Shipping & Tariff Data for Selected Sea Ports around Ethiopia

Background

This report responds to the requirements of the Non-Key Expert for Shipping Data (NKE 11), carried out under the assignment for Technical Assistance to Ethiopia's Transport and Logistics Sector.

Terms of Reference

The TOR for NKE 11 has three parts. The first deals with profiling the container shipping linkages, frequencies, and capacities to the ports of Djibouti, Port Sudan, Massawa, Assab, Mogadishu and Mombasa. Two additional ports from the region were included, i.e. Kismayo (purely for interest) and Berbera (which has recently been upgraded as an aspiring regional hub). The second part of the TOR entails assessing the ports' tariffs' contribution to the cost of importing/exporting. The last part deals with identifying how port improvements can increase efficiencies and potentially reduce such port handling charges.

Methodology & Data Sources

The shipping profile (part one of the TOR) is calculated from a dataset obtained from Linescape. Linescape advertises itself as compiling the most comprehensive source of global sailing schedules, ships register details and liner profile information. The database covers 134 shipping lines and some 1,100 ports. It should be noted that of the nominated ports, there is no activity recorded for Assab, which may still be under military control and not open for commercial business.[1]

The dataset is in a "raw" state when received and requires some work to screen out duplicate voyages/calls (to eliminate the instances of more than one liner offering capacity on the same vessel, sometimes on different dates). For the period analysed (October 2021 to June 2022) the master data file of some 900,000 records is reduced to about 21,000 relevant records which include all the sailing legs of all the services that call at the target ports listed above.

The fields available include:

- Carrier name – the container liner/s involved in a service, e.g. Maersk, CMA-CGM, etc. Note that the terms "liner" and "carrier" are used interchangeably in this report
- Service name – the name of the vessel routing, made up of various ports and sailing legs, e.g. East Africa Express (EAX). The services can be classified as intra-regional (serving only the nominated ports), regional (linking the nominated ports to ports in the Arabian Gulf, Red Sea and Middle East), and extra-regional (links to ports outside the region)
- Vessel voyage – a unique number for sailing one loop of a service
- Vessel name – the name of the vessel, with various vessels providing high-frequency services at any time. Vessels are not uniquely assigned to a specific service. The vessel is owned by one

[1] A shipping industry daily activity tracker such as www.marinetraffic.com also shows no port activity for the last month.

carrier, but often more than one carrier can sell capacity on the same vessel (under an "alliance" arrangement)
- Vessel IMO number – the unique number as recorded by the International Maritime Organisation
- Vessel maximum TEU – the ceiling capacity of a vessel expressed in twenty-foot equivalent units (containers)
- Port name – the port of call
- Estimated date of arrival/departure – the arrival/departure date at/from a port. The dataset includes some "actual" date entries but is mostly made up of "estimated" dates. The information extracted is therefore of a "scheduled" rather than "achieved" nature.

For the second part of the TOR (tariffs) data was obtained from Ethiopian Shipping and Logistics Service Enterprise (ESLSE) for four of the ports covered in the assignment. In each case the source was the port tariff book, dated 2017/2018 (Doraleh Container Terminal, Djibouti), 2021 (Berbera), and 2022 (Port Sudan and Mombasa).

For the third part of the TOR (port improvements) similar comprehensive and centralised data is not readily available. The approach followed was therefore to draw up a questionnaire directed at each port. The main fields are:

- Total Port Throughput – number of containers (TEUs and FEUs), imported/exported/transhipped in the period, as well as other (non-containerised) cargo handled
- Port Layout & Capacity – terminals and main dimensions/capacities
- Ship-to-Shore & Yard Cranes – container-handling equipment available
- Vessel & Quay Performance – standard performance metrics for vessel handling (vessel turn-around, berth dwell, berth productivity, etc.)
- Container Performance – standard performance metrics for vessel handling (various dwell times)
- Port tariff books – from which to calculate container handling rates for a typical vessel and call characteristics.

The team management is interacting with the ports to obtain the required data as per the questionnaire. These inputs will be interpreted when available.

Shipping Profile Results

Services & Route Structures

The nominated ports are included, in some form or another, in 89 liner services. To qualify, a service needs to call at a port at least once. If only services that call at least once a month are considered, the total number of services reduces to 67 (refer Annexure A for a list of services and ports/regions of call).

None of the services is purely intra-regional, i.e. looping between only a selection of the nominated ports. Of the 67 services, six are regional in that they loop between one or more of the nominated ports and ports in the Gulf, Red Sea and Middle East. The majority of the services are therefore extra-regional in that they link one or more nominated port, possibly with a regional port/s, and with port/s outside the immediate region.

The structure of the services is shown in finer detail in Table 1. The left-hand column presents the seven ports of interest (excluding Assab), and the row headings show the ports or regions connected to. The number in the row-column intersect is the number of services. The total row sometimes shows a number in excess of the total number of services, because the same service may be calling at more than one port of interest and is therefore double counted in the sum.

The table allows some high-level conclusions to be made already:

- Mombasa and Djibouti have the most extensive service connectivity networks, followed by Berbera and Port Sudan
- Mombasa, Djibouti and Berbera are relatively well connected amongst the ports of interest
- These three ports also have much connectivity to the surrounding region. Thereafter, services extend mostly to the Indian Sub-Continent and further East, followed by East Africa and Europe.

Table 1: Number of Services Connecting to Ports of Interest

	Ports of Interest							Surrounding Region			Distant Zones														Total
	Berbera	Djibouti	Kismayu	Mogadishu	Mombasa	Massawa	Port Sudan	Red Sea	Gulf	MIDEA	INDIA	FEAST	SE-AS	AFR-E	EUR	AFR-S	AFR-N	AUSTR	IOISL	SAM-W	NAM-E	NAM-W	AFR-W	SAM-E	
Berbera		7	1	2	6	1	3	14	17	-	12	9	9	4	5	4	1	1	1	1	-	-	-	-	98
Djibouti	7		-	-	8	2	6	23	25	3	22	16	15	7	11	7	9	-	1	2	4	1	1	-	170
Kismayu	1	-		1	2	-	-	1	2	-	2	1	2	1	1	-	-	-	-	-	-	-	1	-	15
Mogadishu	2	-	1		4	-	-	3	5	-	4	4	3	4	2	2	-	-	2	-	-	-	1	-	37
Mombasa	6	8	2	4		-	4	16	28	2	32	31	32	21	11	7	3	8	5	1	1	-	1	-	223
Massawa	1	2	-	-	-		1	2	2	-	1	1	1	-	1	-	-	-	-	1	-	-	-	-	13
Port Sudan	3	6	-	-	4	1		9	7	2	7	3	3	3	6	4	3	-	-	1	-	-	-	-	62
Total	20	23	4	7	24	4	14	68	86	7	80	65	65	40	37	24	16	9	9	6	5	1	4	-	

Note: Dark grey shows 20 or more services and light grey 10 or more services

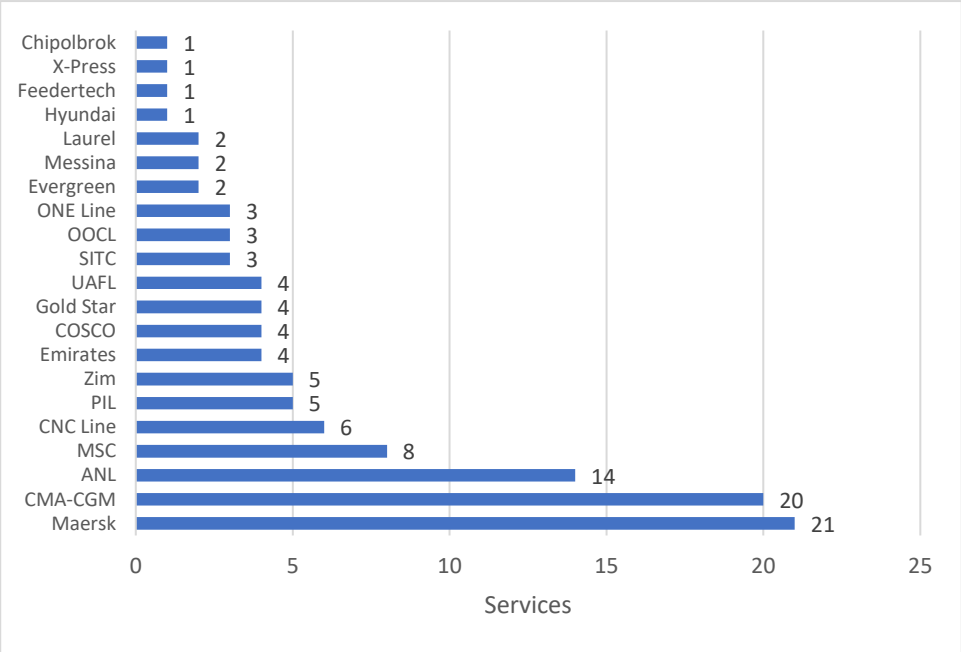
Regions: Gulf = Arabian Gulf; MIDEA = Middle East; FEAST = Far East; SE-AS = South-East Asia; EUR = Europe; INDIA = Indian Sub-Continent; AFR-E = East Africa; NAM-E = North America East Coast; AFR-S = Southern Africa; AFR-N = North Africa; SAM-W = South America West Coast; NAM-W = North-America West Coast; AFR-W = West Africa; AUSTR = Australasia; IOISL = Indian Ocean Islands; SAM-E = South-America East Coast

Liners

There are 21 liners participating in services to the ports of interest. These may be "operating" liners that actually provide the service or "sharing" in that they purchase capacity on another liner's vessel. The relationship between liners may take the form of cooperating alliances, of which the major ones are 2M (Maersk and MSC), Ocean Alliance (CMA CGM, Cosco, Evergreen, OOCL), and Alliance 2022 (Hapag-Lloyd, ONE, Yang Ming, HMM).

Annexure B presents the services linked to the participating liners, and Figure 1 the summary per liner. The two dominant liners are Maersk and CMA-CGM, followed by ANL and MSC. Interestingly, the liner alliances are not active in their formal structures, with no shared 2M or Ocean Alliance services, but with CMA-CGM often joining up with ANL and CNC.

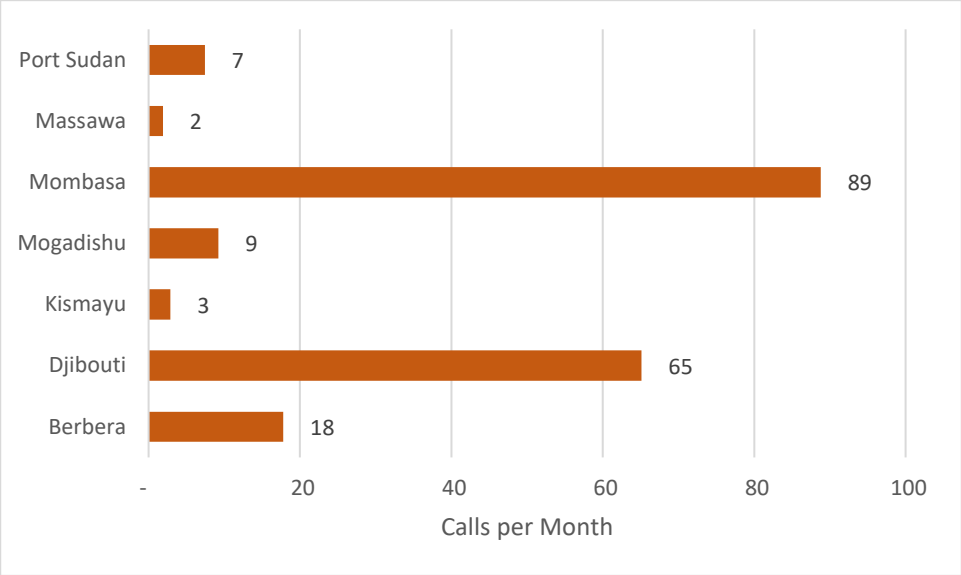
Figure 1: Number of Services Participated in per Liner



Port Calls

The ports under consideration received some 193 vessel calls per month on average (see Figure 2). As is the case for the number of liner services, Mombasa (nearly half) and Djibouti (about a third of calls) dominate, with Berbera accounting for about a tenth of calls.

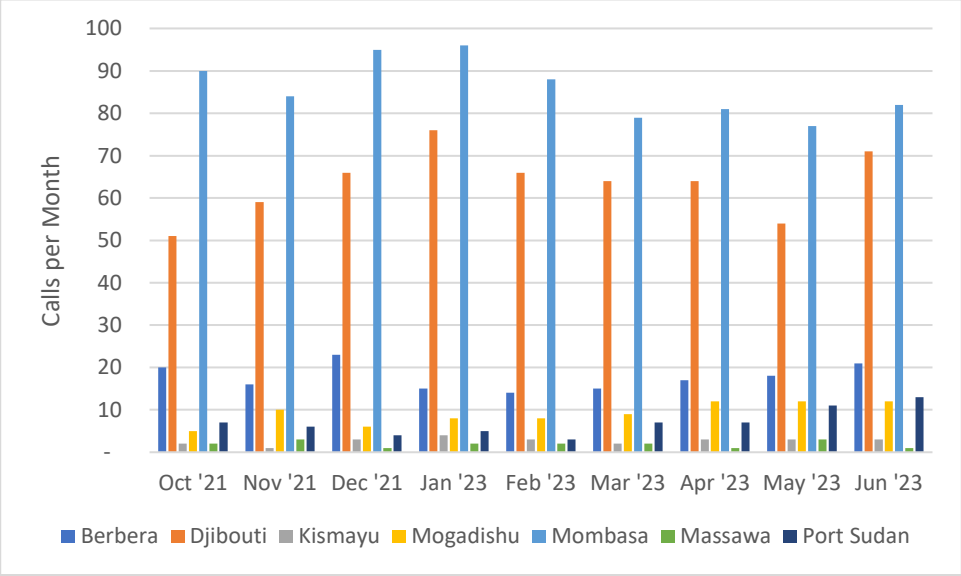
Figure 2: Calls per Month per Port of Interest



Annexure C shows the detailed origin-destination (OD) matrix for the ports. The dominant frequencies are to/from Mombasa and South-East Asia, East Africa and the Indian Sub-Continent; and to/from Djibouti and the Red Sea and Gulf. Each of these five OD pairs represents about one tenth of the vessel call activity.

The period under consideration (October 2021 to June 2022) includes the tail-end of the Covid pandemic. However, as shown in Figure 3 (dataset in Annexure D), there does not appear to have been a major correction in the number of vessel calls as the pandemic abated. Rather, the call numbers seem to demonstrate a seasonal pattern which is somewhat similar across all the ports. For the busiest ports, the variability (measured by standard deviation) is the smallest, i.e. the traffic the most stable.

Figure 3: Monthly Call Numbers

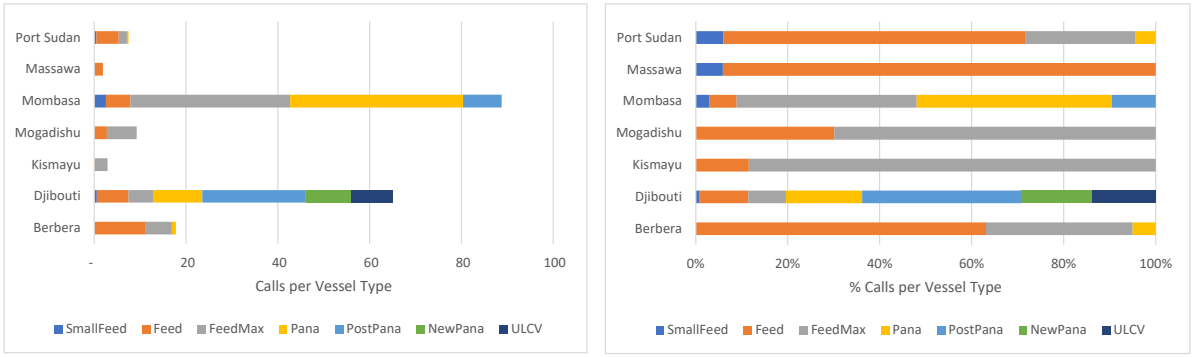


Vessel Sizes

Figure 4 (dataset in Annexure E) shows the breakdown of calls by vessel size, in absolute and relative (percentage) terms. As expected, the busier ports also attract vessels of a larger carrying capacity. The maximum vessel size at Mombasa is a Post Panamax, whilst at Djibouti, vessels reach a ULCV size

(probably related to Djibouti's location on a major sea lane and the positioning of the Doraleh Terminal as a transit hub. At the other ports, vessels are mostly of a Feeder (up to 3,000 TEU) and Feedermax (up to 5,000 TEU) size. These are vessels that are often equipped with their own gear which enables them to self-handle cargo and not rely on port cranes.

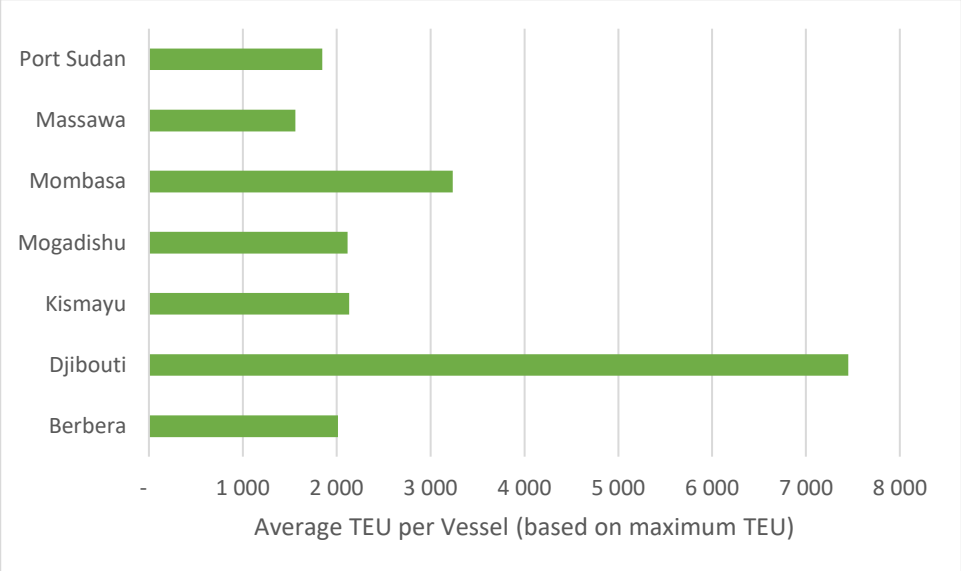
Figure 4: Vessel Size Distribution per Port of Interest



Note: Small Feeder < 1,000 TEU; Feeder < 2,000 TEU; Feedermax < 3,000 TEU; Panamax < 5,000 TEU; Post-Panamax < 10,000 TEU; New Panamax < 15,000 TEU; ULCV (ultra-large container vessel) > 15,000 TEU

Figure 5 shows the average vessel size for each port of interest. Djibouti typically handles a Post-Panamax vessel and Mombasa a Panamax. The other ports all typically receive vessels at the upper end of the Feeder size.

Figure 5: Average Vessel Size



Port Tariffs

Standardised Port Tariffs

Ports have a wide-ranging list of charges, some of which are bespoke for a port's requirements. To compare tariffs, one of the systems to standardise the approaches is the ESCAP/UNDP (United

Table 2: ESCAP/UNDP Model Port Tariff Structure

ESCAP/UNDP Model Port Tariff Structure						ESLSE-provided Tariffs	
Service Group	Component/ Type of service	Charging system				Category	Cost
		Basis	Units	Payer	Recipient		
Navi-gation	Port dues	Ship size	GRT	Liner	Port	Marine	Shelter/ Port Dues Per Call
	Pilotage	Ship size/ Time	GRT / Hours	Liner	Port/ Pilotage Ass.	Marine	Pilotage
	Tug services	Tug time/ Ship size	Number/ GRT	Liner	Port/ Tug owner	Marine	Towage / Tug
	Mooring/ unmooring	Ship size	GRT	Liner	Port	Marine	Mooring/ Unmoor.
	Ancillary services	Various	Various	Liner	Port		
						Marine	Anchorage Stay Dues
						Marine	Light Dues
Berth	Berth hire	Time of ship alongside/ Ship size	Hours/ GRT	Liner	Port	Marine	Berth Stay Dues
	Wharfage	Volume/ weight/ Cargo size	Tonnes/ TEU/ m^3	Consignee/nor	Port	Terminal Handling Charge	
	Ancillary services	Amount consumed	Various	Liner	Port		
Cargo Opera-tions	Stevedorage	Volume/ weight/ Cargo size	Tonnes/ TEU/ m^3	Liner	Service provider	Stevedoring	
	Wharf handling	Volume/ weight/ Cargo size	Tonnes/ TEU/ m^3	Consignee/nor	Service provider		
	Extra-movement	Volume/ weight/ Cargo size	Tonnes/ TEU/ m^3	Consignee/nor	Service provider		
	Special cargo handling	Volume/ weight/ Cargo size/ Type	Unit/ Types	Liner	Service provider		
	Storage	Time	Tonnes/ TEU/ m^3/ Days	Consignee/nor	Service provider	Storage	
	Packing/ unpacking	Volume/ weight/ Cargo size	Tonnes/ TEU/ m^3/ Unit type	Liner	Service provider		
	Equip./ service/ facility hire	Hours of use by item	Hours	Stevedore	Equip./ services owner		
Other							

Nations Economic and Social Commission for Asia and the Pacific and United Nations Development Programme) model port tariff structure which has been in use since about 1989. The model organises tariffs into four service groups, i.e. navigation, berth, cargo operations and other business. The tariffs obtained were organised slightly differently (marine, terminal handling, stevedoring and storage). Table 2 shows and describes the standard model on the left, and places the tariffs obtained for the four parts opposite their respective categories on the right of the table.

Typical Call & Dwell Times

To properly compare the ports' charges, these should be applied to a typical vessel call which is the same across the ports. From the previous section of this chapter, a representative vessel that calls at all the ports would be a 2,000 TEU feeder. The expected dimensions of such a vessel would be approximately 25,000t DWT (dead-weight tonnage); 26,500t GRT (Gross Registered Tonnage); 75,000m^3 CBM (cubic metres); and 200m LOA (Length Overall). Note that this range of dimensions is required because the ports use different units of measurement to determine applicable charges. Such a vessel would require the assistance of one tug boat for berthing/unberthing.

The "call size" refers to the number of containers offloaded/loaded per call, which will usually be a portion of the total vessel capacity to cater for all the ports served on a route. A viable call size is at least 200 TEUs (i.e. offload 200 and onload 200), but the selected size for tariff comparison purposes is set higher at 500 TEUs.[2]

Data on vessel waiting time and time in port are still awaited. For time at anchor outside the port, 2 days is assumed. Published data show that container vessel dwell times differ greatly, i.e. 0.89 days for Djibouti, 2.58 days for Kenya and 11.57 days for Sudan.[3] For comparison purposes, a middle value of 4 days berth dwell time is used.

Container dwell times would equally be quite different across the ports, and the ports provide for long duration storage in their tariffs. For comparison, a three-week (21 day) container dwell time is assumed for imports and one week (7 days) for exports.

Comparative Charges

Table 3 shows the results of applying the port tariffs as provided by ESLSE to the reference vessel call. The first two columns show the standard tariff nomenclature and the third column the ESLSE terms. The charges are either paid by the shipping liner or the cargo consignor/consignee. The charges are expressed in US Dollars, which is the tariff currency for all the ports except Port Sudan which quotes in Euros. The total port charges are substantially lower for Mombasa, with the other ports charging from about half to two thirds more.

Table 3: Calculated Charges for a Reference Vessel Call (USD/call)

ESCAP/UNCTAD		ESLSE	Paid By	Djibouti	Port Sudan	Berbera	Mombasa
Navigation	Port dues	Shelter/ Port Dues Per Call	Liner	783	-	3 180	4 320
	Pilotage	Pilotage	Liner	1 357	401	1 755	1 590
	Tug services	Towage / Tug	Liner	3 093	671	2 385	1 988
	Mooring/unm.	Mooring/ Unmooring	Liner	564	-	350	875
	Ancillary	Anchorage Stay Dues	Liner	771	70	280	-
		Light Dues	Liner	-	-	-	1 458
Berth	Berth hire	Berth Stay Dues	Liner	3 668	18 977	2 400	4 992
	Wharfage	Terminal Handling Charge	Consignee	228 975	215 596	273 000	132 500
Cargo Operations	Stevedorage	Stevedoring	Liner	133 000	112 530	130 000	99 000
	Storage	Storage	Consignee	10 750	-	1 563	-

[2] E.g. see https://qa.www.spglobal.com/marketintelligence/en/mi/research-analysis/2017-review-port-call-sizes-continue-to-rise.html

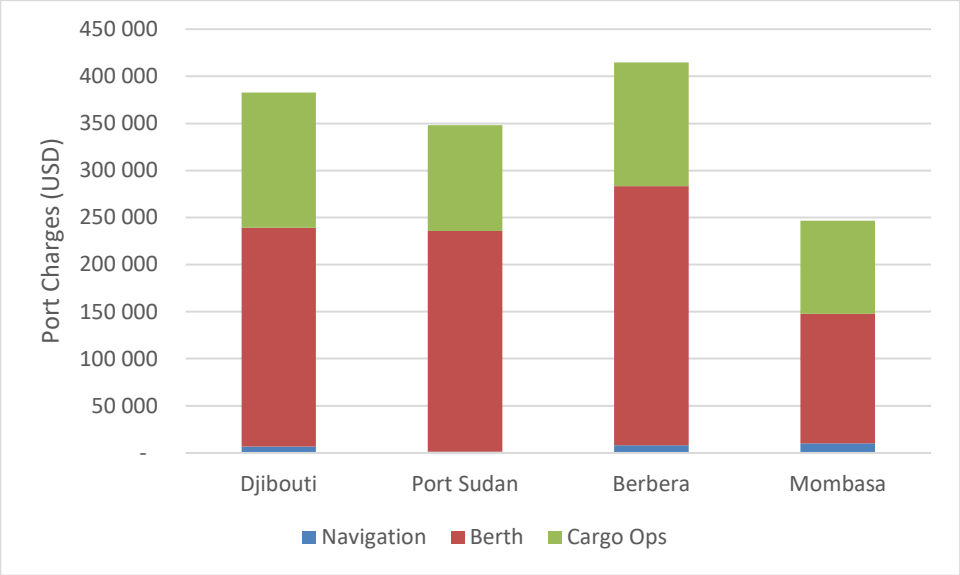
[3] Refer https://unctadstat.unctad.org/wds/TableViewer/tableView.aspx?ReportId=170027

ESCAP/UNCTAD		ESLSE	Paid By	Djibouti	Port Sudan	Berbera	Mombasa
		Sub-Total	Liner	143 237	132 649	140 350	114 221
		Sub-Total	Consignee	239 725	215 596	274 563	132 500
		Total		382 962	348 244	414 913	246 721
		per TEU		383	348	415	247
		Per TEU % above Mombasa		+55%	+41%	+68%	-

Note: The Wharfage/Terminal Handling Charge for Port Sudan is not available, and the value shown is the average for the other three ports

The distribution of values across the tariff categories provides an indication of the differences in tariff structures. The comparison is simplified by considering the aggregate charges categories, as presented in Figure 6. For the non-Mombasa ports, Berth charges represent about two thirds and Cargo Operations charges one third of total port charges. Relatively, Navigation charges are negligible. At Mombasa, especially Berth charges are lower, so that the Berth:Cargo ratio is 56%:40%.

Figure 6: Port Charges per Service Group (USD/call)



Since the charges are dominated by the Wharfage/Terminal Handling and Stevedoring charges, it is useful to consider how these compare by port (refer Table 4). Here it can also be seen how imported containers are charged more than exports, reflecting that containerised import volumes dominate exports in these countries. Due to the clearing requirements imports also spend more time in-port than exports.

Table 4: Container Charges (USD/box)

Category	Shipment	Djibouti	Port Sudan	Berbera	Mombasa
Terminal Handling	TEU Import	322	N/A	370	155
	FEU Import	644	N/A	690	230
	TEU Export	136	N/A	176	110
	FEU Export	272	N/A	307	170
Stevedoring	TEU	133	110	130	99
	FEU	166	220	195	148

Annexure A Services Ports/Regions of Call (for services that call at least once per month)

service_code	service_name	Berbera	Djibouti	Kismayu	Mogadishu	Mombasa	Massawa	Port Sudan	RedSea	Gulf	MIDEA	FEAST	SE-AS	EUR	INDIA	AFR-E	NAM-E	AFR-S	AFR-N	SAM-W	NAM-W	AFR-W	AUSTR	IOISL	SAM-E	Intra	Reg	Extra
ASEA2	ASEA KENYA					1				1		1	1		1													1
ASEA	ASEA TANZANIA				1	1			1	1		1	1	1	1	1								1				1
EAX1	ASIA EAST AFRICA EXPRESS SERVICE 1					1						1	1															1
EAX3	ASIA EAST AFRICA EXPRESS SERVICE 3					1				1		1	1		1													1
EAX1	Asia East Africa Service (EAX1)					1				1		1	1															1
EAX3	Asia East Africa Service (EAX3)					1						1	1		1													1
AKX-E	Asia Kenya Express (AKX) Eastbound					1						1	1		1													1
AKX-W	Asia Kenya Express (AKX) Westbound					1				1		1	1		1													1
AEM2	Asia Mediterranean Service (AEM2)																											
VEC	CAR CARRIER LINE		1				1		1	1		1	1	1	1					1								1
VEC	CAR CARRIER LINE (VEC)																											
CEA	CHINA EAST AFRICA EXPRESS					1						1	1		1	1							1					1
CEAX	CHINA EAST AFRICA EXPRESS					1						1	1		1	1							1					1
DESF	DAR ES SALAAM FEEDER																											
EA1	East Africa 1 - Mombasa (EA1)					1				1		1	1	1	1													1
EAX	EAST AFRICA EXPRESS	1			1	1				1		1			1	1		1										1
EAS	EAST AFRICA SERVICE (EAS)					1			1	1		1	1		1	1							1					1
EARS	EAST AFRICA TO RED SEA	1		1		1				1			1		1													1
AEF	Evergreen Asia-East Africa Service(AEF)					1				1		1	1		1								1					1
RES2	EVERGREEN FAR EAST-RED SEA SERVICE 2(RES2)		1						1	1		1	1															1
FTE	FEEDERTECH (FTE)	1	1			1		1	1	1		1	1	1	1	1		1		1								1
FAL1	FRENCH ASIA LINE 1 FAL 1																											
FAL	FRENCH ASIA LINE 1 (FAL 1)																											
GIA-N	Gulf India Africa Express (GIA) Northbound																											
GIA-S	Gulf India Africa Express (GIA) Southbound					1				1			1	1	1	1								1				1
IA	INTRA ASIA																											
IR5	INTRA-REDSEA FEEDER 5 (IR5)							1	1				1	1	1													1
JEDDEX	JEDDAH EXPRESS SERVICE					1			1	1		1	1	1		1												1
KENYA	KENYA EXPRESS					1						1	1										1					1
KYX	KENYA EXPRESS					1						1	1										1					1
KYX	Kenya Express (KYX)					1						1	1					1					1					1
KISIWA (25Z)	KISIWA EXPRESS					1						1			1	1								1				1
MASHARIKI (28J)	MASHARIKI EXPRESS					1			1			1	1			1												1
MASHARIKI	MASHARIKI EXPRESS SERVICE EASTBOUND																											
MASHARIKI	MASHARIKI EXPRESS SERVICE WESTBOUND					1			1			1	1		1	1												1
MASIIKA (28D)	MASIIKA EXPRESS		1			1			1	1					1	1		1						1				1

service_code	service_name	Berbera	Djibouti	Kismayu	Mogadishu	Mombasa	Massawa	Port Sudan	RedSea	Gulf	MIDEA	FEAST	SE-AS	EUR	INDIA	AFR-E	NAM-E	AFR-S	AFR-N	SAM-W	NAM-W	AFR-W	AUSTR	IOISL	SAM-E	Intra	Reg	Extra
MASIKA	MASIKA EXPRESS EASTBOUND					1				1					1	1												1
MASIKA	MASIKA EXPRESS WESTBOUND		1			1				1			1		1	1												1
MAWINGU	MAWINGU EXPRESS EASTBOUND																											
MAWINGU	MAWINGU EXPRESS WESTBOUND					1				1					1													1
MAWINGU (28X)	MAWINGU SERVICE					1			1	1			1		1													1
MECL1	MECL1 SERVICE EASTBOUND		1							1					1		1		1									1
MEX	Mediterranean Club Express																											
MOGADISHU	MOGADISHU EXPRESS			1	1	1			1	1		1	1	1	1	1						1						1
MXS	MOGADISHU EXPRESS SOUTHBOUND																											
MFX	MOMBASA FAR EAST (MFX)	1				1				1		1	1	1	1								1					1
MUSTANG	MUSTANG																											
NW2	New West Latin America Service 2																											
NOURA	NOURA EXPRESS	1			1	1			1	1		1	1		1	1		1						1				1
NWCIPAK	NWC TO IPAK		1						1	1		1	1	1	1	1		1	1		1	1						1
PETRA	PETRA SERVICE		1						1	1	1	1	1	1	1	1		1	1									1
REX2	Red Sea Express 2	1	1						1	1		1	1	1	1													1
REX2	RED SEA EXPRESS 2 (RS2)		1						1	1		1	1		1													1
RS2	RED SEA LOOP2		1						1	1		1	1															1
RES2	RED SEA SERVICE (RES2)		1			1		1	1	1		1	1		1			1										1
RSS	RED SEA SERVICE (RSS)		1						1	1		1	1	1	1		1											1
RS2	Red Sea Service 2 (RS2)																											
RSGIS	RED SEA/GULF/IPAK Service		1			1		1	1	1	1			1	1	1			1									1
RSSEAS	RED SEA/SOUTH-EAST AFRICA SERVICE		1			1		1	1		1			1	1	1		1	1									1
RGS	REDSEA GULF SERVICE (RGS)	1	1						1	1		1	1		1													1
EA3	SERVICE EA3					1				1		1	1															1
EAF	SERVICE EAF	1				1			1	1		1	1		1	1													1
SWAX2	SWAHILI EXPRESS					1				1		1	1		1	1													1
TANGA (24Z)	TANGA FEEDER					1						1		1		1													1
VE1	VEHICLE CARRIER SERVICE 1																											
VE1	Vehicle Carrier Service 1 (VE1)																											
BLUENILE (28A)	BLUE NILE EXPRESS		1			1			1	1				1	1													1
BNX	BLUE NILE EXPRESS EASTBOUND		1						1	1																	1	
BNX	BLUE NILE EXPRESS WESTBOUND		1						1	1		1	1		1													1
BMSXN	BMS EXPRESS SERVICE NORTHBOUND	1							1	1																	1	
BMSXS	BMS EXPRESS SERVICE SOUTHBOUND	1							1	1																	1	
EURAF5	EUROPE AFRIQUE 5																											
GULFSAK2	FAS GULF EMIRATES IRAQ SHUTTLE 2																											
GULFJJS1	FAS GULF JEDDAH FEEDER 1	1	1						1	1				1	1													1

service_code	service_name	Berbera	Djibouti	Kismayu	Mogadishu	Mombasa	Massawa	Port Sudan	RedSea	Gulf	MIDEA	FEAST	SE-AS	EUR	INDIA	AFR-E	NAM-E	AFR-S	AFR-N	SAM-W	NAM-W	AFR-W	AUSTR	IOISL	SAM-E	Intra	Reg	Extra
INDKHIQ	FAS INDIAN SUB CONT. KHALIFA AND IRAQ SRV																											
GULFJYS	FAS JEBEL ALI YEMEN SERVICE	1	1						1	1					1													1
REDSEAFD	FAS RED SEA FEEDER	1						1	1	1				1	1													1
REDSEAYF	FAS YEMEN FEEDER																											
MECL (600)	MECL		1			1			1	1		1	1		1		1		1									1
ME2 (405)	MIDDLE EAST 2 SERVICE (ME2)																											
MXN	MOGADISHU EXPRESS NORTHBOUND																											
MONA	MONA EXPRESS	1	1				1	1	1	1																	1	
MUSAFIR (27Z)	MUSAFIR EXPRESS				1					1																	1	
NUBIAN (28B)	NUBIAN EXPRESS		1					1	1	1		1		1	1				1									1
GULFJYS	SSLEUR JEBEL ALI YEMEN SERVICE	1							1	1																	1	
SUDAN (28F)	SUDAN FEEDER							1	1	1								1										1
UMX	UMX SERVICE (APL)		1							1		1			1		1		1									1
FEEDER (Y43)	Y43 JAL SLV BBO JED FEEDER	1							1	1		1	1															1
YX1	YEMEN EXPRESS 1	1	1						1	1		1	1		1			1	1									1
	Total	17	26	2	5	41	2	9	39	53	3	45	45	20	48	23	4	11	9	2	1	2	8	5	-	-	6	61

Note: Services with no numbers had fewer than one call per month

Annexure B Services per Liner

service_code	service_name	CMA-CGM	MSC	Maersk	COSCO	PIL	ANL	OOCL	CNC Line	Evergreen	Hyundai	Feedertech	Emirates	ONE Line	Messina	Zim	Gold Star	Laurel	X-Press	UAFL	SITC	Chipolbrok
ASEA2	ASEA KENYA	1					1		1													
ASEA	ASEA TANZANIA	1					1		1												1	
EAX1	ASIA EAST AFRICA EXPRESS SERVICE 1							1														
EAX3	ASIA EAST AFRICA EXPRESS SERVICE 3							1														
EAX1	Asia East Africa Service (EAX1)				1																	
EAX3	Asia East Africa Service (EAX3)				1																	
AKX-E	Asia Kenya Express (AKX) Eastbound												1									
AKX-W	Asia Kenya Express (AKX) Westbound												1									
AEM2	Asia Mediterranean Service (AEM2)				1																	
VEC	CAR CARRIER LINE															1	1					

service_code	service_name	CMA-CGM	MSC	Maersk	COSCO	PIL	ANL	OOCL	CNC Line	Evergreen	Hyundai	Feedertech	Emirates	ONE Line	Messina	Zim	Gold Star	Laurel	X-Press	UAFL	SITC	Chipolbrok
VEC	CAR CARRIER LINE (VEC)															1						
CEA	CHINA EAST AFRICA EXPRESS																1					
CEAX	CHINA EAST AFRICA EXPRESS																	1				
DESF	DAR ES SALAAM FEEDER		1																			
EA1	East Africa 1 - Mombasa (EA1)													1								
EAX	EAST AFRICA EXPRESS		1																			
EAS	EAST AFRICA SERVICE (EAS)					1																
EARS	EAST AFRICA TO RED SEA		1																			
AEF	Evergreen Asia-East Africa Service(AEF)									1												
RES2	EVERGREEN FAR EAST-RED SEA SERVICE 2(RES2)									1												
FTE	FEEDERTECH (FTE)											1										
FAL1	FRENCH ASIA LINE 1 FAL 1	1																				
FAL	FRENCH ASIA LINE 1 (FAL 1)	1					1		1													
GIA-N	Gulf India Africa Express (GIA) Northbound												1									
GIA-S	Gulf India Africa Express (GIA) Southbound												1									
IA	INTRA ASIA																					1
IR5	INTRA-REDSEA FEEDER 5 (IR5)					1																
JEDDEX	JEDDAH EXPRESS SERVICE	1					1															
KENYA	KENYA EXPRESS																	1				
KYX	KENYA EXPRESS																1					
KYX	Kenya Express (KYX)															1						
KISIWA (25Z)	KISIWA EXPRESS			1																		
MASHARIKI (28J)	MASHARIKI EXPRESS			1																		
MASHARIKI	MASHARIKI EXPRESS SERVICE EASTBOUND			1																		
MASHARIKI	MASHARIKI EXPRESS SERVICE WESTBOUND			1																		
MASIIKA (28D)	MASIIKA EXPRESS			1																		
MASIKA	MASIKA EXPRESS EASTBOUND			1																		
MASIKA	MASIKA EXPRESS WESTBOUND			1																		
MAWINGU	MAWINGU EXPRESS EASTBOUND			1																		
MAWINGU	MAWINGU EXPRESS WESTBOUND			1																		
MAWINGU (28X)	MAWINGU SERVICE			1																		
MECL1	MECL1 SERVICE EASTBOUND			1																		
MEX	Mediterranean Club Express	1					1		1													
MOGADISHU	MOGADISHU EXPRESS		1																			
MXS	MOGADISHU EXPRESS SOUTHBOUND																			1		
MFX	MOMBASA FAR EAST (MFX)																		1			
MUSTANG	MUSTANG		1																			
NW2	New West Latin America Service 2										1											

service_code	service_name	CMA-CGM	MSC	Maersk	COSCO	PIL	ANL	OOCL	CNC Line	Evergreen	Hyundai	Feedertech	Emirates	ONE Line	Messina	Zim	Gold Star	Laurel	X-Press	UAFL	SITC	Chipolbrok
NOURA	NOURA EXPRESS	1					1															
NWCIPAK	NWC TO IPAK		1																			
PETRA	PETRA SERVICE		1																		1	
REX2	Red Sea Express 2	1																				
REX2	RED SEA EXPRESS 2 (RS2)	1					1		1													
RS2	RED SEA LOOP2							1														
RES2	RED SEA SERVICE (RES2)				1																	
RSS	RED SEA SERVICE (RSS)					1																
RS2	Red Sea Service 2 (RS2)					1																
RSGIS	RED SEA/GULF/IPAK Service														1							
RSSEAS	RED SEA/SOUTH-EAST AFRICA SERVICE														1							
RGS	REDSEA GULF SERVICE (RGS)					1																
EA3	SERVICE EA3													1								
EAF	SERVICE EAF													1								
SWAX2	SWAHILI EXPRESS	1					1		1													
TANGA (24Z)	TANGA FEEDER			1																		
VE1	VEHICLE CARRIER SERVICE 1															1	1					
VE1	Vehicle Carrier Service 1 (VE1)															1						
BLUENILE (28A)	BLUE NILE EXPRESS			1																		
BNX	BLUE NILE EXPRESS EASTBOUND			1																		
BNX	BLUE NILE EXPRESS WESTBOUND			1																		
BMSXN	BMS EXPRESS SERVICE NORTHBOUND																			1		
BMSXS	BMS EXPRESS SERVICE SOUTHBOUND																			1		
EURAF5	EUROPE AFRIQUE 5	1					1															
GULFSAK2	FAS GULF EMIRATES IRAQ SHUTTLE 2	1					1															
GULFJJS1	FAS GULF JEDDAH FEEDER 1	1					1															
INDKHIQ	FAS INDIAN SUB CONT. KHALIFA AND IRAQ SRV	1					1														1	
GULFJYS	FAS JEBEL ALI YEMEN SERVICE	1																				
REDSEAFD	FAS RED SEA FEEDER	1					1															
REDSEAYF	FAS YEMEN FEEDER	1					1															
MECL (600)	MECL			1																		
ME2 (405)	MIDDLE EAST 2 SERVICE (ME2)			1																		
MXN	MOGADISHU EXPRESS NORTHBOUND																			1		
MONA	MONA EXPRESS	1																				
MUSAFIR (27Z)	MUSAFIR EXPRESS			1																		
NUBIAN (28B)	NUBIAN EXPRESS			1																		
GULFJYS	SSLEUR JEBEL ALI YEMEN SERVICE	1																				
SUDAN (28F)	SUDAN FEEDER			1																		

service_code	service_name	CMA-CGM	MSC	Maersk	COSCO	PIL	ANL	OOCL	CNC Line	Evergreen	Hyundai	Feedertech	Emirates	ONE Line	Messina	Zim	Gold Star	Laurel	X-Press	UAFL	SITC	Chipolbrok
UMX	UMX SERVICE (APL)	1																				
FEEDER (Y43)	Y43 JAL SLV BBO JED FEEDER			1																		
YX1	YEMEN EXPRESS 1		1																			
Total		20	8	21	4	5	14	3	6	2	1	1	4	3	2	5	4	2	1	4	3	1

Annexure C Average Monthly Calls from/to Port of Interest and Region

	Berbera	Djibouti	Kismayu	Mogadishu	Mombasa	Massawa	Port Sudan	Red Sea	Gulf	MIDEA	INDIA	FEAST	SE-AS	AFR-E	EUR	AFR-S	AFR-N	AUSTR	IOISL	SAM-W	NAM-E	NAM-W	AFR-W	SAM-E	Total
Berbera	-	1	0	-	2	0	-	5	4	-	5	0	0	-	-	-	-	-	-	-	-	-	-	-	18
Djibouti	1	-	-	-	0	0	0	23	18	-	7	3	12	-	2	-	-	-	-	-	-	0	-	-	65
Kismayu	-	-	-	2	1	-	-	-	0	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	3
Mogadishu	-	-	1	-	2	-	-	-	4	-	1	-	0	0	-	0	-	-	1	-	-	-	-	-	9
Mombasa	2	0	2	2	-	-	-	2	8	-	17	7	21	18	0	6	-	2	0	-	-	-	0	-	89
Massawa	1	0	-	-	-	-	-	0	0	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	2
Port Sudan	0	0	-	-	-	-	-	6	1	-	0	-	0	-	0	-	-	-	-	-	-	-	-	-	7
Red Sea	5	8	-	-	3	1	6																		193
Gulf	8	27	-	3	15	-	0																		
MIDEA	-	-	-	-	-	-	-																		
INDIA	-	3	0	1	22	-	0																		
FEAST	0	2	-	-	2	0	0																		
SE-AS	0	16	-	0	24	-	0																		
AFR-E	-	-	-	-	10	-	-																		
EUR	-	2	-	-	0	0	-																		
AFR-S	0	-	-	-	6	-	-																		
AFR-N	-	-	-	-	-	-	-																		
AUSTR	-	-	-	-	3	-	-																		
IOISL	-	-	-	1	0	-	-																		
SAM-W	-	-	-	-	-	-	-																		
NAM-E	-	-	-	-	0	-	-																		
NAM-W	-	-	-	-	-	-	-																		
AFR-W	-	-	-	-	0	-	-																		
SAM-E	-	-	-	-	-	-	-																		

Total	18	60	3	9	89	2	7																	188

Annexure D Monthly Call Numbers

Month	Berbera	Djibouti	Kismayu	Mogadishu	Mombasa	Massawa	Port Sudan	Total
Oct '21	20	51	2	5	90	2	7	177
Nov '21	16	59	1	10	84	3	6	179
Dec '21	23	66	3	6	95	1	4	198
Jan '23	15	76	4	8	96	2	5	206
Feb '23	14	66	3	8	88	2	3	184
Mar '23	15	64	2	9	79	2	7	178
Apr '23	17	64	3	12	81	1	7	185
May '23	18	54	3	12	77	3	11	178
Jun '23	21	71	3	12	82	1	13	203

Annexure E Distribution of Vessel Sizes

Vessel Type	Berbera	Djibouti	Kismayu	Mogadishu	Mombasa	Massawa	Port Sudan	Total
Small Feeder	-	1	-	-	3	0	0	4
Feeder	11	7	0	3	5	2	5	33
FeederMax	6	5	3	6	35	-	2	57
Panamax	1	11	-	-	38	-	0	50
Post-Panamax	-	23	-	-	8	-	-	31
New Panamax	-	10	-	-	-	-	-	10
ULCV	-	9	-	-	-	-	-	9
Total	18	65	3	9	89	2	7	193