Tanzania

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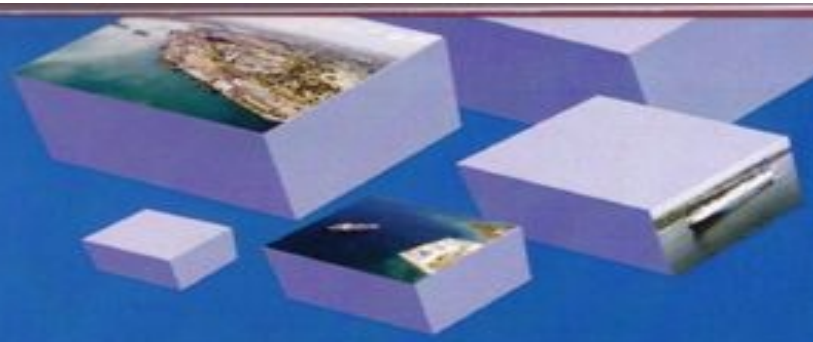

Development Program

Briefing Note

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1. Introduction

Tanzania Ports Authority (TPA) is a body corporate established under the Port Authority Act of 2004. It is headquartered in Dar es Salaam and operates under the Ministry of Transport. It is responsible for promoting the effective management and operations of a system of main gateway ports - Dar es Salaam, Tanga and Mtwara - which serve the Tanzanian mainland and the countries of Malawi, Zambia, DR Congo, Burundi, Rwanda and Uganda.

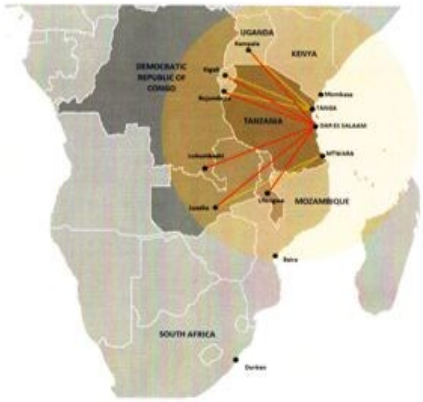


Figure 1: Main Gateway Ports

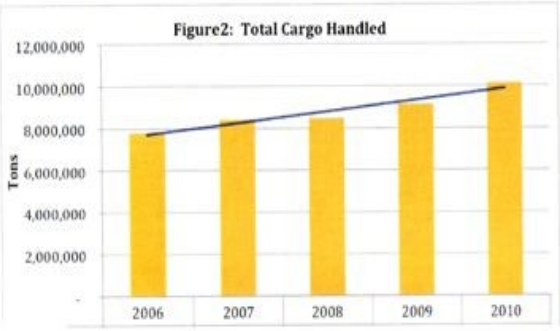
It is also responsible for the development of secondary ports serving the mainland coastal trade, including Pangani, Bagamoyo, Kilindoni (Mafia Island), Kilwa Kivinje, Kilwa Masoko, Lindi and Mikindani. On the great lakes, it is responsible for the development and administration of the inland water-way ports, including (but not limited to) on Lake Victoria: Mwanza North and South Ports, Bukoba, Kemondo Bay, Nansio and Musoma; on Lake Tanganyika: Kigoma and Kasanga; and on Lake Nyasa: Itungi and Mbamba Bay.

2. Historical Performance and Traffic Demand

In 2010, Tanzania Ports Authority handled in excess of 10 million tons of cargo. Most of this was destined for domestic markets (imports for the retail and manufacturing industries in Dar es Salaam and to areas of industrial potential - especially the gold mining belt south of Lake Victoria – and exports from areas of greatest population density, especially the main cash-crop growing regions from the peripheries of the country). Cargo traffic handled for the past five years i.e. 2006 – 2010 are summarized in Table 1 and figure 2

Table 1: Cargo Traffic handled 2006 = 2010.

	2006	2007	2008	2009	2010	AV GROWTH
Coastal Ports						
Dar es Salaam	6,657,496	7,427,274	7,421,204	8,102,956	9,084,855	8.2
Tanga	478,686	445,484	466,051	348,738	509,021	4.6
Mtwara	154,924	89,729	112,939	117,451	173,330	8.8
Sub Total	**7,291,106**	**7,962,487**	**8,000,194**	**8,569,145**	**9,767,206**	**7.7**
Small Coastal Ports						
Kilwa, Lindi na Mafia	17,402	27,845	36,565	21,245	32,924	26.1
Lake Ports						
Mwanza	348,724	315,697	301,588	329,370	250,224	-7.2
Kigoma	115,278	87,414	130,804	217,920	78,224	-7
Kyela	27,142	18,001	10,093	9,368	10,666	-17.7
Sub Total	**491,144**	**421,112**	**442,485**	**556,658**	**339,114**	**-5.6**
TOTAL	**7,799,652**	**8,411,444**	**8,479,244**	**9,147,048**	**10,139,244**	**6.8**



Of all the ports, Dar es Salaam is the largest and currently handles over 9 million tons of cargo (90% of Tanzania's import and export volumes). Tanga handled approximately 0.5 million tons and Mtwara approximately 0.25 million tons. Of the inland lake ports, Mwanza South port on Lake Victoria and Kigoma Port on Lake Tanganyika dominate, each handling approximately 0.2 million tons. .

Most port trade is currently heavily secured toward imports. In the previous 10 year period, there has been no export of dry bulks or vehicles. At Dar es Salaam, the ratio of imports to exports in the liquid bulk trade is approximately 58:1, while for break bulks, the ratio is 11:1. Exports in these markets is orientated to the Island States (especially Zanzibar), mainly of petroleum products, manufactured and processed goods. Though the ratio between container imports/exports (or the ratio between boxes discharged/loaded) has been generally stable at 1:1, most of the export volumes are empty returns. In 2010, this trade accounted for 31% of all container throughput volumes. In the same

period, imports accounted for 47%; exports 17% (equating to an import/export ratio of 2.7:1); transhipments and re-stows 5%.

Average year on year growth for the various trades in the last 10 year period though Dar es Salaam has been: 8% for liquid bulks (mainly petroleum cargo – especially white products); 17% for dry bulks (mainly grains); 5% for vehicles; and 13% for containers. Break-bulks volumes have declined year on year by about 4%, reflecting a shift towards bulk handling or containerisation (for low and high value commodities respectively).

Table 2: Dar es Salaam Port Throughput 2001- 2010 ('000 Harbour Tons/Vehicle Units/TEU)

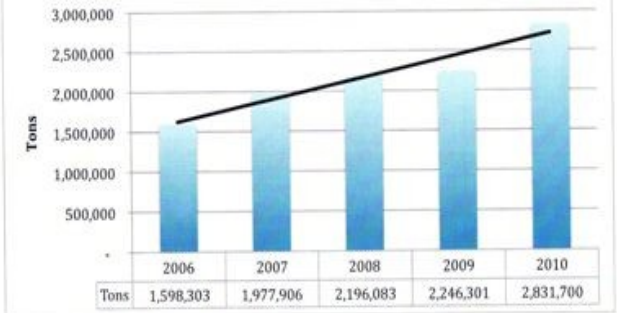
Trade		Year									
		2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Liquid	Imports	1,574	1,604	1,828	2,007	1,936	2,061	2,074	2,142	2,739	3,081
Bulks	Exports	39	54	34	30	44	32	17	52	43	56
Dry Bulk	Imports	385	387	717	669	928	1,105	1,160	966	1,230	1,284
('000	Exports	-	-	-	-	-	-	-	-	-	-
Break Bulk	Imports	574	609	416	472	444	477	269	250	412	242
('000	Exports	24	74	57	33	62	62	143	31	60	11
Vehicles	Imports	48	46	53	61	66	108	85	56	52	58
('000	Exports	-	-	-	-	-	-	-	-	-	-
Containers	Imports	62	67	78	98	108	121	147	161	167	198
('000	Exports	70	71	86	98	118	121	135	154	170	196
TEU)	Transship	12	24	37	56	60	60	56	38	32	16

The transit trade to Tanzania's neighbours accounted for approximately 35% of all port throughput volumes, most to the Zambia and the DRC (which combined currently account for 21.3% of imports and 33.1% of exports), Rwanda and Burundi (which account for 10% of imports and 1% of exports) and the remainder to Malawi and Uganda (1.9% of imports and 0.4% of exports). Transit traffic for the past five years i.e. 2006 – 2010 are summarized in Table 3 and figure 3.

Table 3: Transit Traffic handled 2006 - 2010

COUNTRY	2006	2007	2008	2009	2010
Zambia	804,255	1,020,978	1,018,988	1,100,165	1,341,570
D.R.Congo	413,768	555,772	632,157	506,310	711,499
Burundi	111,942	155,943	193,108	275,143	341,364
Rwanda	86,918	88,586	177,257	229,826	272,426
Malawi	134,565	118,413	107,271	105,102	132,133
Uganda	46,855	38,214	67,302	29,755	32,708
Total	**1,598,303**	**1,977,906**	**2,196,083**	**2,246,301**	**2,831,700**

Figure 3: Transit Cargo Traffic 2006 - 2010

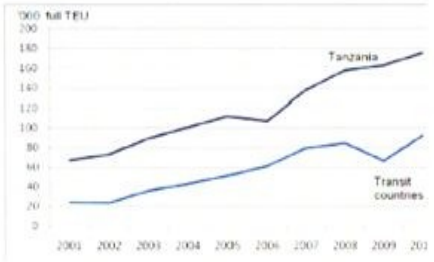


The main trends in port traffic, segmenting the market into containers, liquid bulks, dry bulks, break bulk, and motor vehicles has been as follows:

Container traffic

After a long period of steady growth, container traffic fell by 6% in 2009 in response to the global recession. It has now largely recovered. The largest dip has been in transhipment traffic, largely due to the loss of Zanzibar and Tanga traffic to direct calls and feeder services transhipping in the Middle East. Exports continued to rise as Chinese demand for copper soared, and very low freight rates increased the containerisation of agricultural exports. Tanzanian traffic has been largely unaffected by the recession. The 2009 dip was mainly in transit traffic for Zambia, D.R Congo, Rwanda and Burundi. The trend of container traffic for Tanzania and transit is summarized in figure 4.

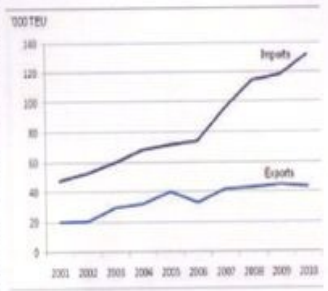
Figure 4: Container Traffic Tanzania and Transit Countries



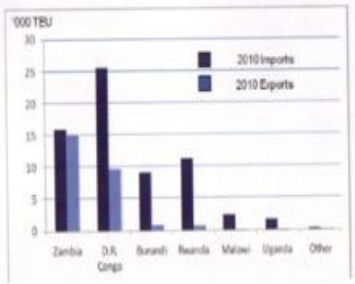
Tanzania's imports and exports rose in parallel until 2006. Since then import growth has dominated. Like Tanzania, container flows for the transit countries are dominated by imports. Only Zambia achieves a reasonable balance between imports and exports. Imports for Zambia and Congo were badly affected by the slowdown in mining activity which followed a sharp fall in copper prices in the first half of 2009 Imports for Rwanda & Burundi were barely affected by the recession, as civil unrest in Kenya caused some traffic diversion from Mombasa. Ugandan imports continued to decline. Exports from Zambia and Congo have been growing strongly Exports from Rwanda, Burundi and Malawi are small and static, and exports from Uganda are in decline. The trend is summarized in Table 4

Table 4: Container Traffic Trend for Tanzania and Transit Countries.

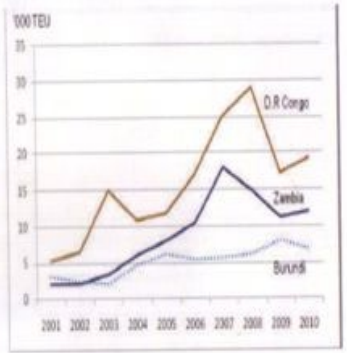
Container Trade Tanzania



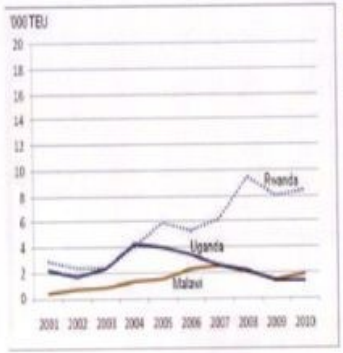
Container Trade Transit Countries



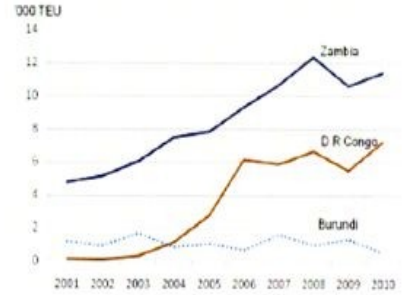
Container Imports DRC, Zambia & burundi



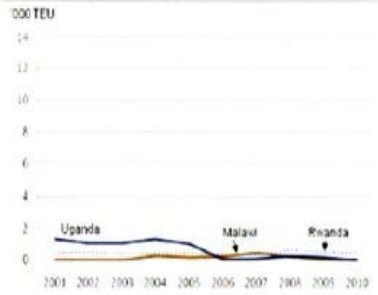
Container Import Rwanda, Uganda & Malawi



Exports Container for Zambia, DRC and Burundi countries

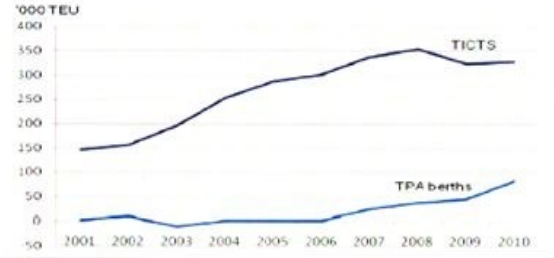


Exports Containers fro Uganda, Malawi and BurundiCountries



Within the port of Dar es Salaam, there has been a steady rise in the amount of container traffic handled over the TPA general cargo berths. TPA is now handling around 80,000 TEU p.a, 20% of the port's total. The reasons for this are the purchase of new container handling equipment by TPA, the larger number of berths available in the TPA area of the port, and the introduction of more flexible and customer-oriented management.

Table 5: Container handled at TPA General Cargo Berths vs TICTS Berths



Liquid Bulks

Liquid bulks increased by over 40% between 2008-10, much faster than the 2001-8 growth rate of 4.5% p.a The growth has been almost entirely in imports. Exports (molasses) have remained static at 40-60,000 tons p.a Import growth has been evenly spread over the three major product groups: crude oil, oil products and other In 2010 liquid bulk imports went mainly to Tanzania and Zambia. Congo traffic is growing fast from a small base.

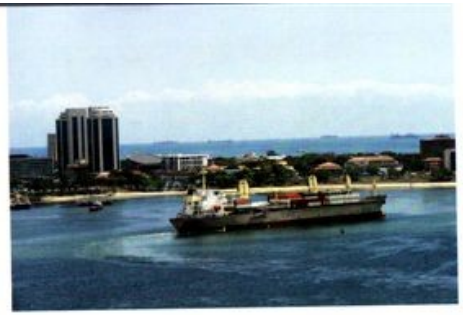
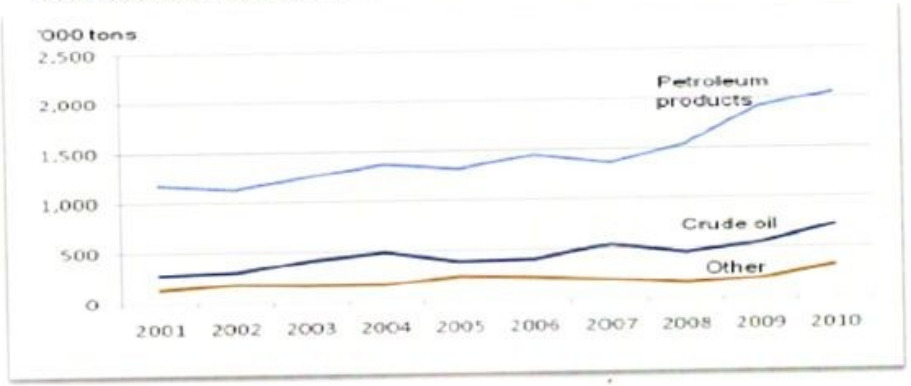


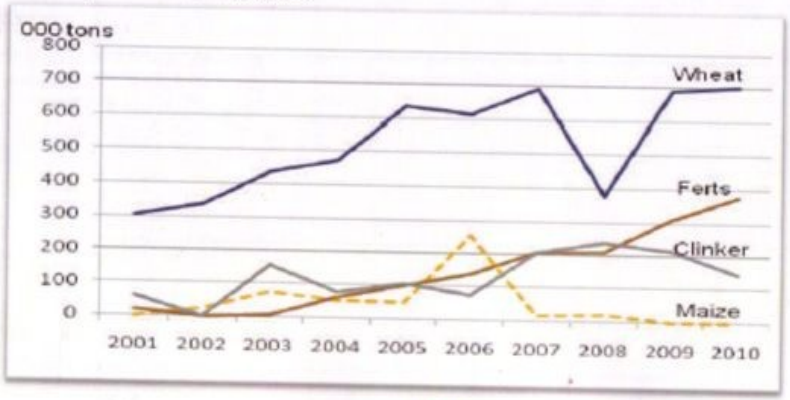
Table 5: Liquid Bulks Products import trends



Dry Bulks

Approximately 40% of the growth in bulks since 2001 has been due to transfers from bags. Fertilizer growth has been strong because of government subsidy schemes in Tanzania and the transit countries. The growth in clinker imports has been due to a gap between clinker manufacturing and grinding capacity at TPCC's Wazo Hill cement works, and may now be coming to an end as local clinker manufacturing capacity is expanded. The big drop in imports in 2008 was due to high wheat prices, and the diversion of Ugandan wheat imports to Mombasa.

Table 6: Dry Bulks Products import trends



Break Bulks

There has been a sharp fall in break bulk cargo affecting both imports and exports. This has been due to increased containerisation, and the replacement of some bagged cargo by bulk shipments.

Table 7: Break Bulks Trends

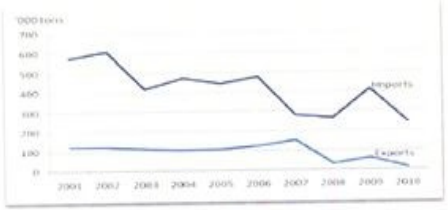
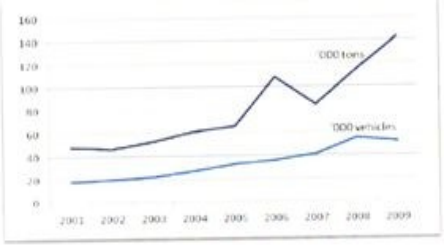
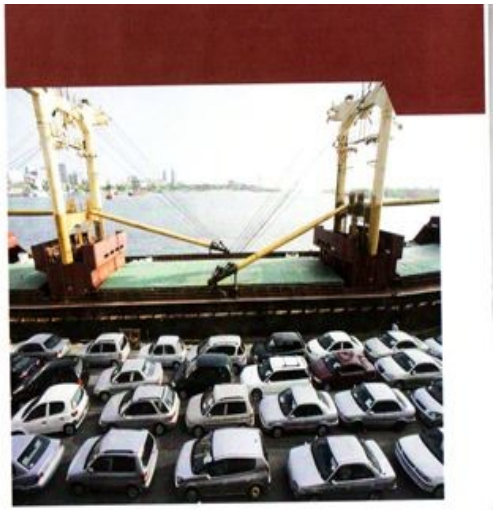


Table 8: Vehicle import Trends





Vehicle imports

Vehicle imports have been growing steadily, but fell by 6% in 2009 The tonnage figures include tractor trailers, railway equipment and vehicle parts. The sharp increase in 2006 was due to imports of railway equipment. In 2009 the tonnage continued to increase, in spite of a fall in vehicle numbers, because of imports of trucks and heavy mobile equipment, which pushed up average vehicle weights.

Traffic Forecast

Port traffic demand has been forecast to reach levels of between 29.1 million tons (low forecast) to 77.6 million tons (high forecast) per annum by year 2028.

Table 9: Tanzania Ports Master Plan - Cargo Demand Forecast at year 2028 (m tons per year)

Port	High Forecast	Low Forecast
Dar es Salaam	41.50	22.65
Tanga	4.60	1.45
Mtwara	24.80	2.40
Lake Victoria	2.05	0.60
Lake Tanganyika	3.25	1.70
Lake Nyasa	1.40	0.30

In 2011, forecast volumes for Dar es Salaam were updated and the port is expected, by year 2028 to handle up-to 6.9m tons of liquid bulk cargo, 7m tons of dry bulks, 0.6m tons of break bulk, 3.3m TEU, 370 thousand vehicles and 1.9m ferry passengers per annum.

This compares to an existing capacity (following completion of expansion works – predominately berths 13 & 14, the SPM and modernisation of Berths 1-7) of approximately 10 million tons of liquid bulks, 6.1 million tons of dry bulks, 4 million tons of general cargo, 1.2 million TEU and 120,000 vehicle unites per annum.

[1] The Tanzania Ports Master Plan 2009
[2] Dar es Salaam Update Forecasts 2011

3. Port Development Challenges

Attainment of high forecast volumes depends largely on unlocking Tanzania's economic potential and the development of national transport infrastructure. Logistics chains in Tanzania and the region as a whole are still very inefficient and port performance is severely impeded by inability to handle, clear and move cargo quickly leading to inefficiency, unpredictability, delay and a high transport cost. Some of the main challenges include:

Trade Growth: This has increased significantly over the last few years and which is reflected in the volumes of goods flowing through Dar es Salaam port. These trends is expected to continue placing stress on infrastructure as the daily freight task is expected to double in the short to medium term;

Trade Growth – By Ports

		High Forecast	Low Forecast
Dar es Salaam	9.084	41.5	22.65
Tanga	0.509	4.6	1.45
Mtwara	0.173	24.8	2.40
Lake Victoria	0.250	2.05	0.60
Lake Tanganyika	0.78	3.25	1.70
Lake Nyasa	0.010	1.40	0.30

Source: Tanzania Ports Master Plan 2009

Trade Growth – By Type Of Cargo

	2010	2028	Daily Productivity required 2010	Daily Productivity required 2028
Liquid Bulks ('000 tons)	3,137	6,907	8,595 tons/day	18,923 tons/day
Dry Bulks ('000 tons)	1,531	6,930	3,518 tons/day	18,986 tons/day
Break Bulks ('000 tons)	253	822	639 tons/day	2,252 tons/day
Containers ('000 TEU)	402	3,226	1,101 TEU/day	8,838 TEU/day
Vehicles ('000 units)	58	372	158 units/day	1,109 units/day
Passengers ('000)	799	1,922	2,189 passengers/day	5,266 passengers/day

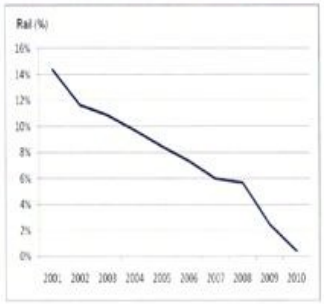
Source: TPA Landlord Strategy – Updated Forecast Volumes for Dar es Salaam 2011

Changes in Shipping Technology: This changes the nature of port operations. Trends to larger container and bulk ships increases the need for concentration at bigger and more specialized terminals, which should benefit importers and exporters through efficiencies gained by economies of scale, increased levels of productivity, shorter turn-around times and lower generalized cost;

The Need for Increasing Inter-modalism especially the need to improve the interfaces between transport modes. This has not yet been achieved in Tanzania's transport system (which is still largely geared towards general cargo handling), and users cannot presently benefit from opportunities of just in-time logistics services;

Deteriorating Rail and Lake Services which should provide the least cost, most efficient and reliable means of moving goods to the peripheries of the country and Tanzania's landlocked neighbors. Indeed and although originally forming the backbone of transport infrastructure the rail/lake system was constructed prior to the introduction of the containerization concept in shipping and has still not fully taken advantage of increasing cargo unitization;

Rail Volumes (as % of total port throughput)



Poor Land-Use Planning, increasing urbanization and rapid population growth, uncoordinated land development (especially in the port environs) and haphazard planning across different transport sectors (hindering the development of systematic plans necessary for a smooth and balanced flow of cargo to and from the ports). In Dar es Salaam, these problems are compounded by a poor port access road system - the Mandela highway only extends to gate number 5 and Bandari Road remains a single lane carriageway, poor intersection and turn out arrangements, a poor link road system (especially to ICD's located within the city), poor truck waiting environments and an absence of truck parking areas;

Increasing Port Competition as Tanzania's share of the transit trade cannot be taken for granted and competitiveness is not only linked to distance, transport mode and quality of infrastructure; but also to the competence of private and public logistics service providers; the performance of customs and other agencies; transparency; and, the reliability and predictability of the supply chain.

4. The Port Development Corridors

Accordingly, port development will increasingly be linked to corridor development, which in Tanzania can be defined into four broad, cohesive areas along existing transport routes. These are, the Central, North-South (also known as the Uhuru , Southern or Dar es Salaam corridor) Tanga and Mtwara Corridors.

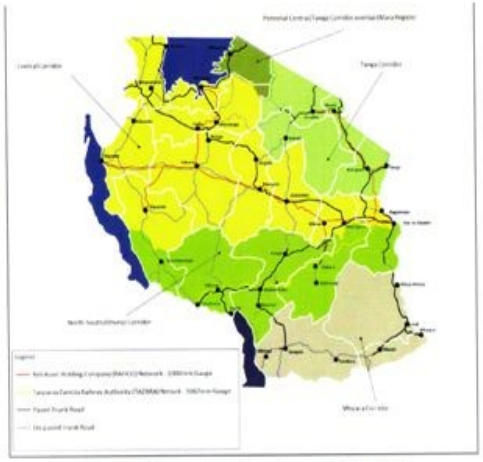


Figure 5: Tanzania's Development Corridors

The Central Corridor

The Central Corridor runs from Dar es Salaam to Kigoma on the shores of Lake Tanganyika to the west and to Mwanza on the shores of Lake Victoria in the northwest. It links the East Africa Community (EAC) to Dar es Salaam port. The infrastructure spine is provided by the Dar es Salaam to Kigoma railway, with a mainline branch between Tabora northward to Mwanza. In addition the country's main trunk road runs from Dar es Salaam through Morogoro and then on to Dodoma. The trunk road system then runs northwest to Singida, where it branches either westward towards Rwanda, Burundi and Uganda (via the Kagera Region), or northwards towards Mwanza. An all paved road system also circumnavigates the lake, running westward through Sengerema and linking to the Biharamulo – Bukoba road just south of

Muleba (on the western shores of the lake), or eastward from Mwanza through Musoma and onto Tarime. In the dry season, it is also possible to route directly westward from Dodoma towards Tabora and Kigoma. From Kigoma there are inland waterway connections north to Burundi (Bujumbura), west to the DRC (Kalemie and Uvira) and south to Zambia (Mapulungu). Within Tanzania the Central Corridor includes the regions of Dar es Salaam, Pwani, Morogoro, Singida, Dodoma, Tabora, Shinyanga, Mwanza, Mara and Kagera. The Central corridor also has many other important links north to the Tanga Corridor and southwards to the North-South (Uhuru) Corridor.

On Lake Victoria, the largest of all African lakes and shared by Tanzania, Uganda and Kenya, the Central Corridor lake ports (operated by TPA) include, Mwanza South and North (designed respectively for cargo and passenger services and constructed after the railway reached there in 1928), Bukoba (constructed in 1945) and the rail wagon terminals at Musoma and Kemondo Bay (22 km South of Bukoba) . These latter terminals were constructed with the intention of providing a seamless link around the lake though rail-wagon ferry services provided by the vessels 'Umoja' (constructed in 1964 and flagged in Tanzania), the 'Uhuru' (constructed in 1966 and flagged in Kenya) and the 'Kaawa', 'Pamba' and 'Kabalega' (constructed in 1981, 1982 and 1984 respectively and flagged in Uganda). Deterioration of train services on the central corridor has however resulted in a generally dilapidated rail and lake transport network and most cargo is now transported by road around the lake.

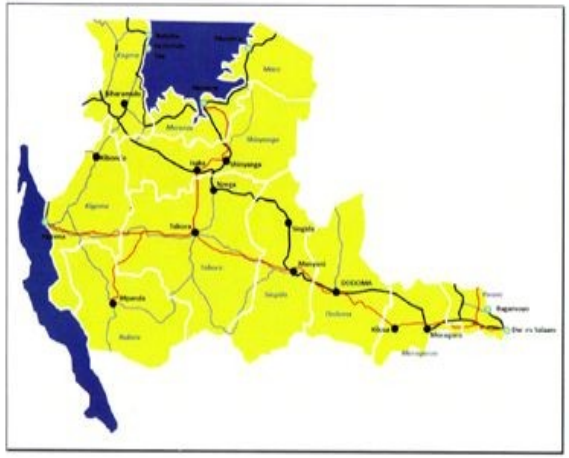
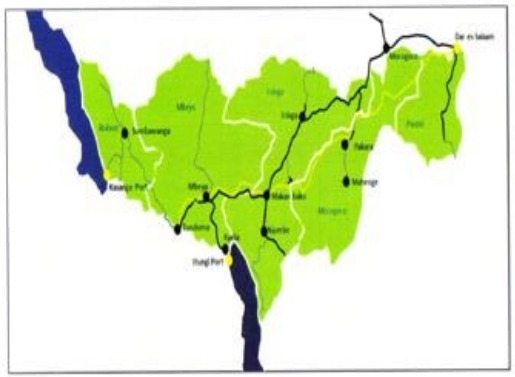


Figure 6: The Central Corridor

[1] Rail wagon terminals were also constructed at Mwanza South Port, Kisumu (Kenya), Port Bell and Jinja (Uganda).
[2] Though neither Musoma or Kenodo Bay are provided with a rail hinterland
[3] Subsequently sunk

The North-South (Uhuru) Corridor

The North-South (Uhuru) Corridor is formed along the backbone infrastructure linking to Dar es Salaam port (a shared gateway with the Central Corridor) to the regions of Morogoro, Iringa, Rukwa and Ruvuma and to the Northern and Central Provinces in Zambia. It extends to the Copper-belt, the Katanga Provence in the Democratic Republic of Congo and Malawi. The backbone infrastructure was built after Tanzanian independence as an alternative to the South African and Mozambique routes to Zambia and includes: The Tanzania-Zambia Mafuta Pipeline (TAZAMA) of 1,710 km in length; the Tanzania-Zambia Railway Authority (TAZARA) network of 1,870 km in length (commissioned in 1976 to link Dar es Salaam Port to Kapiri Mposhi and thence to the Zambian Railways) and the Tanzania-Zambia (TANZAM) Highway, a paved trunk road system of 1,762 km linking Dar es Salaam port to Kapiri Mposhi.



On Lake Tanganyika, the Uhuru Corridor Port links to Kasanga Port, located at 8.460S 31.130E in the south-east corner of the Lake. It is located on a small peninsular at the base of high ground and consists of a concrete pier on a suspended deck built in 1997 and rehabilitated in 2007. In 2009, the port handled 16,500 tons, mainly cement from Mbeya which is exported to Burundi and the DRC. It is connected by a 333km gravel road via Sumbawanga to Tunduma. This road is currently being upgraded to bitumen standard.

Tanga corridor

While there are plans to link the port of Tanga (or a potential new port to be developed at Mwambani) with Uganda through Musoma or Mwanza on Lake Victoria, the corridor currently includes the Tanga, Kilimanjaro, Arusha, and Manyara Regions in Tanzania. It stretches west from Tanga Port, through the productive highlands to Moshi and Arusha, and connects north to Kenya by road and rail (through Arusha, Moshi and Himo). It also

[1] Also Known as the Southern Corridor, or the DAR ES Salaam Corridor

links to the central corridor via Babati south-west towards Singida or south to Dodoma. Road and rail links (between Chalinze and Segera and Ruvu and Korogwe respectively) also provide access to the Dar es Salaam market and its modern deep-water port.

Figure 8: Tanga Corridor (with possible future link west to Mara Region)

The Mtwara Corridor

The Mtwara Corridor was formed in 2004 by the leaders of Tanzania, Mozambique, Malawi and Zambia, meeting in the context of SADC member states. It was established as a public private partnership with the support of some 20 development organizations and is intended to promote trade, investment and tourism – coordinated in Tanzania by the National Development Corporation. Mtwara is one of the fastest growing areas of East Africa, due mainly to oil and gas exploration. Major investment is being planned on a number of fronts. This includes onshore infrastructure to process gas locally and transport this to markets. Similarly, oil and gas exploration is driving Mtwara port and associated industrial development and considerable future investment is expected. The corridor extends from Mtwara port westwards to Mbamba Bay on Lake Nyasa, and then on to Malawi and northern Zambia. To the south, it links across the Ruvuma River to Mozambique.

In Tanzania it embraces Mtwara, Lindi and Ruvuma Regions. It also covers parts of southern Morogoro and Iringa regions in the north, linking to Dar es Salaam via Lindi and Kilwa. Major works currently being undertaken include upgrading the trunk road westward from Masasi through Tunduru and Songea to Lake Nyasa. From the eastern shore of Lake Nyasa ferry links run west to Ngala and Nkatha Bay in Malawi and south to Cobue, Metangula and Meponda in Mozambique. The Unity Bridge across to Mozambique is a recent crucial link that improves the corridor's reach, as is the paved road network that runs north from Songea to Njombe, Makambako and Mbeya. Future plans include a railway line to link Mtwara port with the development of the Mchuchuma and Liganaga coal and iron/steel development, and possible future hydroelectric projects.

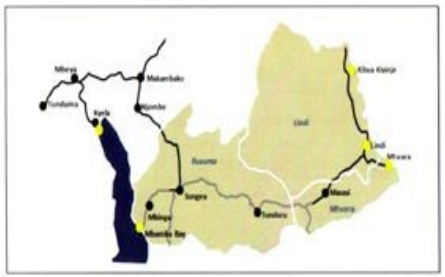


Figure 9: Mtwara Corridor

5. Development Programme

Dar Es Salaam Port:

Dar es Salaam Port is the gateway to the Central and North-South (Uhuru) corridors. It is developed along a the western side of Dar es Salaam harbour and include eleven berths deep water berths, seven of which are currently dedicated to general cargo (including container, dry bulk, break bulk and RoRo operations) and four to dedicated container operations (although an berth no. 8 cannot yet support ship to shore gantry cranes). Other facilities include the Kurasini Oil Jetties (KOJ), the Single Point Mooring (SPM) and the Malindi and lighter wharves (for coasting trades).

The port and approach is designed to handle panamax size vessels although length is restricted to 230m overall. KOJ is designed for tankers up-to 45,000 tons deadweight (dwt) and the SPM, developed outside the port at Mwjimwema Bay, for tankers up-to 120,000 dwts. The channel was deepened and straightened in 1997 (to a minimum depth of 10.7 metres). Depths within the southern creek (fronting the deep water berths) have been dredged to 10.0m. Ships with drafts approximating the depth of the port approach have restricted arrival and departure schedules depending on tide levels (which are semi-diurnal - the Mean Spring Tidal range is 3.6m).

The total length of the 11 deep water berths is in excess of 2,000 metres and depths are advertised between 9.5m and 12.2m relative to low water. The first deep water berths (berths 1-3) were built in 1953-56 and are of block wall construction. Berths 4-11 were constructed in the 1970's and consist of suspended decks on an open piled structure

Table 10: Berth Details Dar es Salaam

Year of Construction	Berth Number/Name	Use (2010)	Length (m)	Advertised Depth (m)
Malindi Quays				
1907	Lighter Quay	Coastal Cargo (Break-Bulk)	88	2.5
1921	Dhow Warf	Coastal Cargo (Dhows)	105	2.0
1921 (1983)	Tacoshili Wharf	Fishing Vessels	20	2.5
1921	Maritime Institute	Seafarer Training Centre	25	2.0
1921	Marine Police	Marine Police	139	2.0
1933	Malindi Wharf	Coastal Cargo/Passengers	85	5.1
1990	Passenger Wharf	Fast Passenger Ferries/ Customs	85	4.0
Deep Water Quays				
1950s	Berth No. 1	General Cargo (Break-Bulk)	185	9.5
1950s	Berth No. 2	General Cargo (Break-Bulk)	183	9.5
1950s	Berth No. 3	General Cargo (Break-Bulk, Containers & RoRo)	184	9.5
1970s	Berth No. 4	General Cargo (Break-Bulk , Containers& RoRo)	181	10.1
1970s	Berth No. 5	General Cargo (Break Bulk and Containers)	183.5	10.1
1970s	Berth No. 6	General Cargo (Break-Bulk and Containers)	184	10.1
1970s	Berth No. 7	General Cargo (Bulk)	186	12.2
1970s	Berth No. 8	Container (Geared Vessels)	186	12.2
1970s	Berth No. 9	Container	186	12.2
1970s	Berth No. 10	Container	180	12.2
1970s	Berth No. 11	Container	180	12.2
Oil Jetties				
1958-1994	KOJ 1	Product Tankers (45,000 dwt)	235	14.0
1997	KOJ 2	Coastal Tankers (7,000 dwt)	-	8.0
1968	SPM	Crude Tankers (120,000 dwt)	-	24.0

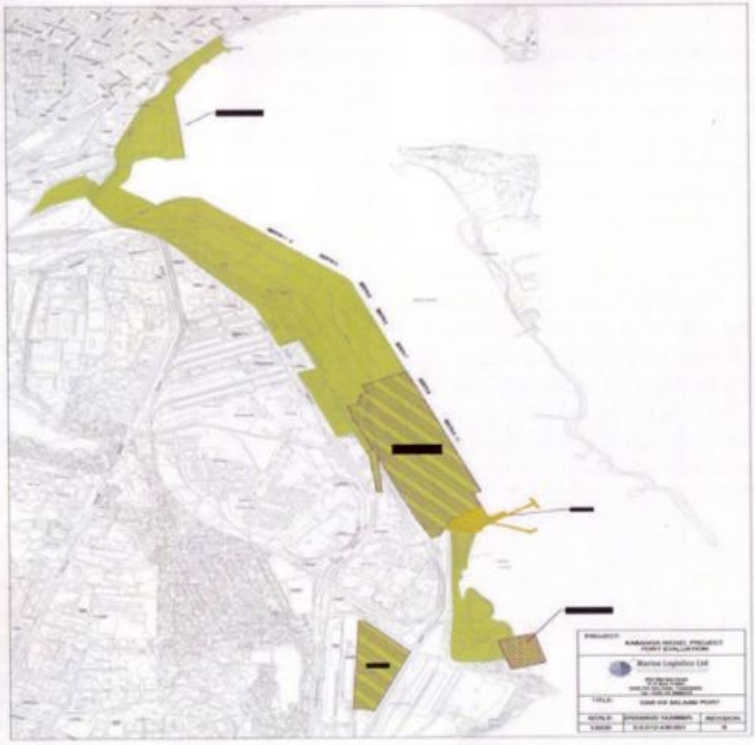


Figure 10: Berth Detail Dar es Salaam

Berths 9 to 11 were converted to dedicated container terminal use in 1988 with 18 hectares of land. Of this, 12 hectares were developed as a stacking yard using space efficient rubber-tyred gantry crane systems (RTG) on ship parallel blocks. In 1999, the Government of Tanzania approved a reform strategy to involve the private sector in operational aspects of the port and in May 2000, the Tanzania International Container Terminal Services (TICTS) consortium was assigned a 10-year concession to manage the terminal. In September 2005, the Government of Tanzania extended the concession period up-to 2025 and handed over berth 8 and the Ubungo ICD to the Container Terminal. Incorporation of berth no. 8 and the adjacent back-port area has increased the size of the container terminal by an additional 5.5 hectares and the area has been redeveloped for dedicated container yard operations, increase holding capacity to between 10,000 and 14,000 TEU.

The main liquid bulk terminals of the port of Dar es Salaam include the Kurasini Oil Jetty (KOJ) and the Single Buoy Mooring (SBM), the latter which is established outside the port within Mwjimwema Bay. In the recent past the sole use of the SBM has been to transfer crude oil to Zambia. The main bulk liquid terminal, Kurasini Oil Jetty (KOJ) is constructed close adjacent to the container terminal berths 9-11 and consists of two petroleum berths, KOJ-1 designed to discharge tankers up-to 45,000 deadweight tons, and KOJ-2 designed to load and discharge coastal tankers up-to approximately 7,000 deadweight tons.

Both the RAHCO rail network of 1.000m gauge and the TAZARA network of 1.067m gauge extend to the port (but inside the port boundary are owned and maintained by TPA). In addition, five gates are used linking the port to the city road infrastructure. Outside the port, off-dock facilities for container imports/exports (referred to as ICDs in Tanzania) have been constructed in greater Kurasini area as a way of temporarily easing space constraints within the port caused by slow off-take processes. These depots, designed for front loader operations, include the Dar es Salaam Inland Container Depot (with a yard holding capacity of 450 TEU), Malawi Cargo Centre (with 756 TEU capacity), Mofed Tanzania Ltd (2,500 TEU), Tanzania Road Haulage (3,500 TEU), AMI Tanzania Ltd (2,500 TEU) and Azam ICD (3,460 TEU).

To meet the future challenges, TPA is developing a number of projects at Dar es Salaam. These include:

Projects Currently In Progress

- *Construction of a new Container Terminal (Berths 13 &14):*

  This project, located west of Kurasini Oil Jetty, will be developed on reclaimed land and designed for an annual throughput capacity of 600,000 TEU per annum when complete. It includes all associated Channel dredging and widening for full size panamax vessels (5000 TEU), all civil works and buildings, container yard and utilities, access roads and parking. It is a public procurement contract for construction, though operations are planned to be concessioned.

Figure 11: New Berth 13 & 14 Dar es Salaam

- *Replacement of the SPM System*

  This project is a new multi-petroleum products (white and black oils) offshore facility located in Mjimwema Bay outside the port, designed for tankers up to 120,000 deadweight tons, including pipelines linking to the TIPER (and other) bulk storage Facility at Kigamboni (the eastern shore of Dar es Salaam harbour).The construction contract was awarded to Leighton Contractors Pte Ltd and is expected to be complete mid-2012.

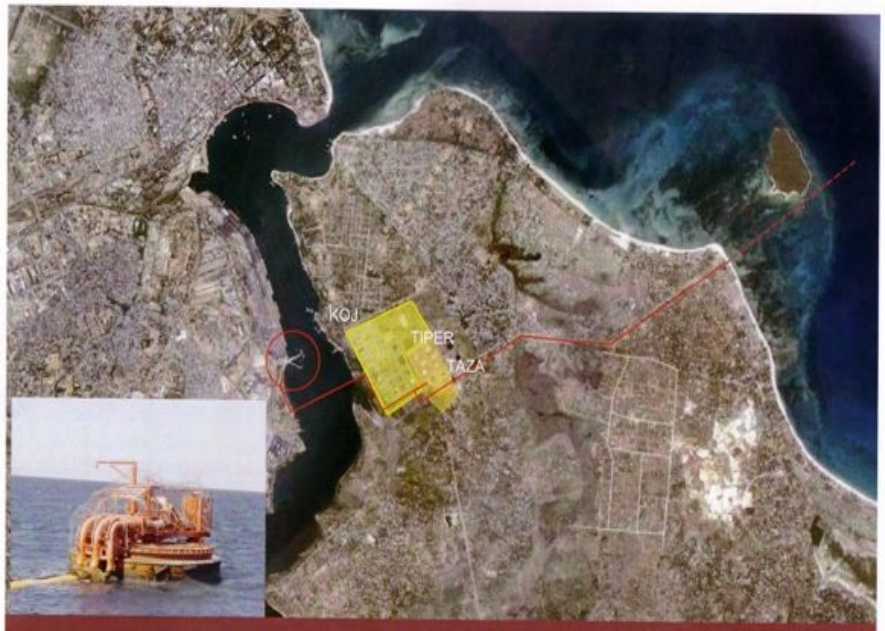


Figure 12: New Multi-Products Single Point Mooring System Dar es Salaam

- *Single Point Mooring (Transfer Pipelines Kigamboni - Kurasini):*
  This project, which is an extension of the SPM works that are currently in progress includes the development of a new multi-petroleum products (white and black oils) transfer pipelines between Kigamboni and Kurasini, including mid-stream bulk oil storage facility.

- *Modernisation of Berths 1-7:*
  This project includes deepening and strengthening works The project is at the feasibility stage, being funded by the Development Bank of Southern Africa and Trade Mark East Africa and is divided into two parts. The main objective of Part A is to provide a technical, financial and environmental feasibility assessment on the most suitable method of strengthening and deepening berths 1-7 from a level of approximately 9m (berths 1-3) and 10m (berths 4-7) to 13 or 14m, construction of a dedicated RoRo berth and deepening and widening the adjacent turning and maneuvering basin at Dar es Salaam port to handle increasing size vessels (and cargo exchanges) in an efficient and cost effective manner. Part B of the study is to provide a technical, financial and environmental feasibility assessment on the most suitable method for modernizing the cargo handling procedures on berths 1-7 in order to achieve a smooth, cost effective and balanced flow of import and export cargo through the port. Part B of the study includes presenting viable options for future implementation and, making a thorough review of the best Public Private Partnership (PPP) option and providing recommendations for its implementation. The studies are expected to be awarded and completed in early 2012.

- *Port Connectivity Improvements:*
  This project which is part of a wider program of support funded by Trade Mark East Africa includes land-use mapping in the greater Kurasini area and is designed to improve industrial zoning, traffic flow arrangements (for the different types of cargo trade), gates and

Figure 13: Port Connectivity Improvements

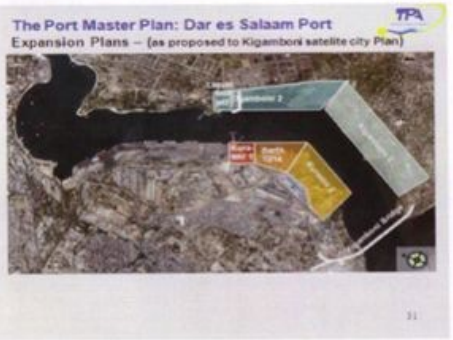
Kisarawe Dry Port:

This project, which is at the feasibility stage and being funded by the World Bank, includes provision of a Dry Port on the outskirts of Dar es Salaam City which acts as an extension of the port for container and vehicle traffic destined to or originating from the upcountry and the transit (landlocked) markets. The main components of the project include: rail shuttle transport linkage; re-alignment of existing container yards at Dar es Salaam port; new dry port terminal, new trunk road access, new mainline (RAHCO and TAZARA) spur lines, freight station, customs and clearing and forwarding buildings, truck parking and associated facilities. The main objective of the feasibility study is to build on the findings of earlier work and providea provide a detailed assessment of all economic, financial and technical aspects for developing the dry port which delivers best value for money. The feasibility study is divided into three parts. The first part of the study includes a comprehensive land-use survey within Kisarawe District. The results of this study shall be taken into consideration by the consultant when undertaking the feasibility study, and allow TPA to request land be reserved under the various ordances of the Land Act for future dry port development (and access thereto). Part 2 examines the economic and technical rationale for developing a dry port and part 3 is designed to review and recommend the best Public Private Partnership (PPP) option for its implementation.

Figure 14: Kisarawe Dry Port

- *New berths and yards at Vijibweni*

  Dar es Salaam. This project, at identification stage, includes development of new berths on the eastern side of Dar es Salaam harbour, linked by a bridge south of the existing dockyard and fronting the new Kigamboni city extension.



- *Dar es Salaam Harbour Water Front Development –*

  The project entails development of facilities for growing passenger traffic to Zanzibar and other costal ports as well as future cruise tourism.

Figure 15: New Berths Vijibweni

Figure 16: Dar es Salaam Water Front Project

- *New Dockyard Facility –*
  to replace the existing slipways which are to be removed allowing for construction of berths 13 & 14. The project entails procurement of a floating dry dock facility and the supporting infrastructure.

Estimated Costs

Table 11: Summary of Estimated Costs (Dar es Salaam Port Projects)

Project	Status	Estimated Cost (USD)	Source of Funds	Business Model
Projects On-going				
Container Berths 13 & 14	Detailed Design Complete, EIA Approved. Construction waiting Government Guarantee	523.1 Million	Development Bank Finance USD 470.8 Million Commercial Debt USD 52.3 Million	EPC contract for development with construction tied to loan conditions Operations to be Concessioned
Single Point Mooring (Multi-product Facility)	Construction on-going with expected completion 2012	66.6 Million	Commercial Debt USD 66.5 Million	EPC contract for development Possible Management Contract for Operations
Projects in Development				
Port Connectivity Improvements (Greater Kurasini Area)	At Feasibility Land-use surveys to be completed 2011 Preliminary Design and Full Feasibility in 2012	60 -80 million	Grant Financing for Feasibility	Public Procurement (Urban Roads and associated infrastructure). PPPs for truck parking facilities and associated works
Modernisation of Berths 1-7	At Feasibility (complete 2011)	251.5 million	Grant Financing for Feasibility Development Bank Finance for Deepening and Strengthening Works	Public Procurement (Deepening and Strengthening Works) PPP for modernising cargo handling arrangements
SPM Transfer Pipelines	At Feasibility	50-80 Million (depending on Tank-farm options chosen)	To Be Identified	Public Procurement for Construction Possible Management Contract for Operations
Kisarawe Dry Port	Pre-Feasibility Completed 2011 Full Feasibility to commence 2012	300 million	WB finance for Feasibility	Possible PPP
New Berths Vijibweni	At Identification	-	To Be Identified	Possible PPP
New Dock Yard	At Identification	-	To Be Identified	Possible PPP
Water Front Development	Feasibility Complete		Commercial Debt	Possible PPP

6. Bagamoyo Port (Ras Mbegani)

In addition to the developments at Dar es Salaam, TPA plan to construct a new port at Ras Mbegani, Bagamoyo. This project, at a site 60km north of Dar es Salaam is designed to cater for forecast growth in the container and vehicle (RoRo) trades after year 2018, including provision of EPZ and other facilities.

On the landward side, its strengths include its geographical position in the wider physical, human and economic environment, especially its location close to the current commercial capital, its proximity to both the central and the North-South (Uhuru) transport corridors (linking via Kibaha) and its expansion possibilities to cater for dry and liquid bulk cargo if necessary. On the seaward side, conditions of site mean that extensive capital dredging is required (estimated, when complete, at between 17.8 and 21.5 million cubic metres depending on port design depth – to 13.5 and 15.5m relative to Chart Datum respectively). It is situated in Mlingotini (Lazy) Lagoon, which is separated from the open sea by Ras Luale, a low point forming the extremity of a spit of coral and sand covered with thick bush, which extends parallel with the coast. The bay is enclosed by the above mentioned spit which mostly dries at low water though there is a narrow channel to Ras Mbegani, a low mangrove point is situated 1 nautical mile west of Ras Luale.

The project, which feasibility was completed in 2010 is designed to be constructed in three phases. Under a high growth forecast, phase one is expected to be operational by year 2018, phase two by year 2023 and phase three by year 2027. The new port is expected to handle up to 600,000 TEU and 100,000 vehicle unites per annum under phase one, increasing to 1.5m TEU and 175,000 vehicle units per annum under phase two and up to 2.8m TEU and 270,000 vehicle units per annum under phase three.

Estimated Costs

Estimated cost of the above projects are summarised in the table 12 below

Table 12: Estimated Costs (Bagamoyo Port Project)

Project	Status	Estimated Cost (USD)	Source of Funds	Business Model
Bagamoyo Port *Ras Mbegani)	Feasibility (Port Installations) Complete 2010 At Identification for Hinterland Connectivity	1 billion (dredging and civil works for port development only)	To Be Identified	Possible PPP

Figure 17: Site of New Bagamoyo Port (Ras Mbegani)

Figure 19: Proposed Site Layout

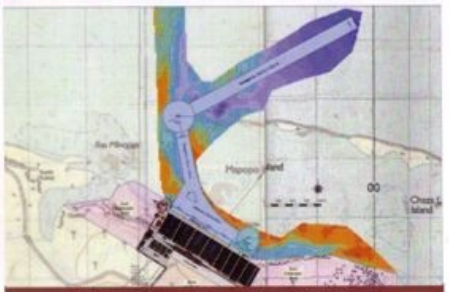
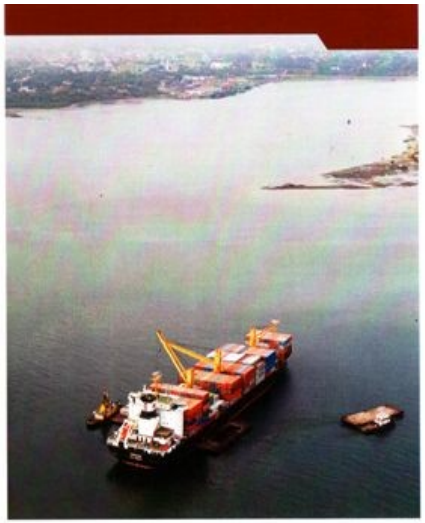


Figure 18: Proposed Channel Layout

7. The Tanga Port

Tanga Port is located on the northern Tanzania coast, close to the Kenya boarder at 5o 03' South and 39o 07' East. It was the first of the modern (lighterage) seaports of the East African mainland to be developed, its primary role being to serve the agricultural economy of the Kilimanjaro region. Railway construction was first commenced in 1893, but by 1895 only 40 km of line had been laid and construction was abandoned. In 1899 construction was recommenced and the line reached Mombo in 1904 and Moshi in 1911. In 1924 a branch line was constructed linking Moshi to Voi in Kenya and in 1929, the mainline extended to Arusha.

As a lighterage harbour, ships are worked in an inner and outer anchorage by means of lighters and pontoons for loading and offloading cargo. It is located in Tanga Bay, fronting the town, and is provided with two shallow water berths with a total length of 380m and a depth of 3.0 metres (relative to Chart Datum). In 1970, an L-shaped jetty was constructed to handle bulk fertilizers (including export of liquid ammonia), located close south east of Ras Kasone, the southern entrance point to Tanga Bay. Operation of the fertilizer jetty ceased in 1990 (when the factory was closed) and the jetty has subsequently been removed. Facilities for bulk petroleum imports include two shallow water buoy moorings situated within Tanga Bay and a deep water conventional buoy mooring located close adjacent to the old fertilizer jetty.



The peak year for Cargo handled at Tanga port was 509,021 handled in year 2010 whereby the port capacity of 500,000 tons was reached. Tanga's intrinsic weakness as a lighterage port has been its limited hinterland penetration and the collapse of the sisal growing industry. Road improvements have enhanced the Dar es Salaam port capacity to capture almost all of the traffic to the northern parts of Tanzania. Cargo traffic handled at Tanga port is summarized in Table 13.

Table 13: Cargo Traffic handled at Tanga Port 2000 - 2010

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Imports											
Containerised Cargo	45,315	58,332	67,647	74,661	79,078	88,253	49,651	83,308	71,126	93,105	102,035
Convetional Cargo	27,058	18,945	10,151	22,982	21,419	38,120	107,324	96,767	170,017	100,533	255,131
Liquid Bulk Cargo	11,056	23,479	22,394	33,335	28,427	57,040	103,921	97,004	46,692	6,654	1,435
Sub Total	**83,429**	**100,756**	**100,192**	**130,978**	**128,924**	**183,413**	**260,896**	**277,079**	**287,835**	**200,292**	**358,601**
Exports											
Containerised Cargo	37,541	63,905	77,560	89,396	92,979	88,797	55,791	57,997	10,122	51,123	41,622
Convetional Cargo	58,145	66,860	90,704	116,244	117,410	127,306	161,999	110,408	168,094	97,323	108,798
Liquid Bulk Cargo	-	-	-	-	110	-	-	-	-	-	-
Sub Total	**95,686**	**130,765**	**168,264**	**205,640**	**210,499**	**216,103**	**217,790**	**168,405**	**178,216**	**148,446**	**150,420**
Grand Total	**179,115**	**231,521**	**268,456**	**336,618**	**339,423**	**399,516**	**478,686**	**445,484**	**466,051**	**348,738**	**509,021**
Container Traffic TEU's	10,102	11,637	10,987	12,410	12,674	13,682	8,624	8,894	12,263	14,796	12,125

TPA have invested in additional barges and tugs making stream working more productive and the port now handles mainly clinker and coal for Tanga cement company. Rehabilitation of yards and investment in container handling equipment mean that the port has an annual capacity of up to 750,000 tons and between 100,000 and 130,000 TEU per annum. More recently, Uganda has shown interest in using Tanga (including possibly Mwambani Bay – see below) as a corridor port and TPA are in the process of conducting studies to determine the feasibility of modernising existing facilities to handle increasing volumes.

Figure 19: Proposed Site Layout - Mwambani New Port

Mwambani Bay

Development of a new deep water port in Mwambani Bay is predominantly for dry bulk and general cargo commodities, in line with the increasing demand for coal and clinker, and potential export from new projects, including wheat, woodchips, soda ash, phosphates and bauxite. TPA have already reserved land for this, at a site that was first ear-marked for potential development in 1975 . On the landward side, it is located close to the Tanga-Korogwe road and the terrain is both relatively under-developed and flat and therefore presents no major physical obstruction for road and rail connectivity.

On the seaward side, the site is approached in a natural deep-water break between the fringing reefs on Karange and Yambe Islands which are steep-to on the eastern side. Within the bay, average depths are approximately 15m (maximum depth is 28m), though there are some isolated shoals, which depending on the design of the approach channel (and the final selection of the site for port development within the Bay) may be avoided without need for channel dredging. As the western shore of the bay is fronted by an extensive drying foreshore, the 1975 study identified an area fronting Ras Nyamaku as the most suitable for berth construction as this site limits the extent of near and foreshore reclamation. This low lying area

* As part of the East African Port Development Study

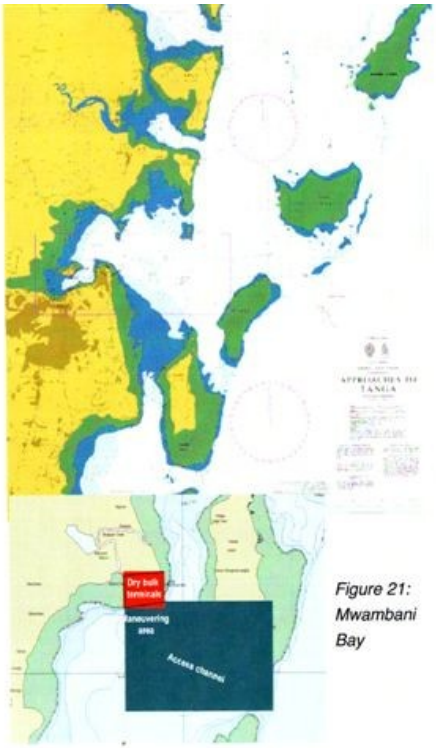


Figure 21: Mwambani Bay

however supports a large mangrove habitat that might be difficult to reclaim. An alternative area fronting Mwambani village on the western shore was therefore identified and TPA are currently conducting studies to determine the feasibility of each option.

[9] The Tanzania Ports Master Plan 2009

Estimated Costs

Table 14: Estimated Costs (Tanga Port Project)

Project	Status	Estimated Cost (USD)	Source of Funds	Business Model
New port at Mwambani Bay	At Feasibility study to be completed by Nov 2011	To be identified	To Be Identified	Possible PPP
Expanding the existing container handling area by demolishing some of the sheds which are under utilized	Ready for implementation	15	To Be Identified	Loan financing
Upgrade bulk handling facilities including use of vacuators	Ready for implementation	27	To Be Identified	Loan financing
Procurement of various equipment	Ready for implementation	25	To Be Identified	Loan financing

8. Mtwara Port

Mtwara port, located in a deep water harbour at 10o 15' South and 40o 12' East in southern Tanzania close to the border with Mozambique was constructed in 1954 and initially developed together with a short railway to serve an agricultural development scheme (focused upon groundnut production) but removed in 1963. It is entered from the SE corner of Mikindani Bay between Ras Lichamelelo and Msemo Spit. The fairway is deep with a width of about 250 m, however the sharp turn around Mesemo Spit restricts the port to vessels of 175m length. A deep water quay with depths of 9.8 m and of 385 m length is situated on the SW shore of a large bay that provides deep water anchorage. The present port covers and area of about 70ha, however additional land of 2,650ha has recently been acquired by the port for future development, which pattern (like Mbamba Bay below) is entirely dependent on the successful implementation of several Mtwara corridor projects.

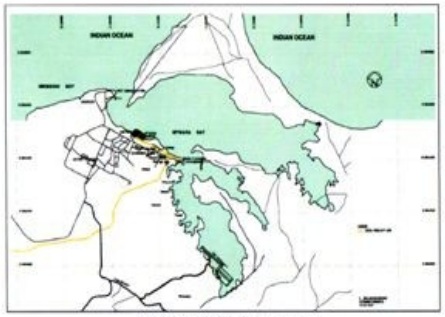


Figure 22: Mtwara Port

The intrinsic capacity of Mtwara port is to handled 400, 000 tons per annum. The peak year for Cargo handled at Mtwara port was 2001 when a total of 181,834 tons were handled. Cargo traffic handled at Mtwara port is summarized in Table 15.

Mtwara port has been limited inadequate transport link with the port hinterland, lack of regular coastal vessels and competition from road transport for coastal traffic. Measures taken to mitigate these challenges includes leasing of port land and facilities to private companies with potential projects to generate cargo for port, there is on going projects to improve the surface transport link with the port hinterland. Currently TPA is conducting a feasibility study to prepare the land use plan for port.

Table 15: Cargo Traffic handled at Mtwara port 2000 - 2010

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Imports										
Containerised Cargo	12,591	10,519	5,821	9,340	9,771	9,266	6,642	7,249	11,334	14,522
Convetional Cargo	37,339	48,030	53,391	44,186	33,915	45,178	33,931	39,940	31,716	35,208
Liquid Bulk Cargo	21,388	20,185	10,745	12,235	11,604	8,154	5,600	6,513	0	8,020
Sub Total	71,318	78,734	69,957	65,761	55,290	62,598	46,173	53,702	43,050	57,750
Exports										
Containerised Cargo	79,713	86,647	24,649	67,780	35,086	55,090	14,758	1,292	38,235	73,319
Convetional Cargo	30,803	14,080	46,728	23,362	19,821	37,236	28,798	57,945	36,166	42,261
Liquid Bulk Cargo	-	0	0	0	0	0	0	0	0	
Sub Total	110,516	100,727	71,377	89,142	54,907	92,326	43,556	59,237	74,401	115,580
Grand Total	181,834	179,461	141,334	154,903	110,197	154,924	89,729	112,939	117,451	173,330
Container Traffic TEU's	10,077	9,693	3,703	7,615	6,900	7,140	4,835	6,445	6,782	10,648

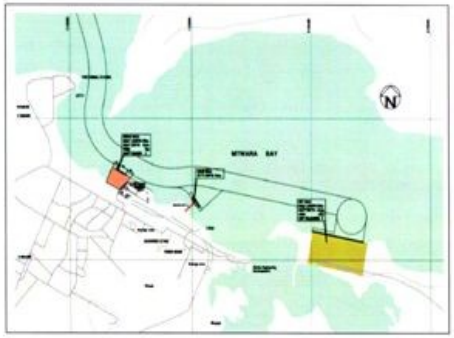
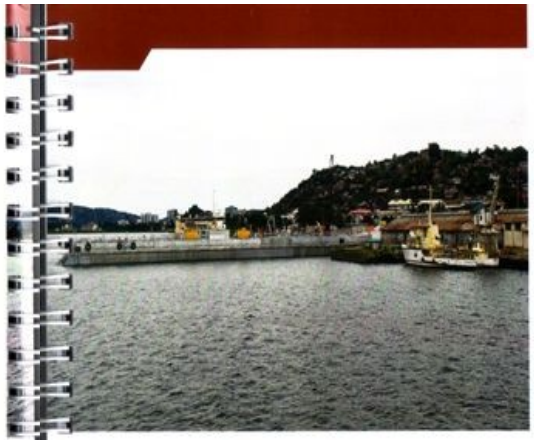


Figure 23: Possible Container, Liquid and Dry Bulk Developments Mtwara Port

Estimated cost of the above projects are summarised in the table 16 below

Table 16: Estimated Costs

Project	Status	Estimated Cost (m USD)	Source of Funds	Business Model
Construction of 2 additional berths	At Feasibility study	To be identified	To Be Identified	Possible PPP
Development of Master Plan for the 2,640 ha.	At feasibility study to be completed by April 2012	1	TPA own funds	
Expansion of the area for oil and gas exploration activities- demolition of shed number	In progress		To be identified	Possible PPP
Procurement of various cargo handling equipment	Ready for implementation	17.1	To be identified	Possible PPP



9. Lake Victoria Ports

Mwanza South and North Ports are located 2.530S 32.900E and 2.510S 32.890E respectively. Mwanza South Port is the centre for all cargo specific operations in the southern (Tanzanian) portion of the lake. It is located within a natural shallow bay on the eastern shore of Mwanza Gulf and protected from the open water waters of the lake by Capri Point, a high rocky promontory. The port is provided with a quay of 250m length and facilities are grouped in a wide area of land some 8.5 ha in size. Most of this area is either unused (the port has little paved hard-standing or storage space) or is occupied by railway lines where railcars can be parked in readiness for shunting onto ferries through rail-wagon terminal located at the southern end of the quay facilities.

Mwanza North port is a passenger terminus, located on the south eastern shore of Massenga Bay on 2 ha. of land fronting and immediately adjacent to Mwanza city (although direct trunk road access has been closed off and road traffic is forced to deviate on an unpaved road close adjacent to the Kamanga Ferry terminal, west of the port). Port facilities are constructed on a promontory of artificial land (developed in the late 1930's) and consist of two berths. The main berth is 82 metres in length and the secondary berth is 50 metres in length. A concrete ramp is constructed at the head of the secondary berth to allow Roll-on Roll-off operations. The close proximity of the mouth of the river Kenge, Mwanza's main river/storm-water/sewerage outfall – artificially extended into the lake - has however resulted in considerable siltation of this berth, preventing use of the RoRo facility.

Development at Mwanza North Port entails Construction of dedicated landside facilities, including convenient, secure and comfortable check-in and waiting areas that allows segregation of passengers and cargo mindful of the general mix of vessel payloads; Construction of RoRo facilities, including truck and car parking and passenger waiting areas.

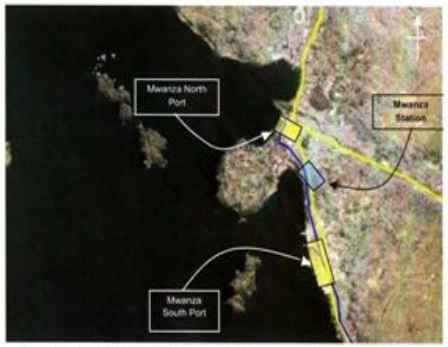


Figure 24: Overview of Mwanza South and North Ports

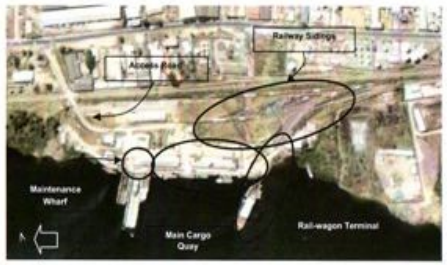


Figure 25: Site Layout – Mwanza South Port

Figure 26: Mwanza North Port

Improvements at Mwanza South Port entails redevelopment of part of the main quay into a dedicated container terminal for use with lift truck systems, including: demolition of transit sheds, the supply of mobile harbour cranes tractor trailer units and associated equipment; Redevelopment of the general cargo berths; and Development of maintenance quays for dry-docking services.

Kemondo Bay (originally Lubembe Harbour) is located at 1.47oS 31.75oE, approximately 18 km south of Bukoba. It is located in a circular bay of moderate depth protected from the open waters of the lake by a small headland to the south on which are a range of hills. The port is fronts the town on the western shore of the bay and covers an area of some 2.2 ha. The port was constructed in 1974. Although principally a a rail-wagon ferry port, there is no rail hinterland, which situation hinders use of this port as a transit route for Rwanda/Burundi. Berthing facilities consist of a rail wagon terminal (a link-span bridge), with a passenger/cargo quay (of 47m length) constructed parallel to and forming part of the facilities. A small general berth of 20 metres length is likewise constructed parallel to and forms part of the opposite link-span guide wall.

Reclaimed land on the southern part of the port provides additional berthing space (originally used as a cattle berth) and extension of reclaimed land, on the northern side of the port, has allowed construction (in 1993) of a RoRo facility for ramped vessels at the head of the main berth. Port land (and the design of goods shed) is dominated by railway track required to load/offload and shunt wagons within the yard area. A large passenger building is located to the north, adjacent to the fenced yard area, in which the port offices are located.

Figure 27: Kemondo Bay

The port of Musoma is located at 1.49oS 33.81oE. It is situated in Mara Bay, a large sheltered bay bound by hilly country that characterizes the eastern shore of Lake Victoria. The existing port, constructed between 1966 and 1968, is located SE of Musoma Point, on a small headland adjacent to the town.Port facilities, constructed on artificial land consist of a rail wagon terminal with a fixed link-span bridge, shore abutment, long and short guide walls. The opposite face of the long guide wall (SE) forms the passenger berth, which is 100 metres in length Perpendicular to the landward end of the passenger berth is a general cargo berth of 55 metres length, a paved apron area of 9.5 metres width and a cope height of 2.1 metres. Port land (covering some 3 ha.) is dominated by railway track required to load/offload and shunt rail wagons within

the yard area. Due NW of the existing port site, adjacent to Musoma Point, there are two offshore mooring dolphins for berthing tank-ships for ship to shore petroleum transfers.

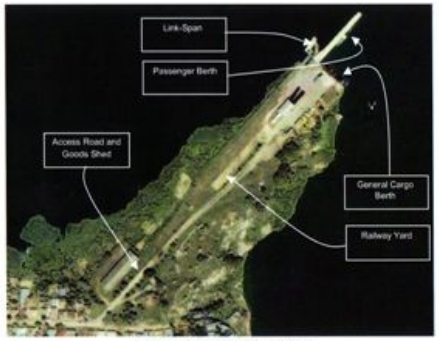


Figure 28: Musoma Port

Traffic Forecast

According to the Port Master Plan, the Lake Victoria ports has potential to generate traffic up to 2.0 million tons compared to 0.300 million tons handled at present. The forecast is mainly based on the development enivisaged, the success of regional integration measures, the impact of containerisation, and Dar es Salaam's ability to win back the Uganda foreign trade (See table 17)

Table 17: Traffic Forecast Lake Victoria Ports.

	2008	2013	2018	2023	2028
High forecast ('000 tons)					
Dry cargo					
Mwanza South	131	541	833	1,114	1,491
Mwanza North	62	152	185	225	273
Bukoba	31	38	46	56	68
Kemondo Bay	26	32	38	47	57
Nansio	16	19	23	28	34
Liquid bulks					
Mwanza South	32	40	51	65	84
Musoma	16	20	26	33	42
Total	**313**	**842**	**1,202**	**1,569**	**2,050**
Low forecast ('000 tons)					
Dry cargo					
Mwanza South	127	170	228	305	408
Mwanza North	59	56	52	49	49
Bukoba	29	25	20	15	10
Kemondo Bay	24	20	15	10	5
Nansio	16	20	26	33	42
Liquid bulks					
Mwanza South	31	36	42	48	56
Musoma	15	18	21	24	28
Total	**301**	**345**	**403**	**484**	**597**

Estimated cost for the Lake Victoria Projects.

Table 18: Estimated Costs

Project	Status	Estimated Cost (USD)	Source of Funds	Business Model
Improvement to Mwanza North exclusive for passenger activities	At identification stage	14	To Be Identified	Possible PPP
Improvement to Mwanza South exclusive for cargo activities	At identification stage	To be identified	To Be Identified	Possible PPP
Dredge various ports	Ready for implementation	6	TPA own funds	
Procurement of equipment for various ports	Ready for implementation	15	To be identified	Possible PPP
Improvement to Nansio port - Extension of the jetty and dredging	Ready for implementation	3	TPA own funds	
Development of passenger handling facilities at small ports	At identification stage	2	To be identified	Possible PPP
Improvement to the link span at Mwanza, Kemondo Bay and Musoma	Ready for implementation	3.5	TPA own funds	
Acquisition of land at Musoma port	Ready for implementation	5	TPA own funds	

10. Lake Tanganyika Ports

Kigoma port is on the Central Corridor and is located at the head of Tanzania's central railway. This serves as a gateway to: Kalemie in the west (the head of the eastern section of the DRC railway network); Kalundu (Uvira) and Bujumbura in the North (the Capital of Burundi and the lake's largest city); and Kasanga and Mpulungu in the south (which provides a trade link to Zambia).

Kigoma was constructed at the same time the central railways reached the lake (in 1914) and is located at 4.870S 29.620E immediately adjacent to the railway station which fronts the town. It is situated in the southern part of a shallow bay protected by a range of hills which extend to Kitwe point, protecting the port from the open waters of the lake. The river Luiche drains into the head of the bay at Kibirizi, close adjacent to Kigoma's oil jetty. Port facilities are grouped on a narrow area of land with a main quay 300m length. Depth along the quay is, depending on lake level, between 3-4m although siltation from streams running off the hills backing the port have caused considerable siltation within the bay, especially evident in the area fronting Kigoma railway station. The western part of the quay was modified over a 100m length in 1992 to accommodate a rail mounted container gantry crane of 35 tons capacity, installed with the aid of a loan from the Belgium Government. The gantry is designed to handle containers in 6 parallel rows 1 over 3 high. Each row is

provided with 16 twenty-foot ground slots (TGS) giving the terminal a design holding capacity of 288 Twenty-foot Equivalent Units (TEU). Effective stack height has however been reduced to 1 over 2 by the incorporation of slings onto the spreader, used to assist loading of containers into the holds of general cargo ships (and barges) not otherwise designed for carriage of containers The remaining part of the quay apron, the general cargo berth, is provided with three rail mounted dockside cranes, manufactured in 1960 of about 3 tons capacity.

Rail access to the main quay is made through the eastern end of the port, adjacent to which are Kigoma's rail sidings. As the railways and inland water-way ports were previously owned and operated by TRC, no separate freight stations or facilities for loading and discharging domestic cargo are provided outside the port. An unpaved road which turns out adjacent to the main station provides the only link to the main part of the port. Another unpaved road outside the port area routing towards Kitwe point provides access to the passenger pier, slipways and workshops on the western end of the port, entered by separate gate. The passenger pier backs onto the slipway and dockyard area constructed in 1912 The passenger berth is provided with mooring dolphins, against which unused lighters have been provided to keep vessels safely afloat - acting as an interface between ship and shore due to siltation at the berth. Floating 'flexi-type' pontoons have been provided off the end of the pier to embark/disembark passengers from small vessels.

At the head of the bay, 1.5km north of the cargo/passenger port is a bulk oil jetty, constructed in 1960. The jetty was designed to accommodate small tank-ships of up-to 1,000 dead weight tons carrying capacity on a 3.6 metre draught, berthed either side of a jetty-head, parallel to the causeway. The causeway consists a shore abutment of 23.4 metres length protected with a rubble bank and, suspended lattice girders carrying a walkway and oil pipelines on a reinforced concrete piles over a length of 178 metres.

Figure 29: Kigoma Site Layout

The capacity of the port is estimated to be around 680,000 tons p.a (the largest amount of cargo handled in the past). The port handles very few traffic at the moment and spare capacity is widely available as shown under Table 19.

There has been a sharp fall in transit traffic due to the failure of TRL to provide satisfactory rail services, and the improvement of road links between Dar es Salaam and Burundi. At the same time there has been some growth in domestic exports (locally produced salt, and re-exports of goods imported through Dar es Salaam by Kigoma merchants for onward distribution to the transit countries). Local traffic between Kigoma and the smaller ports on the Tanzanian side of Lake Tanganyika has remained fairly stable. The main inward cargoes are cement and maize from Kasanga; outward cargoes are mainly foodstuffs and consumer goods. Liquid bulk imports (petroleum products) are a relatively recent phenomenon, and appear to be growing quite strongly from a very small base. Imports for DR Congo began in 2006, and for Burundi in 2009, partly as a result of the disruption to supplies from Mombasa caused by the civil disturbances in Kenya in 2007-8.

A breakdown of dry transit imports by country since 2004 shows that DR Congo imports through Kigoma have varied significantly from year to year, whilst Burundi imports were stable/ increasing until 2010, when the TRL rail link was out of action for at least six months. Transit exports in 2004-5 came in broadly equal amounts from Burundi and DR Congo, but since 2006have come entirely from DR Congo, with exports from Burundi diverting to the direct road route. Domestic exports (wheat flour, salt, dried fish and consumer goods) go almost entirely to DR Congo. Liquid bulk imports go mainly to DR Congo. Imports for Burundi are both recent and very small.

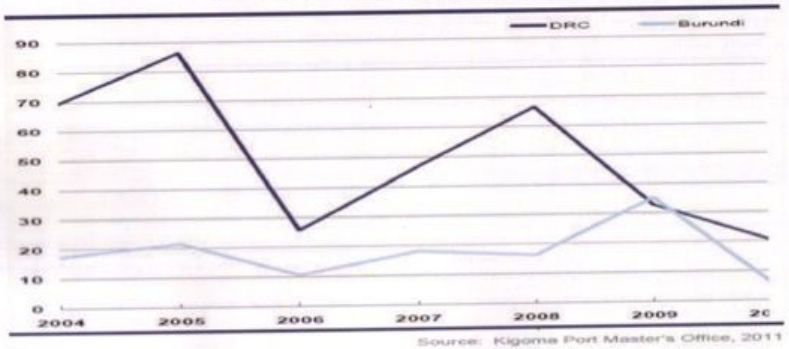
Table 19: Cargo Handled at Kigoma Port 2004 -2010

Cargo	Trade	Direction	2004	2005	2006	2007	2008	2009	2010
Dry Cargo	Transit cargo	*Imports*[a]	86.9	107.8	36.2	64.8	82.8	68.1	26.0
		Exports[b]	5.3	5.4	1.5	0.8	2.1	1.0	0.4
	Domestic exports[c]		8.1	7.9	4.1	6.8	10.8	11.7	11.5
	Local traffic[d]	*Inwards*	5.8	6.4	3.2	6.9	5.5	5.1	5.8
		Outwards	1.8	1.9	1.4	4.1	1.8	1.3	1.3
	Total dry cargo		107.8	129.4	46.4	83.5	102.9	87.1	45.1
Liquid bulks			0.0	0.0	1.7	0.0	3.3	8.2	18.2
Total			107.8	129.4	48.2	83.5	106.2	95.3	63.3

Source: Kigoma Port Master's office

Note: (a) goods imported by DRC and Burundi via Dar es Salaam and Kigoma
(b) goods exported from DRC and Burundi via Kigoma and Dar es Salaam
(c) goods exported from Tanzania to DRC and Burundi
(d) traffic to/from other Lakes ports in Tanzania

Table 20 –DRC and Burundi Traffic through Kigoma Port



Source: Kigoma Port Master's Office, 2011

Table 22: Kigoma Actual and Potential Dry Cargo Imports in 2010 ['000 tons]

Country	Actual	Potential
DR Congo	20	257
Burundi	6	52
Total	26	309

The main reasons for the dramatic fall in Kigoma's market share have been the collapse of TRL's rail services and widespread improvements to Tanzania's road network, both of which have prompted a large switch to road transport. The decline of rail transport has not been limited to the Kigoma line, but has also affected TRL's traffic through Mwanza and TAZARA traffic to Zambia

Container Traffic

Container movements through Kigoma have fallen sharply since their peak in 2006, in part because of the difficulties of moving containers by rail and the frequent breakdowns experienced by the rail mounted gantry crane within Kigoma port.(see Table 23).

Table 23 - Kigoma Container Traffic [TEU]

	2004	2005	2006	2007	2008	2009	2010
TEU Traffic	-	-	736	418	112	74	20

Cargo forecast

According to the Port Master Plan, the traffic forecast for Kigoma under high and low scenarios is shown under table 24.

Table 24: Traffic Forecast Kigoma Port.

	2013	2018	2023	2028
High forecast ('000 tons)				
Kigoma				
Local	38	74	104	155
Imports	46	957	1,342	1,883
Exports	134	461	647	907
Total	**218**	**1,492**	**2,093**	**2,945**
Low forecast ('000 tons)				
Kigoma				
Local	24	38	53	68
Imports	30	506	716	1,004
Exports	113	305	422	582
Total	**167**	**849**	**1,191**	**1,654**

Cargo ship calls

The number of cargo ship calls at Kigoma has remained fairly steady, in part because of the increase in petroleum traffic. However there has also been a significant drop in the average cargo carried per dry cargo ship from around 300 tons per call in 2004-5 to 150 tons per call in 2010. (see table 25

Table 25 - Cargo ship calls at Kigoma Cargo Terminal.

Origin/destination	2004	2005	2006	2007	2008	2009	2010
DR Congo	239	244	313	200	192	210	205
Burundi	99	113	149	145	139	107	134
Zambia	19	0	10	0	9	4	5
Total	357	357	472	345	331	321	344
of which: tankers	-	-	7	-	14	34	75
dry cargo	357	357	465	345	317	287	269

Development of Lake Tanganyika Ports

The vision for development of lake ports is to unlock their potentials as gateways to the rapidly growing transit countries.

- *Kigoma Port:*

  Development at the Kigoma Port is linked to the revitalisation of the central railway. On the short/medium term Kigoma port capacity is restricted by a shortage of storage area. The port is surrounded by Kigoma town itself, limiting expansion of the port. Various projects have been identified as opportunities to increase the capacity within the exiting footprint and JICA from Japan has indicated interest to assist TPA. The JICA team visited the site in February 2011, and the team to conduct the feasibility study is expected in October 2011.

These projects include:

a Development of the cargo handling area

The project entails rationalization and realignment of the existing Rail-Mounted Gantry crane handling system by and expansion of the container storage yard, conversion of back-port sheds and redevelopment of the general cargo berths. JICA has indicated interest to financing the project.

b Upgrade Passenger Facilities.

The upgrading of the passenger facilities entails construction of dedicated facility which is convenient, secure and comfortable for check-in and waiting areas that allows segregation of passengers and cargo mindful of the general mix of vessel payloads. JICA has indicated interest to financing the project.

Figure 30: Kigoma Passenger Terminal

c Increase the depth capacity.

Kigoma port has become badly silted, with only 2.5m of water at some parts of the quay because of siltation in Kigoma bay. Source of siltation is the streams running down off the hills which are running behind the port area. A spare ship had to be placed between the cargo ship and the quay so that the cargo ship is far enough away from the quay to be in deeper water. TPA has acquired a mobile lake

dredger. This dredger is currently dredging in front of the quay to restore the design depths to 5 m.

Figure 31: TPA Mobile Lake Dredger

d Rehabilitation of the slipway

Kigoma port slipway is the only large scale ship repair facility on Lake Tanganyika. The slipway and dockyard area were constructed in 1912 for the launching of the MV Liemba. The repairs were completed in September 2011 through TPA owned funds at cost of Tshs 600 million.

e Other development.

- Removal of empty containers in stack yard;
- Construction of new 3,000 Ton sheds to replace WFP tents;
- Utilisation of area at/behind WFP tents
- TRL station + marshalling yard could provide extra area when this is moved to outer town
- Utilisation of area behind passenger terminal, in front of the gate of ship yard.
- Establishment of the solid and liquid wastes treatment facility. This includes treatment of solid and liquid wastes generated on land and that emanating from ships.

f Rehabilitation of the oil jetty.

The jetty can accommodate two small tankers at the same time with a maximum deadweight of 1,000 Tons. The available water depth at the berths is reduced from 5m (design) to 4m due to siltation problems.

Figure 32: Oil Jetty Kigoma Port

The plan is to dredge the jetty to the design capacity by using TPA's own lake dredger.

g Development of the jetty at Kibirizi beach.

TPA has plans to construct a 40m quay for Dhow loading jetty at Kibirizi beach. The land is already under control of TPA (100m from shoreline). Kiribizi is an informal port to the north of the oil jetty and is used by local wooden boats (Dhows) that are propelled with outboard engines. The Dhows have a cargo capacity of 40 to 70 Tons. The majority of cargo goes mainly to DR Congo, with smaller amounts for Mpulungu and Bujumbura. Many of the goods are imports from overseas repurchased locally. Kibirizi handles around 80 cargo boats per month with mainly salt, general cargo and Rice. A small amount of Burundi coffee (inbound) also uses the port. There is a TRA and Immigration office to facilitate the trade.

Figure 33: Kibirizi Beach Kigoma Port

The project will be financed through TPA owned funds under the 2011/12 financial year.

Long Term Development Plans for Kigoma

According to the Ports Master Plan 2009 – 2028 the Kigoma port capacity in the long term will be constraint by lack quay length. The high forecast shows a very ambitious growth in container and break bulk cargoes. The combined berth requirements is 1,130m where 300m is available.

Figure 34: Proposed Expansion Plan for Kigoma Port

a Proposed Expansion Plans

Expansion area can be found on the North-East side of the port, where land can be reclaimed along the railway line to create a 700m quay. Likewise the required terminal area is not sufficient for storage

and stacking. Area requirements for break bulk and container terminals would amount to almost 40ha, where some 6ha is available in the present port. The potential reclamation area would however only be about 10ha. The required area would therefore have to be found in other parts in and around the city

b Development of Dry Port at Katosho area

Development of this area is associated with developments of the Kigoma Special Economic Zone (KISEZA).

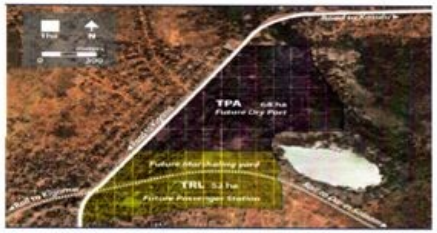


Figure 36: Area View – Katosho Dry Port

The site is about 10km from the port along the TRL rail line, and was chosen because it is the nearest rail-connected site of suitable size that does not require a major resettlement scheme . A Consultancy services to prepare the framework for development of the area will be completed by December 2011. The implementation of the project is proposed to commence in 2012/13 under PPP arrangement.

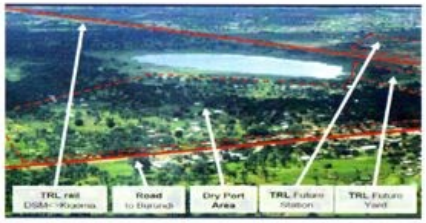


Figure 35: Proposed Dry Port at Katosho

Kasanga Port is the southernmost port on Lake Tanganyika, managed by the Tanzania Ports Authority (TPA). The port is situated in the Rukwa region of Tanzania at a distance of around 110 km from Sumbawanga which is the headquarters of the region.

The port is built on a small peninsula with three sides enclosed by Lake Tanganyika. The port area is largely located on high ground with a steep road leading to the jetty. Most of the current facilities were constructed in the 1980's; the concrete jetty (dimensions 20 m * 11 m) was constructed in 1997.

The jetty has the capacity to berth only one vessel at a time. The available depth is 8–10 m, depending on the rainfall. Infrastructure facilities at the port include a storage shed (used for cement storage) on the higher ground, two newly constructed warehouses (dimensions: ~18m x ~36m each) built for cement and clean cargo storage, and an office block and guesthouse for passengers. Most cargo is currently manually loaded into the vessel by labour by placing a gangplank from the jetty into the cargo hold of the ship

The port is connected by a 333 km gravel road via Sumbawanga to Tunduma, close to the Zambian border. The Tunduma - Sumbawanga - Kasanga road is currently unpaved, and the last section from Sumbawanga to Kasanga is in poor condition, making the port inaccessible at times during the wet season. However, the stretch of road from Tunduma to Sumbawanga is presently under re-construction into an all-weather tarmac and is expected to be completed by early 2014. The road from Sumbawanga to Kasanga is also under re-alignment and re-construction.

Kasanga Port is presently a relatively small port that primarily supports the evacuation of manufactured goods and agrarian traffic from the vicinity / influence hinterland of the port. Some of the major goods transported in the area include cement to Burundi from Mbeya in Tanzania, maize grown in the Rukwa and Mbeya regions to Kigoma

Port, Democratic Republic of Congo (DRC) and Burundi and other agricultural produce.

Cargo movements records over the past five years indicates that he port handled around 5,500 tonnes of cargo in 2005 and 18,400 tonnes in 2006. The cargo volumes dropped to 7,800 tonnes in 2007 and subsequently increased to 17,000 tonnes by 2009. (see table 8). One of the attributable causes for this trend has been the variation in the traffic volumes of maize from the peak of around 10,102 tonnes in 2006 to a low of 1,848 tonnes in 2009.

Present traffic at the port is mainly cement from Mbeya, moving to Kigoma, Burundi and eastern DRC. The remainder is mainly maize and other agricultural products, moving to Kigoma, Burundi and DRC.

Table 26: Cargo handled at Kasanga Port 2005 - 2010

PARTICULARS	2005	2006	2007	2008	2009	CAGR
Cargo Handled (Tonnes)	5,411	16,423	7,842	10,307	17,007	33.1%

The principal trading partners for Kasanga are Kigoma and Bujumbura, which are Bujumbura is one of the best equipped of all the ports on the lake with four operating five tonne rail-mounted shore cranes; one fixed and one mobile container crane of 50 tonne capacity; two 25 tonne and twelve 4.5 tonne forklifts; one yard tractor; and one 80 tonne weighbridge. Kigoma is also relatively well-equipped. It has two 60 year-old rail-mounted derrick cranes, a 105 m-wide rail-mounted bridge crane of 35 tonnes operating in the container yard, three working yard tractors, and ten working forklifts.

The major commodity transported through the Kasanga Port in years 2008 & 2009 was cement, which accounted for 88 percent of the traffic at the port in 2009. The traffic has fluctuated over the years, making it difficult to arrive at a growth rate for traffic at the port.

Table 27: Major commodities handled at Kasanga Port

COMMODITY	2008	% SHARE	2009	%SHARE
Cement	8,902	86%	15011	88%
Maize	672.5	7%	1848	11%
Other Agri. Commodities	730.4	7%	144	1%
Other	-		5	
Total	**10307**		**17007**	

Source: Tanzania Ports Authority

In terms of traffic, the scope for transit traffic to pass through Kasanga is limited as Burundi has better access from the port of Kigoma as well as road connectivity. In addition, in view of looking at the positions and hinterland connectivity of the lake ports, in the short to medium term, we do not envisage any transit traffic bound for DRC passing through Kasanga.

Therefore, it is estimated that the Kasanga Port would primarily serve the regional traffic from Rukwa and Mbeya areas. According to the Master Plan for Kasanga Port, the traffic level is expected to increase to over 40,000 tonnes in the first year and thereafter, in line with commodity-wise traffic growth expectations, it is expected to grow to 78,000 tonnes per annum at the end of five years and to 105,000 tonnes/year in the 10th year, cross 136,000 tonnes/year in the 15th year, and reach 172,000 tonnes/year in the 20th year. The overall traffic estimation for this cargo is presented in the Table 28.

Table 28: Traffic Forecast for Kasanga port.

COMMODITY	2008	% SHARE	2009	%SHARE
Cement	8,902	86%	15011	88%
Maize	672.5	7%	1848	11%
Other Agri. Commodities	730.4	7%	144	1%
Other	-		5	
Total	**10307**		**17007**	

Source: Tanzania Ports Authority

Vessels Traffic

MSC operates primarily on the Tanzania/Zambia portion of the lake between Kigoma and Kasanga/Mpulungu. The main ship of MSC which calls on Kasanga port twice a month is MV Liemba, a 100 year old ferry with a cargo capacity of around 150 tonnes. The other main operators are Arnolac (Burundi) with ten ships (mainly barges) and Batralac (Burundi) with three ships. Some of the ships that regularly call port at Kasanga are MV Teza (1500 tonnes), MV Tora (1150 tonnes), and MV Rugura (500 tonnes)

Kasanga Port Development Plans

The port is part of the Mtwara corridor development plan and has therefore a future as a transit port if the road is upgraded to suit all weather conditions. As a short term measure to develop the port, TPA has spent Tsh 1.158 billion in the following:

- Construction of two cargo sheds of 6,000 ton capacity each
- Leveling and rock excavation to increase cargo handling area
- Improvement to the excess road to the jetty

Figure 38: Two new Cargo sheds at Kasanga Port

The long term development plans for development of the of the port entails

a) Extension of Berth to accommodate two vessels,
b) Development of the Container stacking area
c) Development of Passenger related facilities, ,
d) Fencing of the port
e) Establishment of ,Parking facilities
f) Installation of reliable Power supply
g) Procurement of various cargo handling equipment including containers.

Minor Ports

There are 19 smaller ports on Tanzania side spanning over three regions. These are Kirando, Sigunga, Kaparamsenga, Herembe, Kalya, Lagosa, Sibwesa, Mwamgongo, Mtanga and Kagunga in Kigoma Region; Ikola and Karema in Katavi Region and Kabwe, Kirando, Kipili, Ninde, Msamba, Wampembe, and Kala in Rukwa Region.

These ports have no ship landing facilities. However TPA is developing 4 jetties at costs of Tshs 4.8 billion and the progress so far is as follows:

- Kipili jetty in Rukwa Region. Construction work is 60% completed and planned completion date is December 2011
- Karema jetty in Katavi Region. Construction work is 50% completed and planned completion date is December 2011,
- Lagosa jetty in Kigoma Region. Construction work is 30% completed and planned completion date is February 2012,
- Kalya jetty in Kigoma Region. Construction work is 30% completed and planned completion date is February 2012

The survey and design of jetty at Kagunga is completed and the construction work is planned to commence in financial year 2011/12.

Estimated cost of the Lake Nyasa projects

Table 30: Estimated Costs

Project	Status	Estimated Cost (USD)	Source of Funds	Business Model
Upgrading of Itungi Port	At identification stage	To be identified	To Be Identified	Possible PPP
Development of passenger/cargo handling facilities at Kiwira point	Ready for implementation	6	To be identified	Possible PPP
Upgrading of Mbamba Bay	At identification stage	To be identified	To be identified	Possible PPP
Development of Ndumbi Port	At identification stage	To be identified	To be identified	Possible PPP
Development of passenger jetties at various calling points	At identification stage	To be identified	TPA own funds	Possible PPP

Figure 40: Jetties under construction at Karema

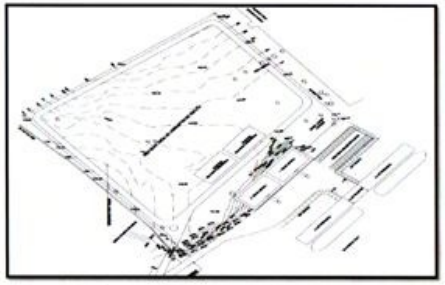


Figure 39: Proposed Development Plan for Kasanga Port

According to the Kasanga Port development plan identified in the feasibility study conducted recently, the investment cost is estimated at Tshs 7.0 billion. A phased approach towards development of these facilities is recommended as follows:

a) *Phase I*

Investments are towards basic improvement of basic amenities for passengers such as; water supply, fencing, gatehouse, etc.

b) *Phase II*

Investments are towards the peripheral road, additional warehouses (longer-term storage), reliable power supply and lighting at the jetty and port area. With these facilities in place, the port would be able to carry out extended hours of operations and on successful crossing of the traffic thresh-hold, mechanization of facilities is recommended – i.e. investments towards wharf crane, fork lift and hydra.

This would help in rationalizing the labour requirements and improving the turn-around of ships. The reduced operating costs at this traffic thresh-hold would itself justify the investment for mechanization.

While the mechanization along with the improvement of productivity levels by employing two-shift operations would allow the port to handle more traffic and justfy for, an additional berth.

d) *Phase – III:*

Provision for the induction of a load-on/load-off facility at Kasanga is made when the traffic threshold of 180,000 tonnes/year is achieved. While it is expected that RO-RO services including multi-axle trailer transport across the lake would commence, significant containerization would have taken place. The primary benefit of containerisation emerges in terms of reduced shipment time and lower end-to-end logistics costs

11. Lake Nyasa Ports

The major ports in Lake Nyasa are Mbamba Bay and Itungi, both have no vessel landing facilities. TPA plans to provide new piers for the ports from year 2012.

Port development on Lake Nyasa to a large extent is dependent on the successful exploitation of the Mtwara Corridor potentialities.

Traffic forecast up to 2028 is estimated at 1,102 tons and 292,000 tons for Mbamba bay and Itungi port respectively.

Table 29: Traffic Forecast for Lake Nyasa Ports

	2008	2013	2018	2023	2028
High forecast ('000 tons)					
Itungi	21	144	183	229	292
Mbamba Bay	4	25	405	680	1,102
Low forecast ('000 tons)					
Itungi	16	84	110	142	171
Mbamba Bay	4	15	30	76	136

Recommended major investments over the next twenty years up to 2028 include;

Upgrading of Mbamba Bay

- Development of Dry Bulk Terminal
- Development of 2No. Break Bulk Terminal
- Procurement of 1No. Mobile Crane

Upgrading of Itungi/ Kiwira Port and Development of Ndumbi Port

- Development of 2No. berths (120 meters total)
- Procurement of 2No. mobile cranes

Implementation of the above plans is expected to take place in the medium term plan (2012-2018) under BOT arrangement.

Estimated cost of the Lake Nyasa projects

Project	Status	Estimated Cost (USD)	Source of Funds	Business Model
Upgrading of Itungi Port	At identification stage	To be identified	To Be Identified	Possible PPP
Development of passenger/cargo handling facilities at Kiwira point	Ready for implementation	6	To be identified	Possible PPP
Upgrading of Mbamba Bay	At identification stage	To be identified	To be identified	Possible PPP
Development of Ndumbi Port	At identification stage	To be identified	To be identified	Possible PPP
Development of passenger jetties at various calling points	At identification stage	To be identified	TPA own funds	Possible PPP

12. Action Plan for Operational Improvements

Short Term (2011 -2013)	Medium Term (2014 -2018)	Long Term (2018-2028)
▪ Computerization of port operations – all ports		
▪ Establish Port community system at all major Ports		
▪ Improve security at all major ports by ✓ reinforcing the perimeter fence ✓ Installation of security systems including CCTV	▪ Construct perimeter fence at all ports	
▪ Use of private ICD and CFS	▪ Involve Private sector in port Operations in small ports	Involve Private sector in port Operations in small ports
▪ Prepare Strategy for Landlord Private sector participation in port operations		

13. Key Conclusions For Port Development

1. The prosperity of any nation comes from trade and most trade is facilitated by ports
2. Demand for port facilities is growing and therefore there is a need to increase in port capacity ahead of demand
3. TPA future strategic initiatives will be to increase capacity, improve service and accommodate future growth.
4. The competitive edge of the port will be its ability to deliver a seamless service throughout the supply chain and into the hinterland.
5. Development in infrastructure (rail and road) in all Corridors is necessary to enhance ports capacity.
6. There will be continued demand for investment in port/ terminal infrastructure. Major constrain is the limited public finance
7. Public Private Partnership (PPP) is the most promising vehicle for port investments.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