corporatization of functional business units under TPA for those berths where TPA will remain the operator, whilst enhancing TPA's capacity to act as a landlord, manager and developer of the ports in Tanzania; and assess future private sector participation;
(b) Capacity building/training for TPA staff to take on the above responsibilities, as a result of the restructuring, including *inter alia* necessary support to implement the Environmental and Social Strengthening Plan (ESSP) and obtain the ISO 14001 Certificate, and building capacity and awareness of climate resilience; and
(c) Procurement of management information systems, Terminal Operating Systems for those berths where TPA will remain the operator, and a Port Community System for Dar es Salaam port. [40]

(ii) ***Implementation Assistance***

(a) Supervision of construction and dredging works in the port;
(b) Technical Assistance, as required, to the TPA PIT to implement the project (including TAs for supervision of implementation of cost accounting manual);
(c) Independent technical auditor; and
(d) Technical Assistance to update the National Port Master-plan to guide the strategic development of the maritime sector and its hinterland in Tanzania.

17. The breakdown of responsibility for cost coverage is IDA 82 percent, DFID 2.95 percent, and the Borrower the remaining 15.05 percent.

[40] The GoT has reserved the right to fund this sub-component from their own resources, but retains the option of using project funds should they so desire.

Annex 3: Implementation Arrangements

Tanzania: Dar es Salaam Maritime Gateway Project (P150496)

Project Institutional and Implementation Arrangements

1. The project will be implemented by a dedicated Project Implementation Team (PIT) of full-time employees of TPA, supported by TPA management and the Board of Directors of TPA. The PIT will comprise a senior Project Manager/Director, a Financial Management Specialist, two Procurement Specialists, an Environmental Specialist, a senior Port Engineer, a Financial Analyst, and necessary support staff.[41]

2. Whilst TPA has some earlier experience in implementing World Bank financed projects, it was some time ago.[42] TPA does have more recent experience in projects financed by other development partners.[43] However, existing capacities within TPA will be challenged by a project of this scale. Accordingly, the TPA PIT are being supported by additional expertise in the form of procurement support by individual consultants, and technical support from a firm of maritime engineering consultants, which commenced its assignment on October 20, 2015. The latter are currently providing a Maritime Engineer, a Contracts Manager, and an additional Procurement Specialist. TPA also has the option to draw down additional expertise as and when necessary in a diverse range of areas, including *inter alia* a Marine Engineer, Marine Hydrologist etc.

3. Whilst TPA staff are familiar with the Bank's policies and guidelines, they were judged to require support to handle the increased number of activities, particularly the necessary preparation, procurement and implementation oversight, associated with the proposed project. There are acknowledged weaknesses in procurement, financial management, safeguards management, and project management more generally. In addition, while there is an existing concession in the port for Berths 8-11, TPA's current management and staff have limited experience in preparing transactions involving private finance, particularly given recent changes in the PPP law. Capacity building will be provided to raise competence of these issues in the project.

Financial Management, Disbursements, and Procurement

Financial Management (FM)

4. The FM assessment was undertaken in accordance with the Bank Directive: Financial Management Manual for World Bank Investment Project Financing Operations issued February 4, 2015 and effective from March 1, 2010; and the Bank Guidance: Financial Management in World Bank Investment Project Financing Operations Issued and Effective February 24, 2015. The assessment indicates that there are adequate financial management arrangements at TPA to manage the project finances. The conclusion of the assessment indicates that the risk rating is substantial and the residual risk is **moderate**.

[41] The key members of the PIT were confirmed to the Bank by letter dated March 27 2017.
[42] The Port Modernization Project (IDA Credit 20950) that closed in 2000, although TPA did implement a component in the EATTFP in 2006 (IDA Credit 41490).
[43] Such as the ongoing activities financed by TMEA.

5. ***Budgeting Arrangements*****:** Preparation of the Annual Work Plans and Budgets (AWPB) will be participatory and based on the Medium Term Expenditure Framework (MTEF). TPA produces quarterly financial management accounts with variance analysis that are discussed at the senior management level. Any changes to the original budget must be approved by the Board of Directors. The TPA will prepare the consolidated AWPB for the project, and will be responsible for producing variance analysis reports comparing planned to actual expenditures on quarterly bases. The periodic variance analysis will enable the timely identification of deviations from the budget. In this regard the budgeting arrangements are considered adequate.

6. ***Accounting Arrangements*****:** The project shall maintain adequate financial records in accordance with accepted international accounting standards and practices and in accordance to Public Financial Act 2004 and its and guidelines. The project shall maintain adequate financial records in accordance with accepted international accounting standards and practices as laid out in the Financial Regulations. The regulations describe the accounting system, policies and procedures i.e. the accounting records, supporting documents, computer files, chart of accounts; the accounting processes from the initiation of a transaction to its inclusion in the financial statements; authorization procedures for transactions; the financial reporting process used to prepare the financial statements. It was however noted that this manual is out dated as it was last updated in 1986. There is need to urgently revise the manual.

7. ***Information Systems*****.** TPA uses an old accounting system - COBOL language based software that requires a lot of manual interventions. Individual transactions are batched, processed, returned to the originators for checking and subsequently posted. This system is only able to produce trial balances and individual ports run the same software but on a standalone basis. As a result, trial balances from the different ports are manually consolidated and the financial statements are also manually prepared. The chart of accounts is comprehensive and expandable to accommodate different user requirements. TPA assessed the Government's preferred Epicor accounting software and found it not suitable for its operations and procured the Systems, Applications & Products implementation (SAP) software package, which became operational on July 1, 2016. SAP will be used to maintain the projects accounts and capable also of producing interim financial reports in the prescribed format.

8. ***Staffing Arrangements.*** TPA Headquarters Finance Department has a total of 39 staff members and is headed by the Director of Finance, who is a qualified CPA and also hold a MBA. The Project Finance Manager is also a holder of both CPA (T) and MBA and is supported by two assistant accountants. In the recent past, TPA has only implemented a component in one project, the East Africa Trade and Transport Facilitation Project,[44] TPA therefore has limited experience in managing the WBs projects. Therefore, it is recommended that accounting staff are trained on the Bank's financial management and disbursement procedures prior to the effectiveness date.

9. ***Internal Control Arrangements***: Internal controls comprise of processes and practices designed to provide reasonable assurance to management (and other stakeholders) that operations are carried out effectively, efficiently and in compliance with laws and regulations. Internal control systems of TPA identified satisfactory levels of segregation of duties and controls. The internal control systems are documented in the Financial Regulations that describes the accounting

[44] IDA Credit 41490.

system i.e. the accounting records, supporting documents, computer files, chart of accounts; the accounting processes from the initiation of a transaction to its inclusion in the financial statements; authorization procedures for transactions; the financial reporting process used to prepare the financial statements. It was however noted that this manual was last updated in 1986. This manual needs to urgently be revised. A review of the internal control system revealed that there are adequate internal controls in place which can be relied upon to manage funds of this project.

10. ***Internal Audit*:** TPA's Headquarters internal audit function has a staff compliment of 12. The Director of Internal Audit is a qualified CPA and also holds a post graduate diploma in accountancy. The internal audit uses risk based audit approach to carry out its work. The audit department prepares annual audit strategy and work-plan. A manual is in place to guide the work of internal auditors. As TPA has not recently implemented a Bank project, it is recommended that several of the internal audit team members also attend the Bank's financial management and disbursement training program. However, the unit does not have the capacity to carry out specialized audits such as procurement, contracts and technical audits. There will be a need to build capacity of the internal audit function to enable them carry out full range internal audit function.

11. ***Funds Flow***. The project will maintain two sets of bank accounts: (a) a US$ Designated Account (DA); and (b) a Tanzania Shilling (TZS) project account for the purposes of implementing the project. The DA and project account will be opened at the BoT. Transfers from IDA and other participating DPs will be made into the Designated Account from where US$ payments will be made. Transfers will also be made from the DA to the project account primarily to meet transactions in TZS. GoT will also channel its contribution through the project account. The DA and project account will be opened after the signing of the project but before it becomes effective.

12. ***Disbursements.*** The report based disbursement method will be used by TPA for Bank funded projects. Disbursements will be made quarterly based on a six month cash flow forecast supported by a work plan that is agreed between TPA and the Bank (IDA) Task Team Leader. Other methods of disbursement that can be used by the project include direct payments to a third party for works, goods and services upon the TPA's request; special commitments e.g. letters of credit; and reimbursements to TPA for expenditures incurred under the project. Further details about disbursements to the project will be included in the disbursement letter as well as the disbursement guidelines. If ineligible expenditures are found to have been made from the Designated Account, TPA will be obligated to refund the same. If the Designated Account remains inactive for more than six months, TPA may be requested to refund to IDA amounts advanced to the Designated Account. IDA will have the right, as reflected in the Financing Agreement, to suspend disbursement of the funds if reporting requirements are not complied with. The Bank will conduct disbursement training for TPA staff on a need basis based on their performance and/or when new staff are recruited. An advance will be made into a USD Designated account immediately after credit effectiveness. The TPA should submit the initial withdrawal application request together with six month cash forecast after the Financing Agreement has been signed. For subsequent withdrawals, the TPA should submit withdrawal applications to the World Bank, along with the IFRs for the quarter ended, the Designated Account Activity Statement, and Summary

Designated Account Statements of Expenditures for Contracts subject to Prior Review and Expenditures not subject to Prior Review.

13. ***Financial Reporting Arrangements***: The quarterly Interim Financial Reports (IFRs) will be prepared at the end of each quarter and submitted to the Bank not later than 45 days after the end of the quarter. The format and content of the IFRs will be discussed and agreed with the government. The IFRs will include Sources and Uses of Funds Statement, Uses of Funds by Project Activity/Component, Designated Account Activity Statement and Physical Progress (Output Monitoring) Report.

14. To support the continued use of report-based disbursement TPA will be required to submit:

- Interim Financial Report (IFR).
- Designated Account (DA) Activity Statement.
- DA and Project bank account statements.
- Bank reconciliations for both the DA and project bank account
- Summary Statement of DA Expenditures for Contracts subject to Prior Review.
- Summary Statement of DA Expenditures for contracts not subject to Prior Review.

15. The financial statements will be prepared in accordance with International Financial Reporting Standards (IFRS). The IDA Credit Agreement will require the submission of audited financial statements to the Bank within six months after the financial year end. These Financial Statements will comprise of:

- A **Statement of Sources and Uses of Funds / Cash Receipts and Payments** which recognizes all cash receipts, cash payments and cash balances controlled by the entity; and separately identifies payments by third parties on behalf of the entity.
- A **Statement of Affairs/ Balance Sheet** as at the end of the financial year showing all the assets and liabilities of the project.
- The **Accounting Policies Adopted and Explanatory Notes.** The explanatory notes should be presented in a systematic manner with items on the Statement of Cash Receipts and Payments being cross referenced to any related information in the notes. Examples of this information include a summary of fixed assets by category of assets, and a summary of SOE Withdrawal Schedule, listing individual withdrawal applications; and
- A **Management Assertion** that Bank funds have been expended in accordance with the intended purposes as specified in the relevant World Bank legal agreement.

16. Indicative formats of these statements will be developed in accordance with IDA requirements and agreed with the Bank Financial Management Specialist.

17. ***External Audit Arrangements***: The Controller and Auditor General (CAG) is primarily responsible for auditing of all Ministries, Departments and agencies (MDAs). This project will be audited by the CAG. In some cases, at the discretion of the CAG, the audit may be outsourced to a CPA firm, with the final report being issued by the Auditor General, based on the tests carried out by the CPA firm. The audit firms to be outsourced should be among those that are acceptable to IDA. In case the audit is subcontracted to a firm of private auditors, IDA funding may be used to pay the cost of the audit. The audits will be done in accordance with International Standards on Auditing. The external audit terms of reference were agreed at negotiations. Furthermore, the

National Audit Office (NAO) will need to be informed of this new project. The audit report together with the management letter will be submitted to the Bank no later than six months after the end of the financial year. The project is required to disclose the audited financial statements in a manner acceptable to the Bank. Following the Bank's formal receipt of the audit report from the project, the World Bank will make them available to the public in accordance with *The World Bank Policy on Access to Information*.

18. ***Governance and Anticorruption Arrangements***- TPA has a board of directors that oversees the operations of the authority. The process for appointing and removing the directors is sound. The accounts of the authority are subject to external audit by the Controller and Auditor General of the United Republic of Tanzania. The Authority has also developed a website http://www.tanzaniaports.com which is up and running. Relevant information such as reports, guidelines, ports handbook, statistics, tariffs etc are posted on the website. Toll free numbers are also posted on the website. TPA has a complaints handling mechanism that was assessed and found to be in need of strengthening. There is need for TPA to strengthen the current arrangements of handling complaints. This will be done by use of hot lines, dedicated email accounts, easily accessible complaints desks and suggestion boxes are proposed for reporting any form of corruption or fraudulent activities. An effective system of complaint handling, with transparent investigation and reporting of the results will also be established. Technical audits will be carried out in addition to financial audits. Also citizen participation will be encouraged as it is key to the project. A separate GAC action plan for the project has been developed.

19. ***Implementation and Support Arrangements***: A financial management implementation support mission will be conducted at least twice every year based on the current residual risk rating of the project. This will also include regular review of IFRs and annual audit reports. The mission objective will be to ensure that strong financial management systems are maintained throughout the duration of the project. The Implementation Status and Results Report (ISR) will include a financial management rating, provided by the Country Financial Management Specialist after an appropriate review.

Procurement

20. All procurement will be undertaken in accordance with the following Guidelines of the World Bank: "Procurement of Goods, Works and Non Consulting Services under IBRD Loans and IDA Credits and Grants by World Bank Borrowers" dated January 2011, Revised July 2014 (Procurement Guidelines); "Guidelines: Selection and Employment of Consultants under IBRD Loans and IDA Credits and Grants by World Bank Borrowers" dated January 2011, Revised July 2014 (Consultant Guidelines); "Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants", dated October 15, 2006 and revised in January 2011; and the provisions stipulated in the Loan Agreement. For each contract to be financed by the Loan, the different procurement or consultant selection methods, the need for pre-qualification, estimated costs, prior review requirements and time frames will be agreed between the Borrower and the Bank in the Procurement Plan. The Procurement Plan was approved by the Bank on February 23, 2017. The Procurement Plan will be updated at least every 12 months, or as required, to reflect the actual project implementation needs but shall require Bank's approval with each update. As a Bank-wide requirement for all recipient executed Projects, the Project Procurement Plan will be required to be in in STEP (Systematic Tracking of Exchanges in

Procurement). All procurement plans will be automatically published upon approval in STEP, in accordance with the Bank's disclosure policy.

21. The Bank's Standard Bidding Documents shall be used for procurement of goods, works, and non-consulting services under International Competitive Bidding (ICB). Similarly, selection of consultant firms shall use Bank's Standard Request for Proposal, in line with procedures described in the Consultant Guidelines. The Borrower is required to prepare and submit to the Bank a General Procurement Notice. The Bank will arrange for its publication in *UN Development Business online (UNDB online)* and on the Bank's external website. Specific Procurement Notices for all procurement under ICB and Requests for Expressions of Interest for all consultancies estimated to cost not less than US$300,000 shall be published in at least one newspaper of national circulation in the Borrower's country, or in the official gazette, or on a widely used website or electronic portal with free national and international access, and in *UNDB online.*

22. Public procurement in Tanzania is governed by the Public Procurement Act No. 7 of 2011 with amendments made in July 7, 2016. The amendments were registered as Act No. 5 of 2016. The associated Regulations was published as Government Notice GN 333 of 30th December 2016. Under the amended Act, the procurement functions remain decentralized to procuring entities with the Public Procurement Regulatory Authority (PPRA) continuing to provide oversight functions for public procurement. In addition, the 2011 Act had already enhanced the definition of fraud and corruption in broader terms by including definitions of coercive practices, collusive practices, and obstructive practices that were missing in the PPA 2004 and remain the same for PPA 2016. Furthermore, the 2011 Act gave powers to PPRA to blacklist and debar a bidder who has been debarred by international organizations, such as the World Bank, in cases related or unrelated to fraud and corruption for such period as is debarred by the international organization plus a further period of ten years (for fraud and corruption cases) or five years (for non-fraud and corruption cases).

23. The Act No.5 of 2016 has been reviewed by the World Bank and found to be satisfactory to a large extent, except for the provisions of Clause 55C of the Act, which permits application of national preference in bid evaluation under NCB. Thus, there will be no preference accorded to domestic suppliers and contractors under NCB for goods, non-consulting services, and works in this project. Furthermore, in accordance with paragraph 1.16(e) of the Procurement Guidelines, each bidding document and contract financed out of the proceeds of the credit shall provide that: (a) the bidders, suppliers, contractors and subcontractors shall permit the Bank, at its request, to inspect their accounts and records relating to the bid submission and performance of the contract, and to have said accounts and records audited by auditors appointed by the Bank; and (b) the deliberate and material violation by the bidder, supplier, contractor or subcontractor of such provision may amount to an obstructive practice as defined in paragraph 1.16(a)(v) of the Procurement Guidelines.

24. ***Details of goods, works, non-consulting and consultants' services*** expected for the first 18 months of the project are detailed below under "Details of the Procurement Arrangements involving international competition." The Procurement Plan covering at least the first 18 months of project implementation has been prepared and agreed with the Bank.

25. ***Training and Workshops*:** The Project will finance training and workshops, if required, based on an annual training plan and budget which shall be submitted to the Bank for its prior review and approval. The annual training plan will identify, inter alia: (i) the training envisaged; (ii) the justification for the training, (iii) the personnel to be trained; (iv) the duration for such training; and (v) the estimated cost of the training. At the time of the actual training, the request shall be submitted to the Bank for review and approval. Upon completion of the training, the trainees shall be required to prepare and submit a report on the training received.

26. TPA will be responsible for all procurement activities and contract management activities. TPA has a Directorate of Procurement and Supply (DPS) headed by a Director who reports directly to the Director General. The DPS has a new structure, which was approved in May 2015 with over 40 staff responsible for Procurement and Inventory Management. The new structure has a new unit dedicated for Contract Management and Compliance. The Bank carried out a procurement assessment on September 16, 2015 followed by an update in March 2017. It was noted that TPA has implemented the recommendations made by PPRA in an assessment carried out in 2014 but some weaknesses still exist.

27. TPA initially designated one Procurement Officer dedicated to work on Development Partner funded activities, including this World Bank funded Project. Due to the workload, a Procurement Specialist (Consultant) was hired, with support from Trade Mark East Africa (TMEA), on an initial two-year period (from May 2015) to assist this officer. This contract was recently extended for a further term. This Consultant has experience with procurement using Bank's procurement procedures. However, capacity within TPA in undertaking procurement under World Bank procurement procedures is limited currently. TPA committed to maintain appropriate procurement capacity for the duration of the project.

28. Record management for TPA has not changed generally. However, it was noted that there is an acceptable system of record management specifically created for the project, following recommendations made in September 2015. Further strengthening is required in the following areas to improve procurement management: (i) quality of BOQs, TORs and technical specifications and terms of reference from user departments; (ii) equipment for the procurement personnel to effectively carry out their duties; (iii) clearance of draft contracts by the legal unit; and (iv) contract management.

29. The Project procurement risk was assessed as "High" with a reduced residual "Moderate" risk, taking into consideration mitigation measures put in place. Actions proposed to mitigate the procurement risk include: (a) continued service of a procurement specialist (consultant) with qualifications acceptable to IDA for duration of the project to not only support implementation of the Project activities, but also carry out capacity building for the TPA DPS; (b) DPS to assign at least two more procurement/supplies officers to work full time with the consultant; (c) the TPA staff assigned to the Project to receive training in processing procurement under World Bank procedures in order to improve their capacity for capacity sustainability after the project closes; (d) provision of necessary equipment for procurement staff; (e) capacity building of user department staff in preparation of good quality BoQs, ToRs and technical specifications and (f) capacity building in contract management

Table 3: Procurement Risks and Mitigation Measures

Risk	Action	Timeframe	Responsibility
Lack of experience in handling procurement using World Bank procedures	a) Continued service (contract extension) of the procurement specialist (consultant) with qualifications acceptable to IDA for duration of the project. If the contract of current qualified specialist cannot be extended, then another one with equal better experience must be engaged b) TPA procurement officer who has been on this Project should continue working on the Project	Confirmed	TPA
Heavy workload for the staff assigned to carry out procurement under the Project	Assign at least one more TPA procurement officer to work full time on the Project	Confirmed	TPA
Procurement staff have inadequate experience on World Bank procurement procedures and processes.	(a) Assigned procurement staff to be trained in World Bank procurement procedures and processes by the experienced procurement consultant. (b) Staff should be sent for scheduled training to empower them to widen their knowledge base in procurement of goods, works and consultancy services (GWC) using World Bank procedures.	During implementation of the project	TPA
Delays in adjudication / approval of tender documents by Tender-Board and draft contracts by internal legal unit	Validate mechanisms to improve timely approval by Tender Board and internal legal units	During implementation of the project.	TPA
Lack of equipment for staff to work effectively	Procure necessary equipment (computers, scanners, photocopiers, etc.)	By effectiveness	TPA
Delays in preparation and poor quality technical specifications and terms of reference by user departments	Capacity building of user department staff in preparation of good quality technical specifications and terms of reference	During implementation of the project.	TPA
Weak Contract Management	Capacity building in contract management	During implementation of the project.	TPA
Compliance with Environment, Social, Health and Safety (ESHS)	Training staff on using procurement to drive ESHS performance; engagement on ESHS Requirements with Contractors and Construction Supervision Engineers	During implementation of the project	TPA/WB

30. **Frequency of Procurement Implementation Support:** In addition to the prior review implementation support to be carried out from Bank offices, one implementation support mission every six months to visit the field to carry out post review of procurement actions is recommended.

Details of the Procurement Arrangements Involving International Competitive Bidding and Other Methods:
Table 4: Thresholds for Procurement/Selection Methods and Prior Review:

A. Goods, Works and Non-Consulting Services				
Category	**Prior Review (US$ millions)**	**Procurement Approaches and Methods (US$ millions)**		
		Open International	**Open National**	**Request for Quotation (RfQ)**
Works	**≥ 5**	**≥ 15.0**	**< 15**	**≤ 0.2**
Goods, IT, and non-consulting services	**≥ 1.5**	**≥ 5**	**< 5**	**≤ 0.1**
B. Consulting Services				
Category	**Prior Review (US$ millions)**	**Short List of National Consultants (US$ million)**		
		Consulting Services	**Engineering and Construction Supervision**	
Consultants (Firms)	**≥ 0.5**	**≤ 0.3**	**≤ 0.3**	
Individual Consultants	**≥ 0.2**	**NA.**	**NA.**	

Terms of Reference: Terms of Reference for all contracts shall be cleared by the Bank, regardless of whether the assignment is for prior or post review.

Advertisement: Consultancy Service for Contracts estimated to cost US$ 300,000 equivalent and above per contract shall be advertised in UNDB online in addition to advertising in National News Paper(s) of wide circulation and/or Regional News Paper(s).

Details of the Procurement Arrangements Involving International Competitive Bidding and Other Methods under World Bank and DFID funding.

Goods, Works and Non Consulting Services

1	2	3	4	5	6	7	8
Ref. No.	**Contract (Description)**	**Procurement Method**	**Prequalification (Yes/No)**	**Domestic Preference (Yes/No)**	**Review by Bank (Prior/Post)**	**Expected Bid-Opening Date**	**Comments**
			WORKS				
1.	Deepening and Strengthening of existing Berths 1-7 and construction of new multipurpose berth	ICB	No	No	Prior	July 11, 2016 (Actual)	
2.	Deepening and widening the entrance channel and turning basin in the port to the end of Berth 11 to 15.5 m below Chart Datum (CD)	ICB	No	No	Prior	October 5, 2017	

3.	Improving the rail linkages and platform in the port	ICB	No	No	Prior	May 4, 2018	
4.	Deepening and strengthening of existing Berths 8-11 to 14.5 m below Chart Datum (CD)	ICB	No	No	Prior	November 6, 2018	

List of consulting assignments with short-list of international firms and other selection methods World Bank and DFID funding

1	2	3	4	5	6
Ref. No.	**Description of Assignment**	**Selection Method**	**Review by Bank (Prior/Post)**	**Expected Proposals Submission Date**	**Comments**
1.	Supervision services for strengthening and deepening Berths 1-7 and construction of Multipurpose Berth at DSM Port	QCBS	Prior	March 4, 2016 (Actual)	
2.	Consultancy Services for Pre-Contract Services and Supervision of Deepening and strengthening of existing Berths 8 to 11	QCBS	Prior	July 3, 2018	
3.	Consultancy services for pre- contract services and Supervision of deepening and widening the entrance channel and turning basin in the port to the end of Berth 11	QCBS	Prior	October 3, 2017	
4.	Consultancy services for Environmental & Social Impact Assessment (ESIA) for dredging of entrance channel and turning basin	QCBS	Prior	July 9, 2017	
5.	Consultancy services for Technical Assistance to update the National Port Master-plan in Tanzania	QCBS	Prior	July 6, 2018	
6.	Consultancy services provided by Independent technical auditor	QCBS	Prior	Aug. 6, 2018	
7.	Technical Assistance, as required, to the TPA PIT to implement the project	QCBS	Prior	January 2, 2018	
8.	Technical assistance to support the restructuring and institutional strengthening of TPA	QCBS	Prior	August 6, 2017	
9.	Capacity building/training/equipment for TPA staff	QCBS	Prior	September 5, 2017	

Environmental and Social (including safeguards)

31. The TPA will be responsible for the environmental and social management of the project, ensuring compliance with national law and the Bank's safeguard policies. The particular unit responsible for the environmental and social management is the Environment Management Section (EMS), which is under the Directorate of Management System of the TPA. This unit will liaise closely with the PIT, and it is expected that one staff member of the EMS will be responsible monitoring the implementation of the ESMP and other environmental and social plans developed for the Project. The PIT with the support of the EMS will prepare Environmental and Social Monitoring reports, which will form part of the normal quarterly reports, during the construction of all components of the project.

32. **Implementation and Support Arrangements**: A safeguard management implementation support mission will be conducted at least semiannually. The objective will be to ensure the proper implementation of the Project ESMPs and RAPs (if required) developed for the project and each component. The Implementation Status and Results Report (ISR) will include a safeguard management rating, provided by the Bank's safeguards specialists after an appropriate review.

Monitoring & Evaluation

33. The project design includes an agreed set of Project Monitoring Indicators to effectively measure the outcome and results of the project and program. The indicators (Annex 1) will be collected, monitored, reported, and disseminated by TPA. Baseline and target indicator data has been collected systematically from the databases of TPA. TPA shall monitor and evaluate the progress of the Project and prepare Project Reports at the end of each calendar quarter and submit them not later than 45 days after the end of the period covered by such report. In addition, an impact evaluation of the project will be carried out through grant financing by DFID.

Role of Partners

34. ***The project is part of a larger development program for the port and corridor***. This project will be implemented as part of a larger investment program for the development of the port of Dar es Salaam. Currently TMEA are funding, or are committed to fund, a number of activities to improve the spatial and operational efficiency in the port, which being implemented, or will be implemented in parallel to the World Bank/DFID financed activities above. These include the following:

(i) Reallocate space and improve port layout by demolition and relocation of sheds 2-7;
(ii) Institute single flow of road traffic and single entry/exit points by improving access roads to gates 4, 5 and 8;
(iii) Improve flow of traffic on public roads immediately outside the port by upgrading and widening Bandari and Mivinjeni roads; and
(iv) Improve port productivity by establishing new Standard Operating Procedures, and key performance indicators to provide incentives for more efficient operations.

35. ***DFID have committed co-financing in the amount of US$12 million to the activities within the DSMGP***. These monies will be passed to the Bank via the TCFG TF, and the Grant Agreement will be signed in parallel with the financing agreement for the IDA Credit. During project preparation, the Bank led the assessment of technical and economic viability, the review of the necessary social safeguards and the environmental impact assessments, and the review of the proposed design. During project implementation, the Bank will be formally responsible and pay for implementation support for those activities financed in whole or in part by the project, with a contribution from DFID.

Annex 4: Implementation Support Plan

Tanzania: Dar es Salaam Maritime Gateway Project (P150496)

Strategy and Approach for Implementation Support

1. The implementation support plan has been developed based on the nature of the project and its risk profile. It will aim at making implementation support to the client more flexible and efficient, and will focus on implementation of the risk mitigation measures, namely the technical design and safeguards risks which are rated as Substantial, as well as the traditional implementation support focus areas including the fiduciary aspects. Formal implementation support and field visits will be carried out at least semi-annually, and will focus on:

(a) **Technical inputs**. Engineering inputs are required to review bid documents to ensure fair competition through proper technical specifications and fair assessment of the technical aspects of bids. A very experienced marine engineer will review the detailed designs for the port rehabilitation, the dredging, and berth construction. During construction and commissioning, close technical supervision will be provided to ensure technical, environmental and social contractual obligations are met. The team's engineer and safeguard specialists will conduct site visits on at least a semi-annual basis throughout the construction phase of project implementation;

(b) **Fiduciary requirements and inputs.** Training will be provided by the Bank's financial management specialist and the procurement specialist before the commencement of project implementation. The team will support TPA in their financial management capacity and procurement management efficiency. The financial management specialist and the procurement specialist will be based in the country office to provide timely support. Implementation support to the financial management arrangements will be carried out semi-annually and support will be provided on a timely basis to client needs. Procurement supervision will be carried out on a timely basis as required by the client.

(c) **Safeguards.** The Environmental Management Section (EMS) will support relevant counterpart staff and provide any necessary training. On the social side, implementation support will cover the social aspects identified in the ESIA and others social plans as required. On the environmental side, implementation support will focus on the implementation of the Environmental and Social Management Plans (ESMPs) developed for the Project and each component. Field visits will be made on at least a semi-annual basis. The social specialist will be based in the country office to ensure close follow-up.

(d) **Financial review of TPA**. A FM specialist will conduct regular reviews of financial status of TPA to monitor progress in establishing commercial financial management and accounting practices. This exercise will be combined with regular implementation support missions.

(e) **Client Relations**. The Task Team Leader will coordinate the Bank team to ensure project implementation is consistent with Bank requirements, as specified in the legal documents. The Task Team Leader will meet with senior officials on a regular basis to keep them apprised of project progress and issues requiring resolution at their level. The Bank team will include an EXT Communications officer for the duration of the project to assist in this process, and to handle all other communications issues in the program.

Implementation Support Plan

2. The main focus in terms of support to implementation would be as follows:

Time	Focus	Skills Needed	Resource Estimate (Staff Weeks/year)	
First twelve months	Team Leadership	Management, supervision, coordination, dialogue with Development Partners	Task Team Leader	8
	Project Support	Supervision, coordination	Sr. Transport Specialist Transport Economist	4 4
	Technical	Marine engineering, design, technical supervision, expertise	Port Specialist ICT Specialist PPP Specialist	4 2 4
	Social	Social safeguards, land acquisition and resettlement, gender, HIV/AIDS, health	Social Specialist Gender Specialist	4 2
	Environment	Bank norms knowledge, environmental safeguards, marine habitats	Environmental Specialist	4
	Procurement	Procurement experience, Banks procurement norms knowledge, training	Procurement Specialist	4
	Financial Management	FM experience, knowledge of Bank FM norms, training	FM Specialist	4
	Communications	Internal and External Stakeholder communications, PR strategies	Communications Specialist	4
12-48 months	Team Leadership	Management, supervision, coordination, dialogue with potential country members of program	Task Team Leader	8
	Project Support	Supervision, coordination	Sr. Transport Specialist Transport Economist	4 2
	Technical	Marine engineering, design, technical supervision, expertise	Port Specialist ICT Specialist PPP Specialist	4 2 4
	Social	Social safeguards, land acquisition and resettlement, gender, HIV/AIDS, health	Social Specialist Gender Specialist	4 2
	Environment	Environmental safeguards, supervision and monitoring, training as needed	Environmental Specialist	4
	Procurement	Procurement reviews and supervision, training as needed	Procurement Specialist	4
	Financial Management	FM reviews and supervision, training and monitoring	FM Specialist	4
	Communications	Internal and External Stakeholder communications, PR strategies	Communications Specialist	4
48-84 months	Team Leadership	Project management, supervision, coordination	Task Team Leader	6
	Project Support	Supervision, coordination	Sr. Transport Specialist Transport Economist	4 2
	Technical	Marine engineering, design, technical supervision, expertise	Port Specialist ICT Specialist	4 2

Time	Focus	Skills Needed	Resource Estimate (Staff Weeks/year)	
	Social	Social safeguards, land acquisition and resettlement, gender, HIV/AIDS, health	Social Specialist Gender Specialist	4 2
	Environment	Environmental safeguards, supervision and monitoring, training as needed	Environmental Specialist	4
	Procurement	Procurement reviews, training as needed	Procurement Specialist	4
	Financial Management	FM reviews, training and monitoring	FM Specialist	4
	Communications	Internal and External Stakeholder communications, PR strategies	Communications Specialist	4

Annex 5: Economic Analysis

Tanzania: Dar es Salaam Maritime Gateway Project (P150496)

INTRODUCTION

1. The port of Dar es Salaam handled 95 percent of Tanzania's coastal port traffic in 2016, amounting to just over 13.8 million tons of cargo. The traffic consisted mainly of containers, which accounted for 40 percent of the total, liquid bulk, mainly oil (38 percent) and dry bulks (16 percent). There is almost no break-bulk cargo left at Dar es Salaam apart from steel and vehicles; the latter are recorded in the TPA statistics as break bulk, despite arriving in RoRo vessels. There has been a large decline in bagged imports, which have either transferred to bulk (wheat, maize, fertilizers and cement) or containers (rice, flour, sugar). Bagged exports of these commodities – mainly to Indian Ocean islands – are small and variable. Table 5 provides a decomposition of port traffic by cargo type in Dar es Salaam port for 2013, and the most recent information for 2016.

Table 5: Cargo Traffic, Port of Dar es Salaam, 2013 and 2016 (000 tons)

DRY BULK	**2013**	**2016**
Wheat	985	1,007
Fertilizer	429	734
Cement/clinkers	379	245
Gypsum	45	35
Copper slugs	117	6
Other dry bulk	0	24
Total dry bulks	**1,955**	**1,590**
BREAK BULK		
Metals	398	557
Vehicles	253	341
Other break bulk	94	154
Total break bulk	**745**	**1,052**
LIQUID BULK		
Imports		
Crude oil	630	277
Petroleum products	3,891	4,495
Vegetable oils	216	401
Exports		
Petroleum Products	52	116
Total liquid bulks	**4,789**	**5,289**
CONTAINERS		
Total containers	**5,057**	**5,951**
'000 TEU	*(577)*	*(603)*
TOTAL: ALL CARGOES	**12,546**	**13,882**

Source: TPA statistics and Laing and Farrell (2015).

2. The vast majority (84 percent) of the traffic is inbound (10.5 million tons), with the remaining 16 percent (2 million tons) being exports. Only 65 percent of Dar port's traffic has destinations or origins in Tanzania, the remainder consisting of transit traffic to and from landlocked countries (see Table 6). The two main countries for transit traffic are Zambia and

Democratic Republic of Congo (DRC) which, when combined, currently accounts for 21 percent of all traffic, with Rwanda and Burundi accounting for another 8 percent. The main reason for Zambia's importance in terms of volume is the TAZAMA pipeline for transporting crude oil from Dar to Ndola. DRC is the second most important transit country, the fastest growing, and may be the most important in the future. Only five of the cargoes or cargo types – wheat, fertilizers, vehicles, containers, and liquid bulks – are significant transit volumes.

Table 6: Tanzanian versus Transit Traffic 2016

	Tanzania	Zambia	D.R Congo	Burundi	Rwanda	Malawi	Uganda	Others	Total
Dry Cargo, excl. containers	2,384	49	22	23	58	18	6	85	2,643
Liquid Bulks	2,750	1,222	514	168	356	79	132	68	5,289
Containers	3,824	468	617	130	449	33	28	402	5,951
Total	8,958	1,739	1,153	320	862	129	166	555	13,882
Share of total traffic	65%	13%	8%	2%	6%	1%	1%	4%.	100%

Source: TPA statistics

3. Dar es Salaam currently handles 95 percent of Tanzanian container traffic, with Tanga handling 2 percent and Mtwara 2 percent. Dar handled 603,000 TEU of container traffic in 2016. Around 64 percent of the laden containers were for Tanzania, and 36 percent for the transit countries. Zambia and DRC are the most important transit countries, particularly for export cargo. Dar es Salaam competes with Mombasa for containers for Rwanda and Burundi. Its shares of these markets in 2013 were 77 percent and 98 percent. Dar's share of Ugandan traffic, however, was only 2 percent. Uganda is served almost entirely by Mombasa, but Uganda is very keen to maintain a second avenue to the sea. For Zambia and DRC traffic, Dar es Salaam currently competes with Nacala, Beira, and Durban. In future it will also face competition for westbound traffic from Walvis Bay (Namibia) and Lobito (Angola). Its market shares in 2012 are estimated to have been around 18 percent for Zambia (28 percent for imports and 12 percent for exports), and 43 percent for DRC (54 percent for imports and 32 percent for exports).

4. The average growth rate for TPA's cargo between 2007 and 2013 was 10.7 percent p.a. (see Table 7). It was similar to the growth rate over the previous five years, 2002-2007, which averaged 10 percent. The period 2007-13 has been selected for estimating recent growth because 2007 was the last year before the global financial crisis disturbed traffic growth rates. The growth rates for cargoes over the period 2007-2016 are summarized in Table 7. They are particularly high over these years for liquid bulks (14 percent p.a.) and containers (9 percent p.a.), and although these rates have moderated a little over the period 2013-2016, they remain significant. It is to be noted that the growth rate for the dry bulks include a switch from bags to bulk handling, although this process was more or less completed by 2004-06.

Table 7: Growth Rates for Main Cargoes/Cargo Types, 2007-2016

	2007	2009	2010	2011	2012	2013	2014	2015	2016	2033	Average growth % p.a.		
											2007-2009	2009-2016	2007-2033
DRY BULKS													
Wheat	691	652	652	666	982	985	899	970	1,007	5,034	-2.86%	6.41%	7.94%
Fertilizer	207	287	351	335	237	429	189	246	274	3,302	17.75%	-0.66%	11.24%
Cement/clinkers	208	215	151	214	290	379	477	348	245	914	1.67%	1.88%	5.86%
Gypsum	20	0	44	0	50	45	42	41	34	430	-100.00%	n/a	8.31%
Copper slugs	0	0	0	15	37	117	86	75	6		n/a	n/a	
Other dry bulk	34	77	0	1	0	0	4	19	24		50.49%	-15.34%	
Total dry bulks	**1,160**	**1,231**	**1,198**	**1,231**	**1,596**	**1,955**	**1,697**	**1,699**	**1,590**	**9,680**	**3.01%**	**3.72%**	**8.50%**
BREAK BULK													
Metals	145	243	219	261	232	398	583	315	557	2517	29.46%	12.58%	11.60%
Vehicles	85	140	157	217	245	253	335	414	341	1771	28.34%	13.56%	12.39%
Other break bulk	288	72	42	40	59	94	653	457	154	60	-50.00%	11.47%	-5.85%
Total break bulk	**518**	**455**	**419**	**517**	**536**	**745**	**1,571**	**1,186**	**1,052**	**4,348**	**-6.28%**	**12.72%**	**8.53%**
LIQUID BULKS													
Imports													
Crude oil	537	547	n.a	n.a	n.a	630	650	469	277	900	0.93%	-9.26%	2.01%
Petroleum products	1354	1911	n.a	n.a	n.a	3891	3708	4413	4495	22826	18.80%	13.00%	11.48%
Vegetable oils	183	188	n.a	n.a	n.a	216	306	362	401	562	1.36%	11.43%	4.41%
Exports													
Petroleum products	17	0	0	0	0	52	66	73	116	50	n/a	n/a	4.24%
Total Liquid bulks	**2,189**	**2,689**	**3,275**	**3,700**	**3,983**	**4,789**	**4,730**	**5,317**	**5,289**	**24,338**	**10.83%**	**10.15%**	**9.71%**
CONTAINERS													
'000 tons, (est)[a]	**2,962**	**3,234**	**3,593**	**4,178**	**4,797**	**5,057**	**6,715**	**6113**	**5951**	**48062**	4.49%	9.10%	11.31%
(000 TEU)	*338*	*369*	*410*	*477*	*547*	*577*	*642*	*645*	*603*	*5484*	4.49%	7.27%	11.31%
Total all cargoes	**6,829**	**7,609**	**8,485**	**9,626**	**10,912**	**12,546**	**14,713**	**14,315**	**13,882**	**86,428**	**5.56%**	**8.97%**	**10.25%**
Growth rate	*n/a*	*n/a*	*11.51%*	*13.45%*	*13.36%*	*14.97%*	*17.27%*	*-2.71%*	*-3.02%*	*n/a*	*n/a*	*n/a*	*n/a*

Note: (a) Based on the average tonnage in containers in 2013
Source: TPA statistics and Farrell and Laing, (2015)

5. Container traffic has been increasing at around 12-13 percent p.a. over the last decade, whilst transit traffic has been growing faster than domestic traffic. The respective growth rates were 15.4 percent p.a. and 11.3 percent p.a. respectively in the period 2000-13. As a result, Tanzania's share of total Dar es Salaam container traffic has fallen from 74 percent in 2000 to 64 percent in 2013.

6. Over the period 2007-2013 the average growth in Tanzania's GDP was 6.8 percent p.a. and the weighted average growth rate of all countries served from Dar was approximately the same. In fact the Tanzanian economy has been expanding at rates close to 7 percent p.a. since 2001, and growth continued at this rate in 2013. The average ratio of total traffic growth at Dar es Salaam (10.7 percent p.a.) to Tanzania's GDP growth (6.8 percent p.a.) during the period 2007 -2013 was 1.6. The current growth is being driven by financial services, ICT, construction, trade, and the mining sectors, and by Tanzania's role as a hub for seven

neighboring countries. Growth rates are forecast by the IMF and World Bank to remain at similar levels for at least the next five years.

Table 8: GDP Growth rates in Tanzania and Transit Traffic Countries, 2010-2016 (percentage p.a.)

	2010	2011	2012	2013	2014	2015	2016	2010-16
Tanzania	**6.4**	**7.9**	**5.1**	**7.3**	**7.0**	**7.0**	**7.2**	**0.02**
Burundi	5.1	4.0	4.4	5.9	4.5	-4.0	-0.5	n/a
D R Congo	7.1	6.9	7.1	8.5	9.5	6.9	3.9	-0.09
Malawi	6.9	4.9	1.9	5.2	5.7	3.0	2.7	-0.14
Rwanda	7.3	7.8	8.8	4.7	7.0	6.9	6.0	-0.03
Uganda	7.7	6.8	2.6	4.0	4.9	4.8	4.9	-0.07
Zambia	10.3	5.6	7.6	5.1	5.0	3.0	3.0	-0.19
Average for five countries, weighted by traffic volumes								

Source: IMF World Economic Outlook 2016

TRAFFIC FORECASTS

7. The most common method for forecasting container traffic is to relate it to GDP growth via an income elasticity. This elasticity usually falls over time as economies grow, become more self-sufficient, and rely more heavily on services as a source of economic growth. This approach is particularly reliable when the dominant leg is inbound, as the number of containers outbound, including empties, is necessarily the same as the inbound total (what comes in must go out). This is the case in Tanzania, where 64 percent of outbound containers were empty in 2013, and in most other countries – China being the most notable exception. Past and future GDP growth rates, as forecast, are summarized in Table 9.

Table 9: Past and Forecast GDP Growth Rates (percentage p.a.)

	2008-2013	2013-2019
Tanzania	6.8	7.1
Zambia	7.7	4.4
DRC	6.5	5.9
Rwanda	7.7	6.3
Burundi	4.1	1.7
Uganda	6.2	5.3
Malawi	5.8	4.4

Sources: World Bank Economic Prospects, June 2017, Forthcoming

8. As shown, the differences between past GDP growth rates (2008-13) and forecast growth rates (2013-19) are, with certain exceptions, relatively small. On this basis it seems likely that container growth rates in the short to medium term will be similar to those of the recent past. The main reservation is the vulnerability of GDP growth in Zambia and DRC to copper exports, which account for a high proportion of the foreign exchange earnings that are used to finance imports.

9. The average income elasticity of demand for the six countries for which data are available is shown in Table 10. The estimated elasticity, although high, are within the range for countries of comparable size at a similar level of economic development. The table also

shows assumptions made on the reductions of the elasticity over time, reflecting international experience.

Table 10: Ratios of Container Traffic Growth to GDP Growth, Past and Forecast

	Dar container traffic growth	GDP	Ratios of Container Traffic to GDP Growth		
	% p.a.	Growth, % p.a.	Actual	Forecast	Forecast
	2001-2013	2001-2013	2001-2013	2013-2020	2020-2033
Tanzania	12	6.9	1.6	1.50	1.50
Zambia	16	7.2	2.2	2.00	1.75
DRC	18	5.3	3.4	2.00	1.75
Burundi	10	3.6	2.7	2.00	1.75
Rwanda	21	7.7	2.7	2.00	1.75
Others [(a)]	15	7.0	2.0	1.70	1.50

Note (a) Malawi, Uganda and transshipment.

10. On the basis of the forecast GDP growth rates and the income elasticity of container traffic to GDP growth shown in Table 10 above, Dar's container traffic is forecast to increase as shown in Table 11 below, in an unconstrained scenario:

Table 11: Forecast of Container Traffic by Country, Based on Recent Trends ('000 TEU)

	2013	2018	2023	2033
Tanzania	367	628	1,075	3,154
Zambia	63	129	243	870
DRC	62	108	177	473
Rwanda	19	28	39	78
Burundi	49	105	206	791
Others [(a)]	13	23	40	118
Total	577	1,020	1,779	5,484
Average growth p.a.		12.1%	11.8%	11.9%

Note: (a) Malawi, Uganda and transshipment.

11. There are, however, a multitude of developments which could alter the future market share of Dar es Salaam: (i) the quality of the inland transport services; (ii) improvements in neighboring ports, or the development of close competitors; and (iii) changes in shipping patterns. The following developments were considered relevant to the preparation of the traffic forecasts:

- ***Rehabilitation of the Central Corridor rail services and the construction of standard gauge rail lines from Mombasa to Kigali via Kampala***. Current rail traffic is now close to zero on both the TRL and TAZARA lines, with almost all traffic to the transit countries moving by road. The quality of railway services on the Northern Corridor is currently poor, reflecting insufficient rolling stock, multiple derailments, and poor reliability. The construction of the Mombasa-Nairobi line has already started, and it is predicted to reach Kampala in 2018. Depending on the selected institutional and managerial structures, and the pricing regime adopted for rail and road, this development offers the opportunity of a step-change in the competitiveness of the railway sector. With the same pre-conditions, the rehabilitation of the Central Corridor railway, and the longer term construction of an SGR in Tanzania, offers a similar opportunity for a step-change in the level of service for the hinterland.

- ***The development of the Nacala Corridor rail link***. Although intended primarily for coal exports from the Moatize Basin in northern Mozambique, this could also provide an improved rail route for Malawi container traffic;
- ***The relative efficiency of Dar es Salaam port vis-à-vis Mombasa port in Kenya***. The relative competitiveness of the two ports changes over time: Fifteen years ago, in the early years of the TICTS concession, Dar es Salaam was a more efficient port than Mombasa. But its efficiency has declined in recent years. By the first quarter of 2015, however, there has been marked improvement in the performance of Dar es Salaam port. In addition, and of possibly more relevance, the relative shares of the two ports are dependent on factors other than relative port efficiency, especially inland transport costs, cargo growth, and their respective hinterland. Over the last 5 years, Dar es Salaam has in general gained share over Mombasa, averaging 12.5 percent p.a. compared to 10.8 percent p.a. in Mombasa. This reflects the rapid growth in DRC's traffic which is not within Mombasa's catchment area;
- ***The opening of Phase 1 of the Mombasa's new JICA-funded container terminal was scheduled for February 2016***. However, there is an ongoing dispute about the operation of the facility, which may yet undermine its potential efficiency. Equally, the plans to develop container capacity in Dar, and facilitate access to larger vessels will negate any loss of competitiveness;
- ***A new container terminal is planned in a prospective new port at Bagamoyo, about 60 km north of Dar es Salaam***. The development of a new port at Bagamoyo to handle "overspill" traffic from Dar es Salaam was suggested six years ago in the Tanzanian Port Master Plan. The rationale was that it would minimize inland transport costs for container traffic that could not use Dar es Salaam. In addition, the port would serve an Export Processing Zone with the intention of facilitating trade in the region by acting as a hub for raw materials coming in and out of neighboring landlocked countries, as well as bringing manufactured goods into the region. The current plans are that Bagamoyo will be developed with one berth for containers, and will commence operation in 2021. This economic analysis assumes that Berths 12-14 open in 2019, and take all the overspill traffic at Dar es Salaam in the first two years of operation. After 2021, Bagamoyo starts taking 20 percent of the overspill traffic, leaving only 80 percent at Berths 12-14. This pattern continues until Berths 12-14 reaches its full capacity of 700,000 TEU p.a.
- ***A new container terminal is planned at Walvis Bay, designed mainly for transshipment and transit traffic, for which funding was secured in 2013***. Walvis Bay has been trying to establish itself as the Atlantic Coast hub port for Central Africa, as it can offer significantly lower ocean freight rates than Indian Ocean ports for cargo moving to/from Europe and North America. But the planned new terminal at Walvis Bay is not a new player. The port already has a container terminal at which traffic rose at about 12 percent p.a. over the period 2005-2012. The new facilities are just those required to handle the growing traffic after full capacity has been reached at the existing berths.
- ***There is a new container terminal at Lobito port in Angola***. It opened in mid-2013, and is served by the rehabilitated Benguela Railway as far as the Angola-DRC border, which was completed in mid-2014. This is likely to compete for Zambia copper exports, especially those destined for markets to the west. But Benguela is much less likely to compete for the dominant traffic at Dar es Salaam, which is inbound;

- ***A new container terminal to be built at Nacala by 2019 will further increase the port's ability to capture transit traffic***. Nacala is a relatively small port serving mainly northern Mozambique. It currently handles relatively little container transit traffic (6,200 TEU in 2011), most of it to/from Malawi. Because of the poor state of road infrastructure in northern Mozambique, around 90 percent of its container traffic still moves by rail;

- ***There is a proposal for a new container terminal at Durban*** (called the Dig-Out scheme). Durban, despite being a lot further than Dar es Salaam from Zambia and the Katanga Region of DRC, continues to be its main competitor for copper exports. It has low road transport costs per TEU-km, particularly southbound, and a still-functioning railway system. Although rail traffic has fallen sharply in the last decade, and rail freight rates have risen from 50 percent to around 80 percent of the costs of road transport, there is still a reasonable rail service available, accounting in 2011 for an estimated 15-20 percent of cargo moving between Zambia/DRC and South Africa (including non-transit traffic). Durban also has a more competitive shipping market, with more direct services to a wider range of destinations, use of larger ships, and lower ocean freight rates. Although the port of Durban is not particularly efficient by world standards its performance in terms of berth availability and ship turn-round times is still much better than at Dar es Salaam, partly as a consequence of its larger size. Two developments could improve Durban's future competitive position in relation to Dar es Salaam: First, Transnet have recently reduced South Africa's very expensive cargo dues for containers (although more so for exports than imports). Secondly, Transnet is planning the construction of a new container terminal at Durban (the Durban "Dig-Out" scheme) which will employ the latest technology and be designed for larger ships than can be handled at the present port. However, this is a particularly complex and costly project, which is unlikely to materialize for several years, so any reduction in Dar es Salaam's market share will only occur towards the end of the forecasting period. Also, South Africa's container terminal operations are still state-run.

- ***There have been many changes in container shipping patterns worldwide in recent years***. For example, the west coast of Africa which used to be served mainly by direct services from Europe is now fed from hub ports at the western end of the Mediterranean and – increasingly – direct services from Asia. Since the decline of Europe and the rise of Asia as the main supplier of imports to East Africa, the main container services are now from the Far East using feeders from the transshipment ports of Salalah and Jebel Ali. However, they are still limited to relatively small ships, with a maximum of about 2,000 TEU because of the draught. Also, they still focus on the two ports of Dar and Mombasa, and no major change to this seems likely in the foreseeable future. The shipping lines confirmed that the main change is likely to be not in routing but ship size, with the lines looking to take advantage of deeper berths and channels at both Dar and Mombasa, to use larger vessels. In the meantime, the lines are already experimenting at both ports with the Wafmax ships, specially designed to provide more capacity for a given limited draft on the West African coast.

12. The cumulative impact of these developments on Dar's market share in container traffic cannot be forecast with any certainty but on closer examination it was determined that they pose a relatively small threat to Dar's main markets for the reasons mentioned.

Liquid Bulks

13. Dar es Salaam handled 4.8 million tons of liquid bulk in 2013, or which 99 percent was imported. This consisted of:

- Petroleum products for Tanzania - which does not have a refinery - and several landlocked countries. The products account for 82 percent of the total liquid bulks;
- Crude oil to feed the small refinery at Ndola in Zambia. This accounted for 14 percent of the total;
- Vegetable oils, mainly palm oil imported by Southcomm for use as edible oil (70 percent) or as soap (30 percent). They account for 13 percent of the total bulk liquids traffic at the port; and
- Minimal exports, accounting for 1 percent of the total liquid bulk traffic.

14. The traffic is dominated by gasoil and gasoline, which between them account for 85 percent of total demand for products. The growth of liquid bulks handled at the port averaged 9 percent p.a. over the period 2002-2013. But it has accelerated sharply in recent years: After averaging 5 percent p.a. in the five years up to 2007, the rate rose to 15 percent p.a. in the period 2007-2013, reflecting a surge in the demand for gasoil and gasoline in Tanzania, and its neighbors.

Dry Bulks

15. This section looks at the three main dry bulks – wheat, fertilizers and cement – together with other minor dry bulks. The port of Dar es Salaam handled 985,000 tons of wheat imports in 2013. It is used for flour milling, to meet growing local demand as wheat based food products continue to replace maize and cassava in both Tanzania and the landlocked countries served by Dar. There is only limited wheat production of about 100,000 tons p.a. in Tanzania, as a consequence, the country will remain dependent on imports.

16. About 60-70 percent of the imports are for one commercial company, which owns flour mills in Tanzania, and has recently been expanding into other countries. This group now has a total annual milling capacity of nearly 900,000 tons. There are also several other smaller millers. Just under 80 percent of the imports were for Tanzanian destinations in 2013, the rest going to mills that have been set up recently in Uganda, Rwanda and Burundi. Zambia does not import wheat from Tanzania, as it has its own flour-mills using locally grown wheat. Zambia is also one of the main suppliers of flour to DRC.

17. Prediction of future growth is complicated by the continuation of the higher prices for wheat that have been maintained since 2007, and increasing maize production. It is improbable that the import growth rate could return to the 15 percent p.a. that prevailed before these two influences weakened the earlier buoyancy in the market, but it should revert to a level above GDP growth of 7 percent p.a. as the income elasticity of a commodity associated with wealthier western countries would usually be greater than one. It will therefore be assumed that the average growth rate will return to 9 percent p.a. up to 2023, just below long-term average of 10 percent p.a. in 2002-2013, and will then fall to 8 percent p.a.

Fertilizers

18. The port of Dar es Salaam handled 429,000 tons of fertilizer imports in 2013. Of the total, 79 percent were for distribution within Tanzania, 13 percent for Zambia and 8 percent for Malawi. Starting from a very low level in 2002, growth rates have been extremely high. In the period 2007 to 2013 after the switch from bag to bulk, growth averaged 13 percent p.a. This growth reflects Government support to promote the use of fertilizers, subsidies in Tanzania and some of the transit countries, farmer awareness programs, and improved distribution. The subsidies were given in Tanzania via vouchers, which reduced prices to the farmers by up to 50 percent.

19. The subsidies have now been discontinued, and the factors that will now affect the future level of imports at Dar will include the take-up rates for fertilizers in other key agricultural sectors such as sugar, coffee, cotton and smallholder crops, and increased competition from Nacala for Zambian imports, and Mombasa for Rwandan imports. The importers, however, expect the growth rate to remain buoyant. They emphasize that the farmers have now been introduced to fertilizers and Tanzania still has far to go in their use. The latest World Bank figures show national consumption of only 6 kg per hectare, compared with 30 kg in Zambia and 40 kg in Kenya. Few of the poorer farmers use fertilizers yet, but the tobacco farmers are now using them intensively. Against this background, the forecasts have been based on the assumption of a continuation of the 2007-2013 growth rate of 13 percent up to 2018 and a decline to 10 percent p.a. thereafter.

Cement

20. The TPA's port statistics for Dar es Salaam show 379,000 tons of bulk cement/clinker imports in 2013. The statistics do not specify whether the imports are cement or clinker, the intermediate product made by fusing together limestone and clay as the first stage in the manufacture of Portland cement. TPA operational staff, however, confirmed that at present the imports are all clinker. The growth rate over the period 2007 to 2013 has averaged 11 percent p.a. The clinker is imported because Tanzania does not have enough clinker production capacity to feed its cement plants. Tanzania's clinker production capacity in 2013 was only 1.87 million tons, compared with cement production capacity of 5.4 million tons. It was also well below actual cement production in 2013, which was estimated at 2.55 million tons.[45] Cement production is forecast to increase at 9 percent p. a., in line with the growth rate for construction activity in Tanzania, and associated imports or exports of clinker resulting from regular imbalances in cement and clinker production capacity are forecast to rise at half this rate, i.e. 4.5 percent p.a.

Steel

21. The port of Dar es Salaam handled 398,000 tons of steel imports in 2013. These were used for the manufacturing of downstream products. About 97 percent of the imports were for Tanzanian destinations, with only minor volumes going to Zambia. However, the steelmakers are reported to sell only three quarters of their products to the Tanzanian market, with exports to neighboring landlocked countries such as Malawi, Zambia, and the Democratic Republic of Congo making up the remaining quarter of its sales. Steel use is still low in Tanzania, at 12 kg per capita, compared with 42 kg for the African continent as a whole. The average growth rate for Dar es Salaam's steel imports over the period 2002-2013 was 10 percent p.a. i.e. about 1.4 times the growth rate for GDP. They were relatively static in the period 2002-2007, but then rose by 18 percent p.a. during the period 2007-2013. However, other sources suggest a long-term growth rate of 10 percent p.a. Against this background, steel imports are forecast to increase by 10 percent p.a. up to 2018 and 9 percent p.a. thereafter.

Vehicles

22. Imports of vehicles have increased at 17 percent p.a. over the period 2002-2013, and 20 percent p.a. over the last six years (2007-2013). The majority of the vehicles are second hand cars, although there are also trucks and heavy vehicles. This growth rate will inevitably taper off, so the growth rates assumed are: (i) 15 percent p.a. for the period 2013-2018; (ii) 10 percent p.a. for the period 2019-2023; and (iii) 8 percent p.a. for the period 2024 – 2033.

[45] Source: Twiga Annual Report 2013

Resulting Traffic Forecasts

23. A summary of the resulting traffic forecast is provided in Table 12.

Table 12: Summary of Traffic Forecasts for the Port of Dar es Salaam, 2013-2033 ('000 tons)

	2013	2018	2023	2033	Growth (% p.a.)
Containers (000 TEU)	*577*	*1,020*	*1,770*	*5,484*	*11.9%*
CONTAINERS (000 tons)	5,057	8,939	15,591	48,062	11.9%
LIQUID BULKS					
Crude oil	630	804	900	900	1.8%
Petroleum products	3,891	6,266	9,642	22,826	9.2%
Vegetable oil	212	271	345	562	5.0%
Liquid bulk exports	52	50	50	50	-0.2%
DRY BULKS					
Wheat	985	1,516	2,332	5,034	8.5%
Fertilizers	429	790	1,273	3,302	10.7%
Clinker	379	472	589	914	4.5%
Other dry bulks	162	207	264	430	5.0%
GENERAL CARGO					
Steel	429	691	1,063	2,517	9.2%
Vehicles	253	509	820	1,771	10.2%
Other general cargo	94	60	60	60	-2.2%
TOTAL	12,573	20,575	32,929	86,428	10.1%

Source: Farrell and Laing, (2015)

ECONOMIC EVALUATION

24. ***The Economic Analysis***. The economic analysis of the project compares the costs and benefits of the proposed investments from the perspective of maximizing social welfare in economic terms for Tanzania, and the region. It is to be distinguished from a financial analysis of the proposed investments, which would concern itself with the costs and benefits from the narrower viewpoint of TPA, and hence generally represent a subset of the former. Most of the common economic benefits of port construction – for example, reductions in ships' queuing costs, reductions in ship times at berth, economies of ship size resulting from dredging, reduction in unit costs of inland transport, or avoidance of inland transport costs from more distant ports - do not appear in the accounts of the port authority or in a financial analysis, and hence provide the justification for public investment. Similarly, financial revenues to the port from a new terminal (i.e. income from tariffs) are not counted as economic benefits to Tanzania because they are cancelled out by the increased charges made by the shipping lines, or the port operator, in order to recover port costs from importers and exporters.

25. ***The rationale for public investment.*** Whilst the port sector can be considered commercial - in a 'landlord port management model', the responsibility for investment in the sub-structure, quays, ensuring sufficient depth of water, the access infrastructure etc. generally remains the responsibility of the public sector, the port authority. Whilst investment in the necessary super-structure, the gantry cranes etc, are the responsibility of the port operator, or

service provider. In this project, public investment will be restricted to the necessary investment in the sub-structure to facilitate the realization of the objectives of the project.

26. ***The value added of Bank Support***. The World Bank has been consistent in promoting the removal of barriers to trade and regional integration as key development priorities for the region. Inadequate and unreliable infrastructure services increase input costs, raise transaction costs, and lower productivity. In this case, the added value of the World Bank is the knowledge that it brings in preparing similar projects in the port sector, in mobilizing private investment in infrastructure, together with the expertise garnered in preparing and implementing large and complex multidisciplinary infrastructure projects.

27. ***Methodology***. The economic evaluation in this case was undertaken using a standard partial equilibrium Cost Benefit Analysis (CBA), which estimated the economic internal rate of return (EIRR) and the net present value (NPV) for all identified alternatives, compared to an identified "do- minimum" alternative, for an appropriate appraisal period, using the orthodox 12 per cent discount rate. Costs and benefits are expressed in constant prices (to a defined base year price), with a defined residual value at the end of the appraisal period. The benefits of the identified alternatives are the following:

- The economies of scale resulting from the use of larger vessels as a result of the dredging of the access channel, turning basin and at the quay;
- The reduction in queuing costs at anchor as result of the creation of additional berth capacity; and
- The reduction in the time spent by vessels at berth, due to quicker loading/unloading facilitated by the better facilities/strengthened berths and more efficient operations.

The Do-Nothing Scenario

28. ***Without Dredging:*** Without investment in dredging, Tanzania will continue to incur the high sea freight rates that result from diseconomies of ship size. Dar es Salaam's water depth of -9.1m CD is well below the norm of -13m CD that enables most international ports to accommodate bulk carriers of at least Panamax size, i.e. between 50,000 and 80,000 DWT. At present the port is only able to accommodate ships of up to about 40,000 DWT and 2,000 TEU, while competing ports can either accommodate ships of 4,000-5,000 TEU. The diseconomies of ship size are illustrated in Dar es Salaam's high freight rates for imports from Shanghai, the world's largest container port, compared to other regions (see Table 13).

Table 13: Sea Freight Rates on Routes from Shanghai

	US$ per 20ft box	Distance (n miles)	US$ per n mile
East Africa	1,942	6,276	0.31
Mediterranean	1,990	9,000	0.22
West Coast US	1,001	5,708	0.18
Europe	1,659	10,525	0.16
South America	1,457	10,925	0.13
South Africa	758	7,015	0.11

Source: Shanghai Shipping Index, reported in Clarkson's Research Services, 2015

29. The high freight rates for Tanzania are not entirely attributable to limited water depth. They are also increased by the cost of transshipment of the containers, mainly at Salalah and Jebel Ali (the other high cost region in the table, the Mediterranean, also has to bear the burden of a lot of transshipment). Also, the East African ships have slower turnrounds than at most international ports. But the diseconomies of size are a major contributor to the high costs. The

same argument applies to grain, fertilizer and clinker imports, a significant part of which would use larger ships if the channel and berths were deepened.

30. ***Without faster handling equipment or rehabilitated/new berths***: Without some of the proposed investments in faster handling and/or new terminals, berth occupancy and therefore queues for berths at Dar es Salaam will increase to uneconomic levels in the near future. The costs of the consequent ship waiting time would normally be passed on to importers and exporters. Recent reports suggest that queuing costs are already high. In 2012 container ships had been queuing for 10 days on average, and that waiting times for dry bulk vessels were averaging 4.5 days. It appears, however, that there has been significant improvement since these statistics were collected. The TPA's statistics show the average waiting time for container ships queuing for TICTS at 1.4 days in 2013, and the same in 2014, although the latest figures seem flawed because since mid-2014 they have not included waiting time while paperwork is being completed at anchorage, and this may take two days. In fact, the TPA figures show no waiting time at all in the last four months of 2014. Detailed figures collated by the Ship Agents Association are probably more reliable; they show 3.0 days waiting time at TICTS and 2.3 days at TPA's container berths in 2014. For dry bulks the TPA statistics show 4.2 days average waiting time in 2013 and 1.4 days in 2014 although, as with containers, some of the monthly figures, particularly the most recent, do not seem credible, showing no waiting time at all. In brief, the queues, although not as high as reported 2-3 years ago, are clearly significant despite berth occupancies in TPA's operational statistics that are not exceptionally high. These show occupancies of 56 percent for the dry bulk and general cargo berths and 73 percent at the container terminal (assuming that the 720 meters of quay at TICTS is effectively three berths).

31. At these berth occupancies the waiting to service time ratios recorded in the TPA operational statistics for 2013 were 0.53 (i.e. 0.53 days queuing for every day at berth) at the TICTS container terminal and 0.66 days for the dry bulks. The TICTS container ships waited for an average of 1.4 days for berths and the dry bulk carriers waited for an average of 4.2 days. With both dry bulk and container traffic growing at double digit levels the queues and their associated costs would clearly reach very high levels within a few years in the absence of measure to reduce them. Without investment in either (a) faster handling equipment or (b) more berths for bulks and general cargo, initial indicative estimates shown in Table 14 suggest that berth occupancy would rise to around 88 percent by 2018 and 133 percent by 2023, and the consequent queuing costs would be high.

Table 14: Estimated Occupancy at the five berths[a] currently available for Bulk and General Cargo at Current Handling Speeds

	Grain	Fertilizer	Clinker	Steel	Vehicles	Others	Total
2013							
Traffic (000 tons)	985	429	379	429	145	256	2,623
Tons handled per ship day[b]	5,000	2,000	3,000	1,700	2,000	2,000	
Days at berth	197	215	126	252	73	128	991
Berth occupancy[c]							57%
2018							
Forecast traffic (000 tons)	1,516	790	472	691	292	267	4,028
Tons handled per ship day[b]	5,000	2,000	3,000	1,700	2,000	2,000	
Days at berth	303	395	157	406	146	134	1,541
Berth occupancy[c]							88%
2023							
Forecast traffic (000 tons)	2,332	1,273	589	1,063	470	324	6,051

Tons handled per ship day[b]	5,000	2,000	3,000	1,700	2,000	2,000	
Days at berth	466	637	196	625	235	162	2,322
Berth occupancy [b]							133%

Notes: (a) This table refers to the five berths currently available for non-container cargoes. It is the situation "without investment".
(b) Assumes 1,750 available berth-days p.a. (5 berths x 350 working days p.a.)
Source: Farrell and Laing (2015)

32. With berth occupancy at 88 percent in 2018, waiting to service time ratios would be 0.92 for all ships that had the choice of going to any of the five bulk/general cargo berths. In practice, however, they have a more limited choice as many can only go to Berths 4 and 5, the deeper berths, so the waiting times would be much higher. The costs of this queuing time would be passed on to importers. It is clear that investment is necessary to reduce these costs.

The costs of the proposed interventions.

33. ***The costs of dredging***. Two options were identified in the feasibility study: dredging to -13 m CD and to -14 m CD. This includes deepening and strengthening Berths 1 to 4 from a level of approximately -9m and Berths 5 to 7 from a level of approximately -10 m CD. The actual cost of the dredging will reflect the prevailing ground conditions. The feasibility study presented estimates based on the assumption that between 5 percent and 20 percent of the material to be dredged would consist of hard deposits (e.g. coral deposits or bedrock). On this basis the cost for the dredging works were estimated at between US$102 million and US$170 million. The estimated costs of the recurrent dredging needs are low, at an estimated US$35,000 p.a.[46]

34. The total cost of deepening the port to accommodate larger ships, however, also includes a lesser cost, i.e.:

- Capital dredging at the berths, costing an estimated US$5-7 million depending on water depth and percentage of hard rock.

35. The estimated total cost of deepening the port to -13 or -14m CD, depending on the amount of hard rock deposits, is presented in Table 19.

Table 15: Estimated Costs of Channel Dredging, plus Dredging at Berths plus Strengthening Deepening and Rebuilding Berths (US$ m)

	Option 1 (-13m)	Option 2 (-14m)
ACCESS CHANNEL AND TURNING CIRCLE		
5% hard deposits	101,931	125,572
20% hard deposits	137,923	170,043
AT BERTHS		
5% hard deposits	5,142	6,285
20% hard deposits	6,137	7,047
GRAND TOTAL		
5% hard deposits	107,073	131,857
20% hard deposits	144,060	177,090

Source: Inros Lackner *Port of Dar es Salaam, Modernizing of Berths 1 – 7, Part A – Deepening and Strengthening, Final Report*, page XXVI

[46] Inros Lackner, *Modernizing of Berths 1 – 7: Part B – Improvement of Cargo Handling and Port Layout, Financial and Economic Analysis*, July 2013

36. ***The costs of rehabilitating Berths 1-7***. The first deep water berths (Berths 1-3) were built in 1953-56. They are block wall constructions and provided with an apron with a width of about 30 meters. Berths 4-11 were constructed in the 1970's. These berths are of open piled construction with a suspended deck of approximately 33m wide. In order to maintain the serviceability of the quay wall the following rehabilitation is required: (i) Due to cracks of concrete in the pavement, parts of the slab have to be replaced in accordance with best practice; (ii) Where duct covers are missing or where the existing covers are not in an appropriate condition new concrete or steel duct covers needs to be installed; (iii) Some of the fenders and ladders are damaged and need to be replaced; and (iv) damage has been detected at the foundation piles at Berth 4. Common rehabilitation measures are the removal of weakened concrete, cleaning and coating of reinforcement and replacement of corroded concrete.

37. The proposed solution for deepening Berths 1 to 7 consists of a suspended deck slab founded on vertical and raked reinforced concrete piles in front of the existing structures. Depending on future cargo handling operations, this includes an option to expand the quay apron seawards up to approximately 11.50m (or more, if required). Whilst Berths 8-11 are provided with a double row of foundation piles along the cope edge to support ship shore gantry cranes, the proposed procurement of larger cranes, the corresponding need to increase the bearing capacity of the quay, and to ensure continuity, will require a similar intervention. The cost of rehabilitating and strengthening Berths 1-7 were estimated in the feasibility study at US$55.0 million, the cost of the construction of a new multipurpose berth at Gerezani Creek at a further US$40 million, and an allocation of US$40 million is made for similar strengthening on Berths 8-11. Given the symmetry between the dredging and the works to strengthen the Berths, the economic analysis has been undertaken on these components jointly.

The benefits of the proposed interventions.

38. ***The benefits of dredging***. The benefits of the deepening will be lower freight rates with the economies of scale resulting from the use of larger ships. With the current depth of 10 meters at the deepest berths and 9 meters at the others the maximum ship sizes in practice are just under 2,000 TEU for containers and 40,000 DWT for bulk carriers. Examination of the port's records confirms that the largest consignments dispatched are clustered around 40,000 tons, with all the main bulks and containers often using ships of this size. The maximum ship sizes were for wheat. With the proposed dredging, it was assumed that Dar es Salaam port will be able to accommodate vessels of up to 4,500 TEU for container vessels, and 75,000 DWT, if the dredging is completed to -14m CD, 3,875 TEU and 66,000 DWT to -13m CD.

Table 16: Potential Savings in Shipping Costs in 2018 with Dredging to -14 meters

	Grain			Fertilizers/ Clinker			Containers (TEU) [d]		Total saving
							(feeding from Middle East)		
Water depth (m)	10	14		10	14		10	14	
Ship size (tons /TEU)	40,000	75,000		40,000	75,000		2,000	4,500	
Traffic ('000 tons/TEU)	1,516	1,516		1,262	1,262		1,020	1,020	
Average ship load (tons/TEU)	38,000	71,250		38,000	71,250				
Average distance one way (n miles)	7,000[a]	7,000		5,000[b]	5,000		2,000	2,000	
Speed (knots)	14	14		14	14		22	22	
Round voyage (days)	31.25	31.25		22.32	22.32		5.7	5.7	
Daily ship cost at sea (US$'000)	30.7	46.8		30.7	46.8		31.6	51.0	
Cost of round voyage (US$ '000)[c]	959	1,461		685	1,044		180	290	
Cost per ton/TEU	25.2	20.5		18.0	14.7		89.9	64.3	
Saving per ton/TEU (US$)		5			3			26	
Saving p.a. (US$'000)		7,145			4,248			26,057	**37,450**

Notes: (a) Main origins of shipping services: Australia, Argentina, Canada, Russia
(b) Main origins: Scandinavia, Qatar, US
(c) With 50 percent added to take account of limited prospects for backhauls
(d) Although the TICTS berths have a water depth of only 12.2 meters they confirmed that they would be willing to pay for deepening to match the channel depth

Source: Farrell and Laing 2015

39. The benefits of a new multi-purpose berth in terms of reducing costs of ship waiting time is presented in Table 17. As shown, a second berth should reduce ship queuing costs by about US$11.4 million in 2018, the earliest year by which the new berth could be built.

Table 17: Savings in Queuing Costs Arising from the Construction of a New Multi-Purpose Berth for Vehicles and Break Bulk/ Steel

	2013	2014	2015	2016	2017	2018
Traffic (000 tons)						
Vehicles ('000 units))	145	174	204	233	262	292
Break bulk, mainly steel	685	740	794	849	903	958
Handling speeds (000 tpd)						
Vehicles (units)	2,000	2,000	2,000	2,400	2,400	2,400
Break bulk, mainly steel	1,700	1,700	1,700	3,300	3,300	3,300
Days at berth						
Vehicles	73	87	102	97	109	122
Break bulk, mainly steel	403	435	467	257	274	290
Total days at berth	**475**	**522**	**569**	**354**	**383**	**412**
Daily ship cost (US$ '000)						
Vehicles	25	25	25	25	25	25
Break bulk, mainly steel	8	8	8	8	8	8
Annual ship costs (US$'000)						
Vehicles	1,813	2,179	2,546	2,427	2,733	3,039
Break Bulk, mainly steel	3,224	3,480	3,737	2,058	2,190	2,322
Total ship costs at berth (US$ '000 p.a.)	**5,036**	**5,660**	**6,284**	**4,485**	**4,923**	**5,361**

	2013	2014	2015	2016	2017	2018
WITH ONE (EXISTING) BERTH IN 2018						
Berth days available with one berth		These cargoes will have a choice of berths until 2018 when the introduction of specialized berths for grains, fertilizers and cement will leave only one berth available for vehicles and break bulk				350
Berth occupancy with one berth						118%
Waiting to service time ratio						3.00
Cost of waiting time (US$ '000) capped at maximum capacity of one berth						**13,663**
WITH A NEW MULTI-PURPOSE RORO BERTH FROM 2018						
Berth days available at two berths						700
Berth occupancy with two berths						59%
Waiting to service time ratio[a]						0.42
Cost of waiting time with two berths (US$ '000)						**2,252**
SAVINGS IN WAITNG TIME WITH SECOND BERTH (US$ '000)						**11,411**

Source: Farrell and Laing (2015)

The results of the economic evaluation.

40. This section presents the results of the economic evaluation, including the EIRRs, NPVs and BCRs for project components:

Table 18: Results of Economic Analysis for Defined Components (NPV, US$ m)

Component	Capital Cost (US$ millions)	NPV (US$ millions)	EIRR (%)	B/C Ratio
Dredging to -14 m CD (5% hard rock) and rehabilitation of Berths 1-7, 8-11	187.16	227	26	3.0
Dredging to -14 m CD (20% hard rock) and rehabilitation of Berths 1-7, 8-11	232.39	196	23	2.6
New Multipurpose berth at Gerezani Creek	40.0	27	24	2.9

The Sensitivity Analysis.

41. Appropriate sensitivity analysis was undertaken predicating defined changes in key parameters of interest. This analysis tested the impact of the following changes in the key parameters of interest on the results of the economic evaluation:

- Increase (35%) and decrease (0%) in the percentage of hard rock in the dredging; and
- Increase and decrease (+/- 10 %) in the capital costs of the new multipurpose berth.

Table 19: Results of the Sensitivity Analysis

Component	EIRR (%) Low case	EIRR (%) Base case	EIRR (%) High Case
Dredging to -14 m CD and rehabilitation of Berths 1-7 (0% hard rock in low, 35% hard rock in high)	28	26	23
Dredging to -14 m CD (20% hard rock) and rehabilitation of Berths 1-7 (Traffic 10% lower)	20	23	-
New Multipurpose berth at Gerezani Creek	24	24	27

Source: Farrell and Laing (2015)

42. The results from the sensitivity analysis support the conclusion that all components of the project are economically justified, and robust to changes in the key parameters of interest.

Annex 6: Financial Analysis

Tanzania: Dar es Salaam Maritime Gateway Project (P150496)

Introduction

1. This Annex presents a brief summary of the financial performance of TPA, and the financial analysis of the proposed project components in terms of their impact on the cash flow of TPA, and hence the ability of the latter to meet the repayment terms for the IBRD Enclave loan. TPA's income and expenditures are summarized in Table 20. The information for 2013-14 is based on unaudited financial statements; the figures for all other years are derived from TPA's audited accounts. The main points of note are:

- Local currency operating revenues increased at an average rate of 20 percent p.a. between 2005-06 and 2013-14, and US$ revenues by 15.7 percent p.a.[47] The difference is due to the depreciation of the TSh against the US$, which is the charging currency for all of TPA's tariffs;
- The rapid growth in revenues was due to strong traffic growth (just under 10 percent p.a. in tonnage terms), tariff revisions (the last one in April 2013), and an increase in average cargo values (US$ per ton) resulting from the strong growth of high-value containerised cargoes. The increase in cargo values has been important because a high proportion of TPA's revenues come from wharfage, which is charged mainly on an ad valorem basis;
- Operating expenditures increased approximately 1.3 percentage points p.a. faster than revenues, at 21.3 percent p.a. in local currency and 17.0 percent p.a. in US$;
- Non-operating costs and revenues are relatively small, and are mainly linked to financing issues; and
- Although the corporate tax rate is 30 percent, the amount of tax actually paid has been well below this in the last couple of years (11-13% of pre-tax profits) due to the use of deferred taxation provisions.

Table 20: TPA's Income and Expenditure Statement 2012/13-2015/16 (US$ mills)

Category	2012/13	2013/14	2014/15	2015/16
Operating revenues	265.0	322.8	232.7	257.7
Operating expenses	-185.0	-258.4	-180.3	-169.2
Non-operating revenues	7.2	35.0	38.9	23.7
Non-operating expenses	-6.3	-3.7	-5.5	-36.9
Taxation	-10.9	-10.7	-15.4	-19.2
Net Surplus	70.0	85.0	71.4	56.1

Source: TPA Audited Accounts

2. Because TPA's tariffs are in US$ and the majority of its costs are in TSh, its financial results are sensitive to exchange rate variations.

[47] When calculating growth rates, figures for 2005-06 shown in Table 4.1 have been adjusted from a 14.5 month to a 12 month year

3. TPA's Cash flow statements is summarized in Table 21. Net cash flow from operations is positive, and has been particularly strong in the last two years. A high proportion of TPA's investment activities are traditionally financed from cash flow, and investment activity has also been particularly strong during the last two years. Because investment activities vary considerably from year to year, net cash flow is sometimes positive and sometimes negative. However by tailoring its investment activities to the funds available, TPA has had reasonably large cash reserves throughout the period under consideration. Its relatively low level of indebtedness means that the net outward cash flow for financing activities is still fairly small.

Table 21: TPA's Cash Flow Summary 2010/11-2013/14 (US$ mills)

Category	2010/11	2011/12	2012/13	2013/14
Operating activities	69.7	50.9	119.8	113.3
Investment activities	-90.6	-21.9	-120.7	-93.6
Financing activities	41.2	23.0	-3.6	-14.6
Net cash flow	20.3	52.0	-4.5	5.1
Cash at year end	28.0	78.3	73.0	51.2

Source: TPA Audited Accounts

The Financial Analysis

4. This section presents a summary of the financial analysis of the proposed project components in terms of their impact on the cash flow of TPA, and hence the ability of the latter to meet the repayment terms for the IDA SUF Credit. The analysis focuses on the impact on revenues and operating costs, comparing the 'do nothing' case at Berths 1-7 with a 'with project' case involving berth strengthening and channel deepening, and the construction of an additional multi-purpose berth at Gerezani Creek. The financial analysis has been undertaken on the composite program, as the financial benefits of some of the project components depend on the other project components going ahead:

(a) The dredging program will generate very few direct financial benefits for TPA as the same amount of cargo would arrive in smaller but more numerous ships if this part of the project did not go ahead.[48] However it does have some indirect financial benefits: for example, the discharge rates would be unlikely to increase if ship sizes remain as they are at present. Lower "With Project" handling rates would result in a lower berth capacity, less additional cargo and smaller additional revenues of almost all types; and

(b) The new multi-purpose berth at Gerezani Creek will increase the capacity of the other berths if operated as a single unit, particularly the other berths designated for vehicles & break-bulk cargo. The provision of an extra berth right at the beginning of the DSMGP will also minimize disruption – and possible traffic losses – during the rehabilitation period.

5. The financial analysis uses an 18 year rather than a 35 year evaluation period for the DSMGP investments, assuming that construction takes place in 2016-17 and ending in 2033, the last date for which detailed traffic forecasts have been prepared. Financial costs and benefits have then been discounted back to 2015.

[48] Marine service revenues are likely to remain fairly constant as the increase in ship size arising from the dredging program is offset by a reduction in the number of ship calls.

Traffic Volumes

6. In the 'Do Nothing' scenario, the existing Berths 1-7 are expected to reach full capacity in 2017. This assumes a continuation of the existing handling rates as displayed in Table 23, and treats the two quays as equivalent to 5.5 berths, based on existing (pre-dredging) ship sizes. In 2017, the berth occupancy rate will be 88 percent, a level at which serious ship queuing time would be expected to occur, whilst the throughput is as shown in Table 23. Once the berths reach full capacity working, the throughput is frozen.

7. In the With Project case, there is an increase in the number of berths from 5.5 to 6 (allowing for the increase in ship size resulting from the berth and channel dredging program) and an increase in the dry bulk cargo handling rate as a result of the installation of faster unloading equipment, conveyors and on-dock storage. Both of these measures significantly increase TPA's dry cargo handling capacity. The increase has been calculated assuming after reconstruction the berths are operated as a two-berth container terminal (existing Berths 5-7) and a four berth multi-purpose terminal (existing berths 1-4 plus the new RoRo berth).[49]

8. The container terminal is assumed to be operated by TPA using its existing Gottwald Mobile Harbor Cranes, with a handling rate very similar to that achieved at present (695 TEU per day). This produces a capacity of around 350,000 TEU p.a., which will be reached in 2019. If the two-berth terminal were to be concessioned to a private operator and ship-to-shore gantry cranes installed, its capacity would be increased to around 450,000 TEU p.a. The handling rates for the new multi-purpose terminal compare with those in the Do Nothing case as follows:

Table 22: Handling Rates in the Do Nothing and With Project Cases ('000 tons unless stated otherwise)

	Do-Nothing	With Project 2018-22	With Project 2023-33
Wheat	5.0	12.0	22.0
Fertilizers	2.0	9.0	18.0
Clinker	3.0	9.0	18.0
Break bulk	1.7	3.3	3.3
Cars (no of units)	2.0	2.4	2.4

Source: Inros Lackner, *Port of Dar es Salaam Modernizing of Berths 1 – 7*, 2013 (updated)

9. In the With Project case, the four berth multi-purpose terminal reaches full capacity working in 2028 with a berth occupancy rate of 85 percent, and a throughput as in Table 23.

Table 23: Berth Capacities in the Do Nothing and With Project (2028) Cases on Berths 1-7

	Do-Nothing	With Project
Containers ('000 TEU)	279	350
Dry Bulks ('000 tons)		
• Wheat	1,410	3,683
• Fertilizer	718	2,288
• Clinker	453	752
• Other	198	347
Break Bulk		
• Steel	639	1,790
• Other	60	60
Vehicles ('000 units)	262	742
Total TPA Traffic ('000 tons)	6,383	13,281

Source: Farrell and Laing (2015)

[49] An alternative organizational structure in which TPA operates all six berths as a single multi-purpose unit has been considered as a sensitivity test

10. The difference in berth capacities, combined with the traffic forecasts, results in the With Project case handling additional amounts of cargo when compared with the Do Nothing case. This is multiplied by the unit revenues for different types of cargo to produce an estimate of the additional revenues that would be associated with the project. The estimated unit revenues are: (i) Containers US$450.31 per TEU; (ii) Dry bulks US$13.90 per ton; (iii) Break bulk US$45.23 per ton; and (v) Vehicles US$259.19 per unit. Applying these unit revenues to the marginal tonnages results in the following additional revenues for TPA from the project.

11. The financial analysis looks only at the change in operating costs arising from the DSMGP project, not the total operating costs before and after. There are five main operating costs which may change as a result of the proposed investments: labor, fuel & power, repairs & maintenance, insurance and miscellaneous expenses. They are summarized in Table 25.

12. **Labor.** The Feasibility Study asserts that the numbers working on Berths 1-7, estimated at 1,400 employees, are sufficient to meet future needs with or without the DSMGP project, and that consequently there will be no change in labor costs arising from the project. However, this is rather simplistic for a number of reasons, not least that it fails to consider the scope for future reductions in the labor force. There are three counter-balancing drivers of future labor costs related to the DSMGP project:

- The reduction in numbers resulting from increased mechanization;
- The increase in numbers arising from the higher berth throughputs achievable in the With Project case; and
- Changes in the functions carried out in the terminals.

13. Mechanization will affect mainly the dry bulk: container handling is assumed to remain very much as it is at present (with mobile harbor cranes and reach stackers) if the berths continue to be operated by TPA, whilst there will be no changes in technology or improvements in equipment for break bulk cargoes or vehicles, only small improvements in productivity generated by more efficient berth layouts. Direct labor costs for dry bulk handling in 2018 are estimated to be around US$3.0 million p.a. in the Do Nothing situation. With DSMGP, the following changes are expected to occur:

- Replacement of slow multi-hold discharging using ships' gear and (sometimes) Gottwald mobile harbor cranes by fast single-point ship unloaders. This reduces both the number and the size of the gangs required per ship;
- Avoidance of the need to marshal long lines of trucks at peak periods, and manually trim cargo on the tops of trucks before they move off;
- Fewer cargo spillages, reducing quayside cleaning needs;
- Automation of cargo weighing and sampling for quality control purposes; and
- Additional labor requirements in the silos/storage sheds for new functions such as cargo monitoring and control, truck loading, and miscellaneous storage and logistics services.

Table 24: Additional Revenues Associated with the DSMGP Investment Program (US$ million)

Source	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Containers	18.3	31.8	31.8	31.8	31.8	31.8	31.8	31.8	31.8	31.8	31.8	31.8	31.8	31.8	31.8	31.8
Dry bulks	2.9	7.0	11.1	15.1	19.2	23.3	30.6	37.8	45.1	52.4	59.6	59.6	59.6	59.6	59.6	59.6
Break bulk	2.4	5.7	9.1	12.5	15.8	19.2	25.8	32.2	38.9	45.5	52.1	52.1	52.1	52.1	52.1	52.1
Vehicles	7.6	16.8	26.1	35.3	44.6	53.8	67.9	82.1	96.2	110.3	124.4	124.4	124.4	124.4	124.4	124.4
Total	**31.1**	**61.3**	**78.0**	**94.7**	**111.4**	**128.1**	**156.1**	**184.0**	**212.0**	**240.0**	**267.9**	**267.9**	**267.9**	**267.9**	**267.9**	**267.9**

Source: Farrell and Laing (2015)

Table 25: Additional Operating Costs Associated with the DSMGP Investment Program (US$ million)

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Labour																
Cargo Handling:																
Containers	1.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Dry bulks	-0.5	-1.1	-1.7	-2.4	-3.0	-2.9	-3.9	-4.8	-5.7	-6.6	-7.6	-7.6	-7.6	-7.6	-7.6	-7.6
Break bulk	1.6	3.8	6.0	8.3	10.5	12.7	17.1	21.5	25.8	30.2	34.5	34.5	34.5	34.5	34.5	34.5
Vehicles	0.2	0.5	0.8	1.0	1.3	1.6	2.0	2.4	2.8	3.2	3.6	3.6	3.6	3.6	3.6	3.6
Plant and installation	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Marine services	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4
Sub-total	**2.6**	**5.4**	**7.3**	**9.1**	**11**	**13.6**	**17.4**	**21.3**	**25.1**	**28.9**	**32.7**	**32.7**	**32.7**	**32.7**	**32.7**	**32.7**
Fuel and power	0.6	2.7	4.2	5.8	7.4	8.9	11.8	14.6	17.4	20.3	23.1	23.1	23.1	23.1	23.1	23.1
Repairs and maintenance	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Insurance	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Miscellaneous	1.6	2.3	2.9	3.4	3.9	4.5	5.5	6.5	7.5	8.5	9.5	9.5	9.5	9.5	9.5	9.5
Total	**12.3**	**17.9**	**21.9**	**25.8**	**29.8**	**34.5**	**42.2**	**49.9**	**57.5**	**65.3**	**72.8**	**72.8**	**72.8**	**72.8**	**72.8**	**72.8**

Source: Farrell and Laing (2015)

14. Overall, the expectation is that mechanization and functional changes could initially reduce dry bulk labor costs by around 15 percent, or US$450,000 p.a., increasing over time as dry bulk traffic grows. Because of the high level of mechanization, labor numbers for dry bulks are likely to be affected more by equipment provision than by throughput. This has been taken into account by reducing the labor savings for dry bulks by one fifth in 2023 when a second high speed unloader is installed for grain.

15. The increase in maximum berth throughputs will affect mainly containers, break-bulk and vehicles. For containers, we have assumed a labor productivity of 1,000 TEU per man p.a. The additional 71,000 TEU p.a. of throughput made possible by the DSMGP scheme at full capacity working is therefore equivalent to an extra labor cost of US$2.1million p.a.

16. For break bulk cargo, labor productivity is assumed at 5 tons per man-shift worked (= approximately 1,000 tons per man p.a.). This has been costed at TPA's average all-in payroll cost of US$30,000 p.a. For vehicles, assumed labor productivity is 20 vehicles per man-shift, or 4,000 vehicles per man p.a., also costed at US$30,000 per man p.a. In addition, the provision of an extra berth is expected to raise Plant & Installation labor costs by approximately US$0.5 million p.a., mainly for routine inspection and supervision costs. Conversely, the move towards fewer, larger ships is expected to reduce Marine Services labor requirements by around US$0.4 million p.a., mainly overtime payments linked to the present existence of a time-constrained tidal window.

17. **Fuel & power.** The estimated increase in fuel and power costs likely to be associated with the additional cargo handled is based on typical international figures of US$1.50 per TEU for containers, US$0.04 per ton for dry bulks and general cargo, and US$0.10 per vehicle

18. **Repair & maintenance costs.** The following figures reflect the assumed increase in repair and maintenance costs in the With Project scenario:

Maintenance dredging	US$0.035 million p.a.
Bulk unloaders & storage (full scheme)	US$5.605 million p.a.
New multi-purpose RoRo berth	US$0.390 million p.a.
Total	US$6.030 million p.a.

19. No allowance has been included for the repair & maintenance of the strengthened and deepened Berths 1-7, as the civil works here are simply replacing an existing facility.

20. **Insurance**. The increase in insurance costs has been taken as one percent of capital costs of the bulk unloading and storage facilities and the new multi-purpose berth at Gerezani Creek. Dredging outcomes are not normally insured, whilst the other capital costs relate to the replacement of existing facilities, and should not incur additional insurance charges.

21. **Miscellaneous expenses**. Based on the cost analysis, the increase in this item has been taken as 15 percent x the increase in other operating costs.

22. The financial flows, based on no further development once Berths 1-7 (together with the new multipurpose terminal, and the dredging) are shown in Table 26. The results of the financial

analysis reveals a financial internal rate of return (FIRR) of 19.6 percent, and a Net Present Value (NPV) of US$261 million, using a 12 percent discount rate.

Table 26: Financial Evaluation of DSMGP: No Further Development Once Relevant Berths Reach Full Capacity Working (US$ million)

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Capital costs	-191.5	-191.5																	
Revenues			31.1	61.3	78.0	94.7	111.4	128.1	156.1	184.0	212.0	240.0	267.9	267.9	267.9	267.9	267.9	267.9	
Operating costs			-12.5	-18.0	-21.9	-25.8	-29.8	-34.5	-42.2	-49.9	-57.6	-65.3	-72.9	-72.9	-72.9	-72.9	-72.9	-72.9	
Residual value																			199.2
Net cash flow	-191.5	-191.5	18.6	43.3	56.1	68.9	81.6	93.6	113.9	134.1	154.4	174.7	195	195	195	195	195	195	199.2
FIRR	19.6%																		
NPV @ 12 %	261.1																		

Source: Farrell and Laing (2015)

23. ***The conclusions of the Financial Analysis***. Although the channel dredging, which accounts for around 45 percent of DSMGP capital expenditures, will generate little additional revenue for TPA, the financial benefits associated with berth modernization, are sufficiently high to generate a financial return for TPA of just under 20 percent (before allowance for financing costs). This, combined with the practical difficulties of increasing capacity elsewhere in the port in time to meet demand, confirms that the DSMGP program can be financially justified.

Annex 7: Maritime Infrastructure Investment and Poverty Reduction

Tanzania: Dar es Salaam Maritime Gateway Project (P150496)

Maritime infrastructure investment and poverty reduction.

1. ***While there is a long-standing consensus among academics and policy-makers on the positive role of port infrastructure investments in fostering trade and growth, the link with poverty reduction is weaker***. The trade literature emphasizes the gains from trade but it also acknowledges the distributional conflict. Indeed, even though trade can bring about average gains, there are unavoidably winners and losers from trade. This creates a potential distributional conflict as well as potential adverse effects on equality. Among the LDCs, Tanzania is among the most open to trade. Yet poverty levels remain very high. Roughly 90 percent of the population in Tanzania live on less than three USD a day at 2005 PPP. Poverty prevalence is much higher in rural than in urban areas. According to the national poverty line, one third of the households live in poverty in rural areas in Tanzania against fifteen percent in urban areas.

2. ***This annex summarizes the results of an assessment***[50]***of the likely welfare impact in Tanzania and neighboring countries of the modernisation of the Dar es Salaam port***. The study did not examine the overall economic benefit to Tanzania of a more efficient port but focuses particularly on the poverty impacts. In that sense, it is seen as a complement to the more traditional static equilibrium economic analysis, which is summarized in Annex 5, and it is important to note that the project has considerable economic benefits regardless of whether poverty is reduced or not in the short term. Most specifically, an enlarged and more efficient port will result in an increase in cargo capacity which will support a rapidly growing population that will see a gradual increased their production and consumption capacity. The current state of Dar es Salaam port has been explicitly recognized as a severe constraint for further growth in the region.

The Methodology

3. ***There is no general framework that predicts the effect of trade on poverty***. The overall effect of globalization in a developing country may depend on the provision of complementary policies, institutions, and infrastructure, highlighting the importance of public policies. There are diverse possible channels through which trade might affect poverty. Most of the effect of trade on poverty is through indirect channels by impacting on the prices of goods and services produced and bought, either directly (such as agricultural products) or indirectly by working in a given economic sector. Food is often the most important item of total household expenditure of poor people, while much of their income will come from wages in urban areas, for rural households it will come from sales of agricultural produce.

4. ***To understand the short term impact of the modernisation of the key maritime gateway, it is crucial to look at the agricultural sector***. Most households in rural areas, and in particular most poor households, are involved in agriculture. According to the 2012 census, two third of the households in the country are engaged in agricultural activities. In the agricultural sector, production is dominated by food crops (maize, cassava, and rice) and livestock. Among cash crops

[50] Depetris-Chauvin N., Depetris-Chauvin P., & Mulangu F., (2015) *An Assessment of the Poverty Impact of Modernising Dar es Salaam Port*, a study undertaken for the World Bank and DFID.

for the export market, the largest domestic production corresponded to tobacco, cotton, cashew, and coffee. On the consumer side, households would benefit from lower (import) prices and would be hurt by higher (export) prices. On the income side, conversely, producers would benefit by higher prices but would be hurt by lower prices. This channel can be very relevant in a developing country like Tanzania where a large part of the population participates in the production of agricultural goods. Finally, households can also be affected as labor income earners. The changes in prices caused by the enhancement of the port could induce changes in wages, for example in expanding sectors *vis-à-vis* contracting sectors. Finally, while not the main focus of the assessment, the enhancement of the port project could increase fiscal revenues and this extra fiscal space could translate in pro poor government programs.

5. ***The conceptual framework used in the study was organized around the two step approach of the trade and poverty literature***. The first step is an assessment of how the infrastructure project would affect trade flows and how these changes in trading opportunities would affect the price of goods and production factors. This step requires an assessment of the effect of the reform on border prices and how those changes on border prices would be transmitted to retail and producer prices and potentially to wages. The pass-through depends among many factors on the current trade and production structure, on the existing trade and industrial policy, on sectoral market structure (level of competition among importers and exporters) and on how well integrated markets are in Tanzania. The second component utilizes household surveys to assess the poverty impacts of those changes in trade. Using the microdata from the household surveys, the study uses consumption and income shares derived from the production and consumption of different goods that are important for poor households to evaluate the income impacts of a given price change. Finally, the study investigates the average impact for urban versus rural households and across levels of living.

6. ***To estimate the expected impact of the port enhancement project on local prices and trade flows we assume that the improvements would be equivalent to a 5 percent reduction in border prices for bulk imports and 5 percent increase for exports***. This assumption is based on work previously done by the World Bank (2013) [51] and confirmed in interviews. One simplification that is also assumed is that the cost saving would be symmetric between imports and exports. However, the evidence seems to show that the cost of inefficiencies of the port are positively correlated with the level of congestion and at the moment the problem is far more severe for imports than for exports. In the analysis, the change in border prices for imports and exports in containers, which is the largest, most valuable and most rapidly growing portion of the dry cargo, is not considered**.** This is due not only to the difficulties in estimating the tariff equivalent of the port improvement but more importantly because the items that have a larger incidence in the budget and income of the poorest households are exported and imported in bulk instead of containers. An improvement in the efficiency of the port should increase the competitiveness of Tanzanian export products and at the same time favour imports. In practice, the effect is likely to be asymmetric with a larger import than export supply elasticity. If this is the case, an undesirable negative side effect of the improvement of the port could be a deterioration of the already high trade balance deficit which may introduce questions about the sustainability of some key macroeconomic variables. The likely low response from exports is due to the fact that producers in Tanzania face many constraints other than the inefficiencies of the port.

[51] The World Bank (2013) *Tanzania Economic Update: Opening the Gates*, Dar es Salaam Office.

7. ***Our model shows that the reduction in border prices are not always fully transmitted to the domestic economy***. This is notably the case for wheat where imports are concentrated among a few importers and local production is a very small fraction of domestic wheat consumption. More than half of the reduction in the wheat price is captured by the importers. However, in the extreme case of perfect competition, the local price of wheat could be reduced by more than 16 percent following a five percent reduction in border prices. In cotton, an export cash crop, improvements in the port could have a significant positive impacts on smallholders as the increase in competition for the crop could increase its price significantly. In the case of dairy products, rice, and maize the pass through to local consumers is less than 100 percent but nevertheless significant due to a healthy level of competition. In the three sectors, local production satisfies a large share of the local demand with imports being in most cases residual.

8. ***However the pass-through estimations should be taken with caution***. Infrastructure and logistics in Tanzania are poor and transport costs increase substantially moving away from the port. All this implies that it is likely that the degree of geographical market segmentation is very high in Tanzania. This is reflected in the fact that the data on regional prices for different crops often signal difference of up to 50 percent in the price of otherwise homogeneous goods. Those differences can be 400 percent in the case of highly perishable goods like milk. The price data seems to confirm our hypothesis of market segmentation and therefore our suggestion is that the welfare effect of the port should be consider as a local effect for Dar es Salaam and neighbouring regions, with little short term significant impact on distant regions from Dar es Salaam, including the neighboring land-locked countries.

9. ***The model predicts the changes in farm gate and retail prices coming from the port project but does not predict a change in wages***. To estimate the labor market mechanism in the trade and poverty relations, requires a combination of both household survey data and detailed trade data. This was beyond the scope of this assessment, but nevertheless the study provides some evidence of the link between wages and exports in Tanzania. Wages as a source of income are actually very low for households in Tanzania at a 16.2 percent. This average however masks an important disparity on the importance of wages between rural (8.9 percent) and urban areas (47.7 percent). Moreover, the incidence of wages in total income increases with the level of livelihood, with the share of wages in total income of those in the last quintile doubling the share of those in the first quintile. The study uses the Enterprise Survey to estimate the export wage premium in Tanzania. This can be interpreted as a measure of how much higher wages are, on average, when comparing exporting and non-exporting firms.

10. ***The assessment finds that while exporting firms in Africa pay on average 22 percent higher salaries than those not exporting, in Tanzania this wage premium is zero***. The fact that exporting Tanzanian firms do not pay higher wages is a reflection of the weakness of its manufacturing and service sector. On the other hand, in Tanzania exporting firms hire on average 119 percent more employees than non-exporting firms. On the import side, cheaper foreign products could potentially lower wages in import competing manufacturing sector and in the long term, affect the possibility of the development of some labour intensive industries. Conversely, cheaper inputs, and intermediate and capital goods, could help Tanzanian firms to become more competitive and participate in the export market, hiring more people and paying higher wages. The overall effect is hard to determine without a careful analysis of the manufacturing sector and of the price-wage elasticities for different type of workers/set of skills.

11. ***The study combines the price changes from the model with household survey data to estimate the welfare effects of the port improvement***. The study considers three groups of households, those under the survey poverty line (the poor), those above the line but below the international poverty line of US$ 3 PPP a day (the vulnerable), and those above that line (the non-poor), and also distinguishes between rural and urban households. Some regularities can be detected in the simulation results. For rice, maize, cassava, and wheat, all demographic groups except for the producers (who will be worst off because of cheaper food imports), are on average net consumers. This implies that on average they will benefit from price reductions (cheaper imports) and will be hurt by price increases (more expensive exportable food crops). Since raw cotton is only produced and not consumed directly by the households, real farm income is in the end higher. In the case of dairy, while the average population is net consumer of milk, in rural areas households are net producer.

12. ***To a large extent, the welfare impacts are small for all groups of households***. For most crops, shocks, and affected population, the welfare impacts of the proposed simulations are less than 1 percent of total household expenditures. The only exception is the impact on cotton producers where some sizeable impacts can be established. These results are expected. There are various elements that need to be taken into account. First, the income shares and budget shares used in the first order approximation are typically small. Some crops are relevant separately on both the production side and on the consumption side. But a price change affects households as consumers and as producers, and thus the net effect tends to be small in general. Second, most markets in Tanzania are already characterized by some degree of competition, thus leaving small room for sizeable price changes when increasing competition. The two exceptions are cotton and wheat where the price changes are higher. Therefore the combination of small price changes with small net benefit ratios implies small impacts. The fact that the impacts are typically small does not mean they are not important and the long term while hard to predict maybe larger as we will discuss below.

13. ***The results also point to the distributional impact of the improvement of the port***. The results reveal some trends: First, urban households benefit more than those in rural areas from cheaper imported food crops. This is expected as urban household are mostly consumers of food while those in rural areas are both consumers and producers. Moreover, monetary expenditures on food are typically higher for urban households as an important share of the food consumed in rural areas is home produced, this is particularly the case for the poorest households. While we do not take into account explicitly the reduction in cost of containerized imports, it is likely that they will benefit more urban than rural households as their propensity to consume imported manufactured good is larger. The poor and the vulnerable benefit from the decrease in the price of maize, rice, dairy and wheat and from the increase in the price of cotton and are only hurt by the increase in the price of cassava. Overall, if we do not take into account the labour market mechanism, the poor and the vulnerable as a whole are likely to benefit from the improvements in the port. From our simulations it is hard to predict whether urban or rural poor will benefit most. However, if we consider the issue of market segmentation that would limit pass through in remote areas and again we do not take the effects on wages, it is likely that the poor and vulnerable households around Dar es Salaam will benefit the most. Looking to the inequality impact, if we consider only the effects on agricultural products, it is not clear whether poor, vulnerable or non-poor households would benefit more. However, if we take a look to the structure of Tanzania's imports and the structure of consumption of poor and non-poor households, it is clear that the reform will favour more non poor or vulnerable households than those under the national poverty line. This could

increase inequality in the short term. The fact that we observe segmentation of markets and the exclusion of many poor households from international markets, requires that we turn discussion not to poor people in general, but to which types of poor. Subsistence farmers will probably not benefit from the port. Their produce is consumed at the households or traded in local markets. The incidence of imported goods in their budget is very small. Many poor and vulnerable households, part-commercial or larger smallholders, could benefit more from the port improvement if improved agricultural practices are already in place and higher value crops are or could be produced. These high value crops are typically more susceptible to degradation on poor roads and at slow ports – and their final customers maintain high standards which require strict adherence to product life cycles/shelf life. The improved port could contribute to an increase in the competitiveness of these farmers if other constraints are also deal with.

14. ***One argument of why the poor could benefit from the port reform and trade in general is through the access to cheaper inputs, tools, and materials***. For instance, rural poor would benefit from cheaper fertilizers and urban poor from cheaper construction materials. However, these effects will be very limited. In the case of fertilizers there are two reasons for that. The first is that fertilizer is at the moment only imported and importers are very concentrated. In 2013/2014, the two largest companies (Yara and Premium Agro) accounted for 56 percent of the market. If we consider the five largest companies, their market share is 98.1 percent of the market. The likelihood that they will pass to farmers the potential savings is quite low, as the evidence of the recently cancelled fertilizer subsidy program showed. The second reason is more fundamental, at the moment the fertilizer adoption rate among poor farmers is almost zero. Fertilizer is in general used by well off medium size farmers producing cash crops for the export market. Some farmers in our vulnerable group report using fertilizer so potentially they could benefit if cost savings are passed to consumers. Also, medium size farmers hire local workers and therefore, we could expect a positive impact through wage income. In the case of construction material, besides the protection of the local cement industry, imports of clinker are also concentrated with one company (Maweni Limestone) accounting for 68.8 percent of the market. Most of this imported construction material are used in urban areas and therefore will not benefit much the households under the poverty line (92% are based in rural areas) but may benefit vulnerable urban households that are above the poverty line but living under the US$ 3 a day threshold. Nevertheless, the price impact would be probably higher for non-poor urban households as their have a larger propensity to consume imported goods and materials.

15. ***To summarize, the short term effects of the enhancement of Dar es Salaam port on poverty in Tanzania and neighbouring countries are likely to be modest for a number of reasons***. The first reason is that the incidence of international trade in the consumption basket and as a source of income for the poor is currently very low. A large part of the consumption is satisfied by home produced goods and trading in local markets. Food imports are relatively small, except for the case of wheat, palm oil and sugar of which the last is heavily regulated to keep domestic prices high. Trade restrictions are imposed on the import of key food staples (like rice) to promote local production. On the other hand, exports are concentrated on a few extractive resources and cash crops where the participation of the rural and urban poor is for the moment limited. Cheaper imports of fertilizer could increase productivity of farmers, including poor farmers, but at the moment fertilizer adoption among poor farmers is low and may be negatively affected by the recent decision of the government to cancel fertilizer subsidies.

16. ***A second reason comes from the uncertain impact on wages***. In effect, while wage income constitutes a very modest part of total income for poor rural households, salaries account to almost half the income of households in urban areas. Trade often increases the wages in the exporting sectors and reduces the wages of workers in import competing sectors. However, a detailed look to the current production and trade structure of the country shows that there are no large exports of manufactures or services that could benefit in the short run from the port. On the imports side, there are only a few import competing sector and therefore the negative effect on wages should be also small. In any case, the overall employment and wage impact of an infrastructure project is always hard to asses. While overall one would expect positive effects, the intuition suggests that efficiency gains in infrastructure might result also in job destruction. Evidence from studies on private participation in infrastructure suggests that while this may be true in the short run, in the long run, there could be an overall and significant increase in employment coming from indirect and induced effects. Given, the structure of the Tanzanian economy we would expect that this indirect and induced effects to be large, in particular in urban areas, as import cost have an important effect on the total costs of inputs and outputs.

17. ***A third reason for the modest short term impact is that the market structure in many sectors does not work in favour of the poor***. The existing market concentration among exporters and importers may reduce the benefit the poor could get from international trade both as producers and consumers. Nevertheless, we need to be cautious about the possibility of increasing competition along the value chain as it may not always be more beneficial for poor farmers and consumers, especially when we consider the prevailing market failures that are typically observed in the developing world. Finally, the port is only one of the many restrictions affecting production and commercialization in Tanzania. For instance, the high cost of transportation implies that in practice many markets are segmented what may reduce the level of pass-through to farm gate and retail prices for those producers and consumers who are located far from Dar es Salaam.

18. ***In the medium/long term all these binding constraints could potentially be dealt with, increasing the impact the port project would have on poverty in Tanzania***. Providing a quantitative assessment of that long term effect is difficult. Nevertheless, the historical evidence mostly supports the hypothesis of a positive medium and long term effect of improved trade infrastructure on poverty reduction. The history of regional development reveals the importance of the reduction of transportation costs as an instrument to foment economic agglomeration and improve trade, in particular exports and imports. Many empirical studies have pointed out to the strong relationship between access to sea, percentage of the population living in coastal areas, urbanization and economic growth. The development of areas far from the city depends on the investments in infrastructure, despite the existence of natural resources. The development of the Brazilian Cerrado with its potential replication in some African regions, the positive effects on wellbeing of the BR-376 (known as the coffee highway) linking the coffee production region of Paraná, Brazil, with the Port of Paranaguá, and the positive effect of road and port infrastructure on poverty reduction in the case of the improvement of Highway No. 5 and Haiphong Port in Vietnam are a few of many examples of how large infrastructure projects could result in the expansion of high value agricultural production with sustained effects on poverty reduction.

19. ***The success of the port and other transportation projects in reducing poverty in the medium and long term in Tanzania will critically depend on integration with the development of the agricultural sector***. A large share of Tanzanian households and specially the poor are involved in agriculture which constitutes their main source of income. Food is also by and large

the main component of the budget for poor urban and rural households. Agricultural productivity in Tanzania will have to rise significantly to achieve mass poverty reduction and improve food security. A transforming agricultural sector will also help spur manufacturing sector growth in Tanzania by providing cheap raw materials for processing, helping moderate food price inflation and thereby industrial wage increases, providing an expanded domestic market (arising from higher rural incomes) for manufactured goods, and providing higher levels of foreign exchange earnings and fiscal revenues to help finance social programs targeting the poor and to finance imported inputs and public goods necessary for manufacturing and other sectors of the economy.

20. ***A transformed agriculture would also mean that crop production would be rationalized***, farmers would specialize in the production of crops on which the country has a comparative advantage in export markets obtaining higher prices for their produce and they would buy cheaper imported staple food for which other countries are more competitive. This would result in higher farm income and lower prices for most food items. Marketization would increase and the share of auto consumption would be reduced, increasing the potential positive impacts from trade. The modernization of both infrastructure and agriculture are also key given the very fast pace of urbanization in Tanzania. In this context, policies should allocate resources to balance population and opportunity distribution across Tanzania in order to avoid informality due to lack of employment, and congestion and impoverishment of environmental, social, and business conditions what would work against the objective of drastically reduce poverty in the country. To achieve this, it will be essential to link efficiently urban and rural areas in Tanzania and the country to its neighboring countries and the world at large. Ports, railways and roads will play a key role in the process of economic transformation of Tanzania and the reduction of poverty in the medium and long term if they are properly accompanied with complementary policies seeking to reduce the other constraints affecting the economic development of Tanzania.

Annex 8: Governance and Anti-Corruption Action Plan

Tanzania: Dar es Salaam Maritime Gateway Project (P150496)

Background

1. ***The port has faced a number of governance challenges in recent years***. As a result of inefficiencies and governance issues in the port, one recent study[52] estimated that the aggregate welfare loss of the inefficiencies at USD 2.4 billion, or 25 percent of the total volume of merchandising imported into Tanzania in 2012. More recently, the authorities have discovered the release of a significant number of containers and vehicles without payment of wharfage[53] or custom duties, primarily from the Inland Container Depots. These events reduce revenues both for the Tanzanian state and the port, which handles a lower volume of merchandise than would be the case if the port were managed efficiently. The inefficiency and governance issues in the port also affects neighboring landlocked countries in a similar way, increasing transit costs and reducing trade.

2. ***A recent assessment revealed that Tanzania and the port of Dar es Salaam are exposed to various threats of transnational trafficking***. The United Nations Office on Drugs and Crime completed an assessment of the exposure of Tanzania and the port of Dar es Salaam to transnational trafficking in late 2014.[54] The report revealed that whilst the port of Dar es Salaam was ISPS compliant,[55] it remained exposed to the risk of trafficking of illegal drugs, illegal wildlife trade, illegal logging and wood products, and counterfeit goods. In a similar vein, another recent report examining the movement of illegal ivory and rhino horn[56] found considerable evidence that Tanzanian ports played a key role in the movement of these illicit consignments over the period 2000-2013, primarily via containers through the ports of Dar es Salaam and Zanzibar.

The Governance and Anti-Corruption Action Plan

3. ***A Governance and Anti-Corruption (GAC) Action Plan has been prepared for the project to contribute to improved governance in TPA, and reduce the risk of illegal trafficking through the port of Dar es Salaam***. Six tenets have been identified for the Governance and Anti-Corruption Action Plan for this project. These tenets have been built on the notion that corruption manifests itself readily in the procurement process, quality control, and financial control,[57] while governance is directly related to institutional aspects. The tenets have been built using in part the emerging best practice for dealing with governance and corruption risks in project lending, and the emerging

[52] The World Bank (2013) *Tanzania – 3rd Economic Update*, Washington D.C.
[53] Wharfage is an *ad valorem* charge payable in US$ of between 1.25%-1.6% (for imports as an example) of value on all cargo passing over the quays of TPA.
[54] UNODC, (2014) *Container Control Program Port Assessment Port of Dar es Salaam*. Geneva.
[55] The International Ship and Port Facility Security Code (ISPS) has been developed by the International Maritime Organization (IMO), and prescribes stakeholders to "…detect security threats and take preventative measures…in ships and ports used for international trade…"
[56] TRAFFIC International (2014) *Illegal trade in Ivory and Rhino Horn*, Cambridge, United Kingdom.
[57] See World Bank (2007), J. Edgardo Campos & Sanjay Pradhan (eds). "The Many Faces of Corruption":- William D.O. Paterson & Pinki Chaudhuri in "Making Inroads on Corruption in the Transport Sector through Control and Prevention".

evidence on the movement of illegal consignments through the ports of the region.[58] The tenets are outlined in the following paragraphs:

4. First, as with all Bank projects, the fiduciary due diligence on procurement and financial management will be implemented by following the Bank's operational policies, guidelines, and procedures. Given noted fiduciary risks, further actions have been incorporated into the GAC plan. At the design stage, checks have been built in to ensure the reliability of the bills of quantities, cost estimates, and designs through the use of the supervision consultant in undergoing a robust design review. In addition to this, incremental procurement capacity will be available to assist TPA with the preparation of the bidding documents, in bid evaluations, as well as on the job training.

5. Further efforts will be made to: (a) ensure broad dissemination of all procurement notices, pre-qualifications, Expressions of Interest, Tenders and Requests for Proposals on the United Nations Development Business (UNDB) and dgMarket, on the TPA website and in local newspapers, together with notifying bidders of the outcome of the bidding/selection process); (b) monitor the bidding process; (c) ensure that to any clarifications sought by any bidder/s, replies will be sent to all bidders to avoid any unfair advantage; (d) check the financial bids/proposals, when needed, for signs of possible collusion; and (e) refer potential cases of fraud, collusion, corruption and coercive practices to INT.

6. As further oversight, the procurement plan sets out in detail all procurements subject to prior review by the World Bank. As evidenced in some projects, one important issue worth mention is the misuse of mobilization advances by contractors through diversions to other uses, thus compromising the works as the contractors run into cash flow difficulties. To mitigate against this risk, the qualification criteria will be set to allow only for the selection of reputable contracting firms with proven experience in similar works and sound financial footing to undertake these works. As is common with mobilization advances, an advance payment guarantees will be required from any selected contractor.

7. The Bank team will ensure the compliance with Bank procurement and financial management rules through its oversight with Bank procurement and financial management specialists' reviews of documentation, carrying out office visits, interviews and inspections; and recommending actions to be taken if any inconsistencies are identified. Bank technical experts will also be involved in the review of all documentation as deemed necessary including but not limited to prequalification documents, requests for proposals, TORs, bidding documents, contract documents, and evaluation award reports. Last but not least, as part of the institutional capacity building component, the Bank will ensure that training of staff in procurement and financial management issues is offered to strengthen internal technical capacity.

8. The use of hotlines to report corruption and other forms of fraudulent activities is proposed given that they are not in use currently. The GoT has asked all public bodies to ensure they have an established complaints board, and TPA will be complying with this Directive. Despite this welcome initiative, there is a need for TPA to strengthen the current arrangements to handle complaints.

[58] World Bank (2008), "Dealing with Governance and Corruption Risks in Project Lending: Emerging Good Practices"; Discussion Draft, Operations Policy and Country Services dated December 12, 2008.

9. In addition to the above, the new Government has been quick both to recognize and react to the governance challenges in the port: A new Director General and Acting Deputy Director General have been appointed, along with a new Board, and further steps are being developed to strengthen the technical capacity of TPA. TPA are introducing a new Integrated Electronic Payment System (IePS), replacing a cash based system, which will allow for the electronic collection of all port charges via multiple delivery channels including Mobile, ATM, POS and Web. All revenues from wharfage, which represents the majority of TPA revenues, are now being collected directly by TRA. In addition, the project will support TPA in securing and establishing new terminal operating systems for all those berths which will remain in TPA operation, and a new port community system.

(B) Implementation Support Arrangements

10. Second, all construction supervision by the TPA is to be undertaken by using reputable international engineering consulting firms. This is to ensure not only the proper construction of the project elements to the set technical specifications, but also to keep a check on unwarranted variation orders and time extensions. The contract management setup will be as per FIDIC arrangements, with TPA maintaining the Employer role and the supervising engineering firm maintaining the role of the Engineer (Employer's Representative). As such, decisions on variation orders and time extensions will only be made with the express consent of the Employer, who has an inherent desire to control costs, reducing the possibility for collusion practices between the Engineer and the Contractor. This firm will also supervise the Environment and Social Impact Assessment, the Environment Management Plan and the RAP. The monthly reports from this firm will be shared with all the development partners, when they are submitted to TPA.

(C) Independent Technical Audit on the Bank's Side

11. Complementing these efforts will be enhanced Bank implementation support of the implementation of the works through physical site inspections, and careful review of progress reports. Field based staff will also play an integral role in carrying out random supervision checks; and reporting observed shortcomings during the project implementation. An integral part of the Bank supervision will involve the commissioning of periodic field data collection, laboratory tests and analysis as part of the normal supervision of the project. This will provide an additional professional opinion on the efficiency, economy and transparency of the works undertaken and supervised under the Project. During implementation support missions, TPA and Bank representatives will jointly select a few areas to be monitored. Field and laboratory tests and relevant reporting will be prepared prior to the subsequent implementation support mission, which in turn will review the results together with TPA, making appropriate corrective measures (if needed).

12. ***Reporting.*** Reports will be prepared summarizing all the above activities carried out in the field and in the laboratory (include supporting information), analysis carried out and main findings on the quality of works, and appropriateness of design, monitored during the review period. The periodic report, to be delivered to the Bank and TPA at least one week prior to each implementation support mission, should also include recommendations to deliver the desired outcome.

(D) Financial and Independent Technical Audits on the Borrower's Side

13. Third, extra measures to ensure oversight and proper due diligence will include the use of external financial and technical audits. The details of the financial audit using independent auditors following international auditing standards are discussed in Annex 3 on Financial Management and Disbursement Arrangements. The technical audit will include the hiring of an independent consulting firm to carry out materials testing on drilled core samples from completed road sections to check compliance with the technical specifications. The nature of the tests and sampling required will be detailed in the technical audit Terms of Reference (TOR), which will be subject to formal clearance by the Bank. This independent quality check will be an integral part in ensuring not only that quality is met, but also that the sustainability of such an important asset is maintained to yield better governance outcomes for road users and all other stakeholders.

(e) Civil Society Oversight and Citizen Engagement

14. Independent oversight by civil society is to be achieved through a coalition of stakeholders, via the Port Consultative Committee, which has representatives from all the stakeholders in the port (TICTS, TPA, Shipping lines, TRA, TAZARA, TRL, Freight forwarders etc.). In addition, an effective system of complaint handling, with transparent investigation and reporting of the results will be established. The disclosure of project documentation as per Bank disclosure policies, and the transparent procurement mechanisms with proper advertising, and declaration of contract awards will serve to equip the civil society (port users, stakeholders, media, Non-governmental Organizations) with the information to ensure the project is being conducted in a satisfactory manner. Dissemination of information should be through a well-coordinated communications plan agreed upon by both the World Bank country office and TPA. The public will be informed through the TPA website that representatives of civil society groups are allowed to attend public bid openings. Concerns of affected stakeholders or aggrieved parties are to be handled through a complaint register system. All supervision engineers will be asked to run a complaint book, with the list of complaints forwarded to the responsible officials at TPA for feedback or redress. Further, any party is entitled to lodge complaints on corruption issues to the World Bank Investigation Unit (INT): details online at http://www.worldbank.org/integrity.

(e) The Container Control Program

15. The United Nations Office on Drugs and Crime (UNODC) and the World Customs Organization (WCO) have come together to elaborate the UNODC-WCO Container Control Program (CCP), which is already under implementation in already implemented in Benin, Cape Verde, Costa Rica, Ecuador, Guatemala, Ghana, Pakistan, Panama, Senegal, Togo and Turkmenistan. The CCP has a global reach and aims to fortify the structures and processes which allow for the application of sustainable laws for States and selected ports, so as to minimize the exploitation of maritime containers for the illicit trafficking of drugs, and other transnational organized crime activities.

16. The scope of the CCP includes the following activities:

- Visits to discuss and brief Governments and Government officials about the objectives and activities of the program;
- Technical Needs Assessment of selected seaports and/or dry ports;

- Assessment Report completed with description of the current situation and recommendation for future activities, including needs for technical equipment and training;
- Arranging Training Workshops to introduce risk-based profiling of containers and improved information exchange at the national, regional and international levels on container crime;
- Establishment of the container profiling unit in the selected seaport/dry port; and
- Arranging of Work Study Tours.

17. The immediate beneficiaries at the national level are relevant law enforcement agencies, whose staff will be better structured, trained and equipped to more effectively target high risk shipping containers for law enforcement scrutiny without disrupting the flow of legitimate trade. The measures will directly benefit the trade and the business community as well as seaport authorities through both the improved port and supply chain security and by maintaining the integrity of export commodities.

Creation of inter-agency Joint Port Control Units

18. At the heart of the CCP is the creation of container profiling inter-agency port units at selected container terminals in seaports or dry ports. The units are located in a secure environment, preferably inside the ports, and staffed by front line personnel from different relevant law enforcement agencies. The officials are duly trained, through the use of risk analysis and other proactive techniques that allow to systematically target cargo manifestos and other relevant data to efficiently handle, imports, exports and high-risk containers in transit.

Training

19. The training itinerary is broken down into various phases. The first phase consists of basic training which familiarizes trainees with the various international legal instruments and the principles concerning information sources, risk analysis and other profiling techniques, cargo inspection, information exchange mechanisms, port seizure investigations and trade facilitation. The use of the internet as an open information source is also addressed during training. Following this classroom training, trainees are then introduced to practical training in identifying and inspecting high risk containers which will be conducted by experienced trainers.

20. This basic training is then used during the advanced training stage in which specialized trainers conduct more specialized training. The array of subjects targeted during these specialized training sessions, take into consideration the specific needs and identified problems of the relevant countries. UNODC and WCO work closely with specialized agencies to deliver the necessary specialized training. The third training phase consists of a Study Visit to a benchmarking port which provides the trainees with the unique opportunity to learn first-hand from experienced law enforcement officials and discover different working techniques. The fourth phase encompasses regular mentorship by trainers. This mentorship is organized to warrant the sustainability of the program and to ensure that officials who are new to the program are being adequately trained and possess the same level of skills as their colleagues.

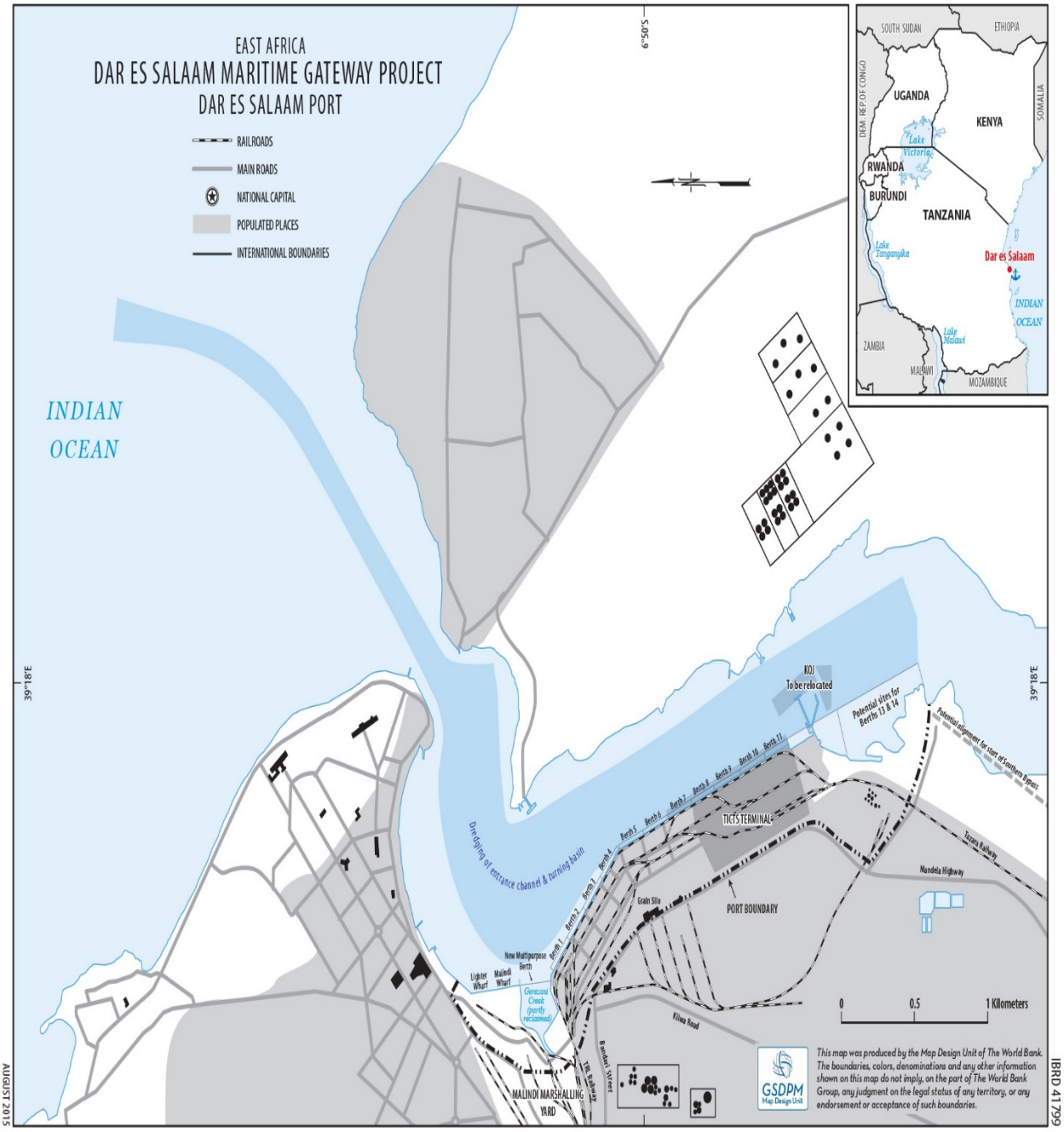
Information exchange

21. The inter-agency container profiling units are equipped to exchange information with counterparts in other countries using a secure communication application developed by WCO

called **ContainerComm**. This user friendly, internet based and multifunctional communication tool facilitates the encrypted exchange of sensitive information between authorized users in participating countries, including alert notices of the shipment of possible high-risk containers. It also allows users to verify container numbers. ContainerComm is both cost effective and requires no special installation. The inter-agency container profiling units are also given access to a search and tracking system for containers. This system allows the users to search and track containers with specific destinations and also gives the user detailed information about the type of cargo, routing, freight payment methods and all information needed to profile and identify high-risk containers.

Annex 9: Maps

Tanzania: Dar es Salaam Maritime Gateway Project (P150496)



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EAST AFRICA
DAR ES SALAAM MARITIME GATEWAY PROJECT
HINTERLAND CONNECTIVITY

AUGUST 2015