

# The Development Bank of Southern Africa

*The influence of changing patterns of  
trade and shipping on ports in sub-  
Saharan Africa*

*Dr Andrew Shaw,  
Transport Specialist, DBSA*

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# Challenges for African ports

- ❑ Global shifts in international shipping
- ❑ Growth in African economies, including growth in hinterland leading to ports
- ❑ Quality of hinterland infrastructure
- ❑ The impact of port volume and scheduling practices by shippers on port growth
- ❑ Physical and operational characteristics of ports
- ❑ Likely future impacts of changes in volume on the function that ports take

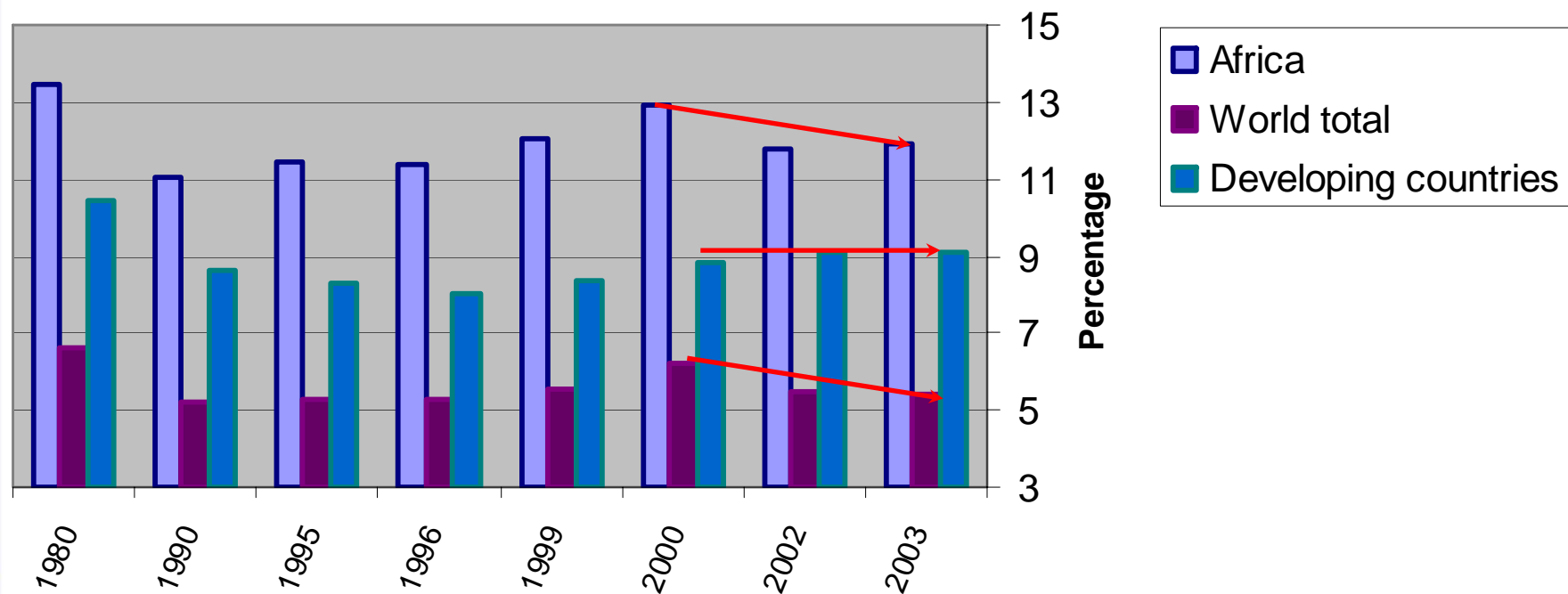
# World trade increasing at roughly two times GDP growth and dominated by east west pendulum and large hub ports



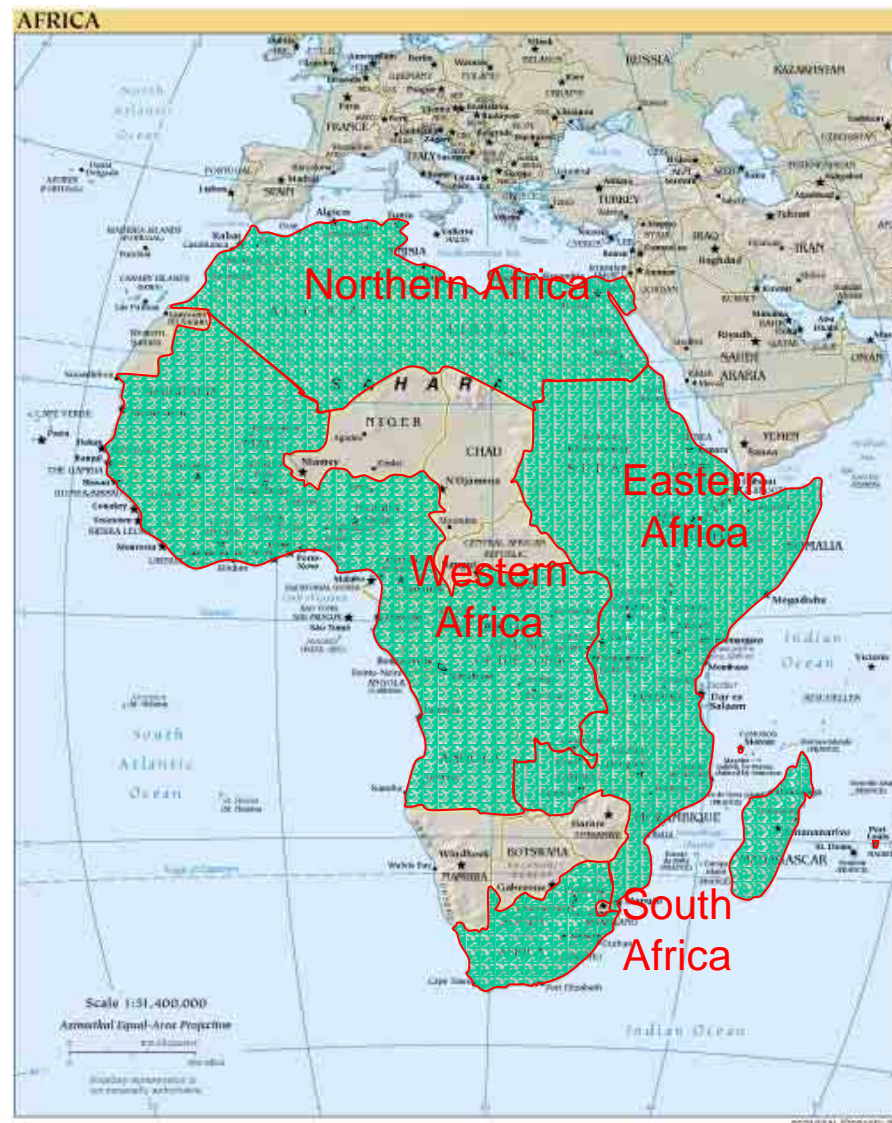
# The cost of trade in Africa is declining but is higher than the rest of the World

Freight costs as a percentage of import value (selected years)

(Source: UNCTAD, 1998, 2002, 2005)

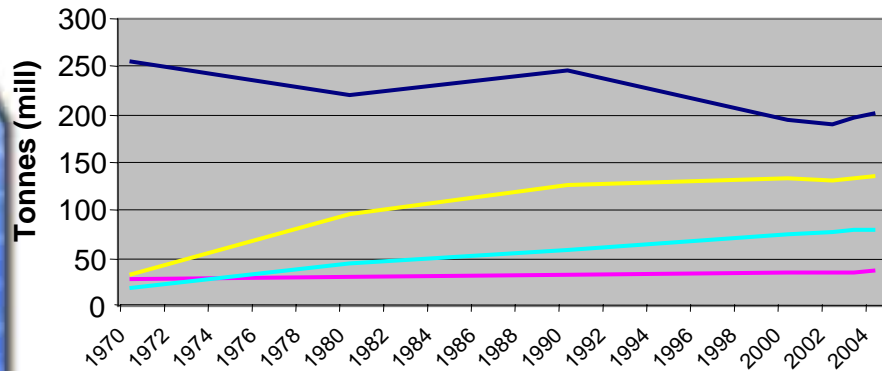


# Regional breakdown as defined by UNCTAD (2005)

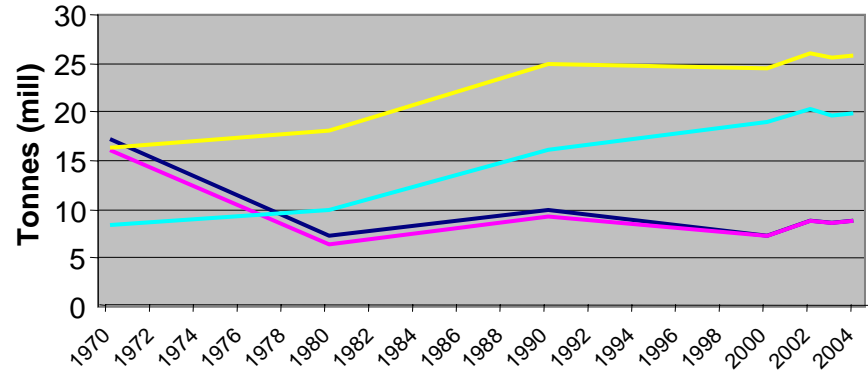


# African port throughput by region

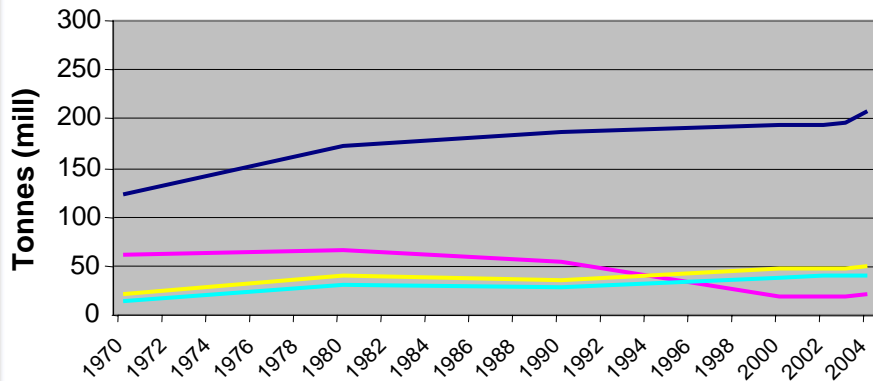
## Trade to/from Northern Africa



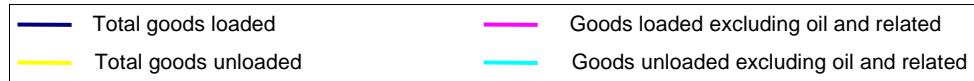
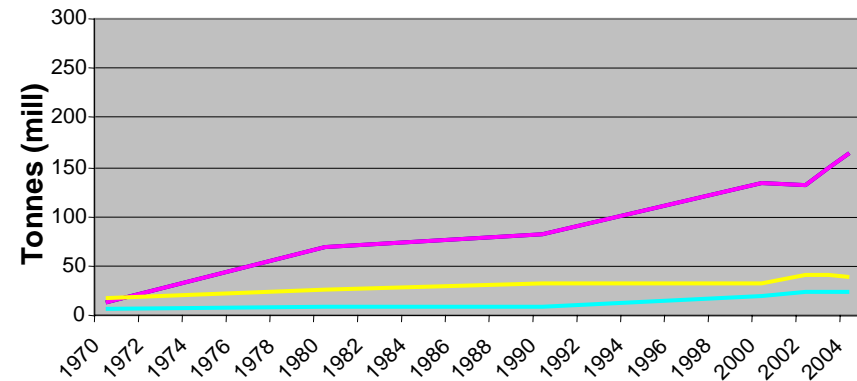
## Trade to/from Eastern Africa



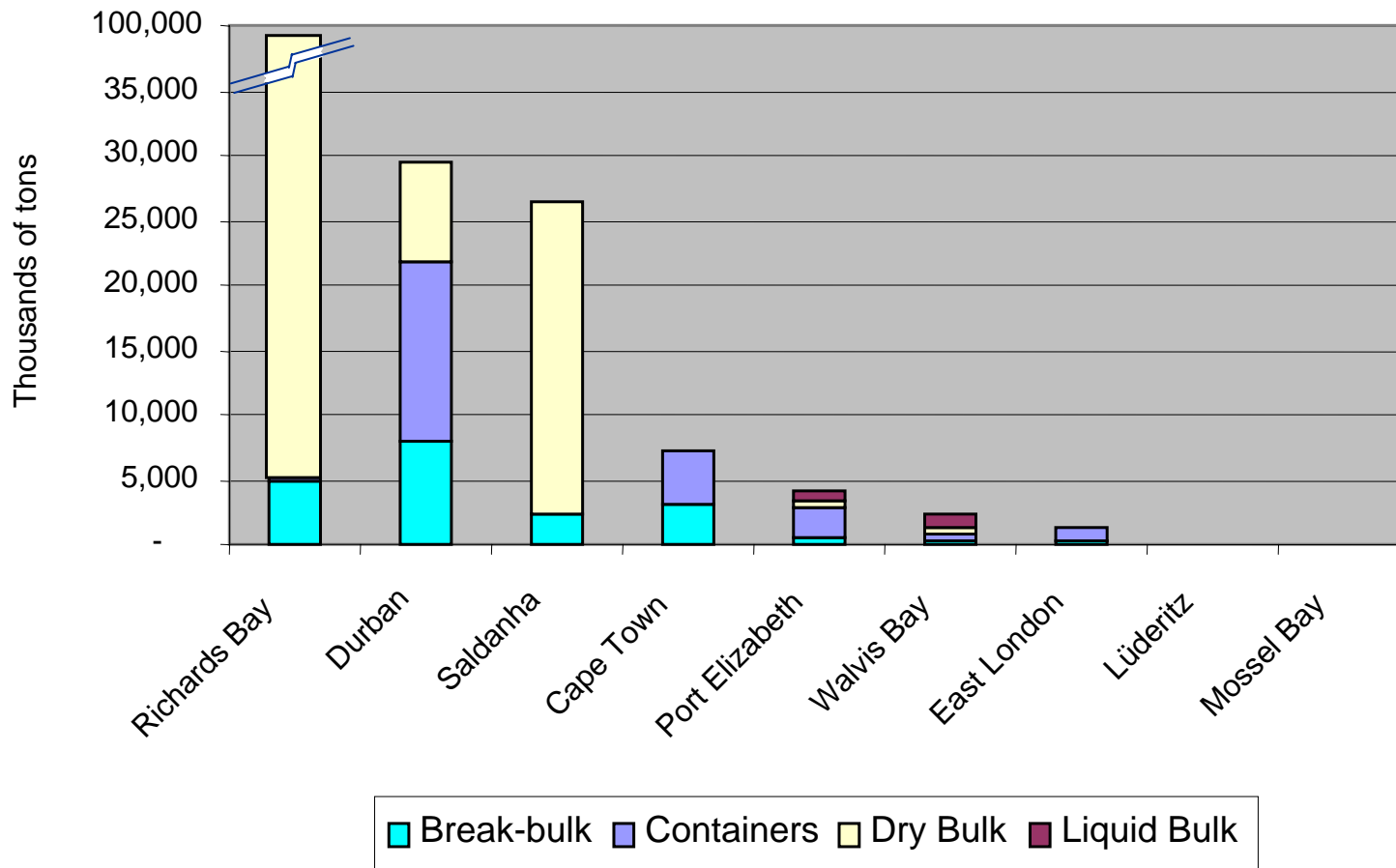
## Trade to/from Western Africa



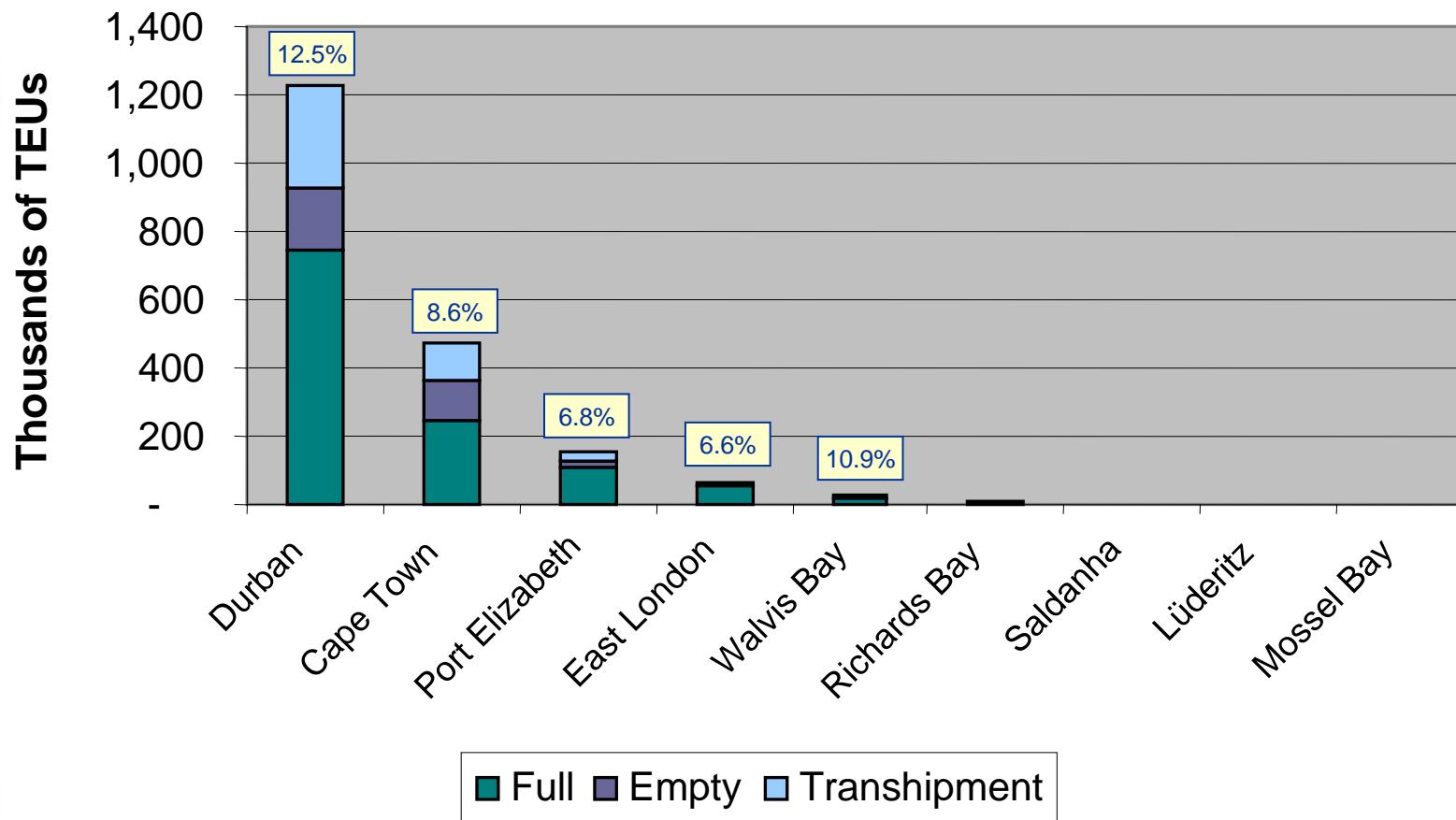
## Trade to/from South Africa



# South Africa and Namibia Port throughput in tonnages (2001)

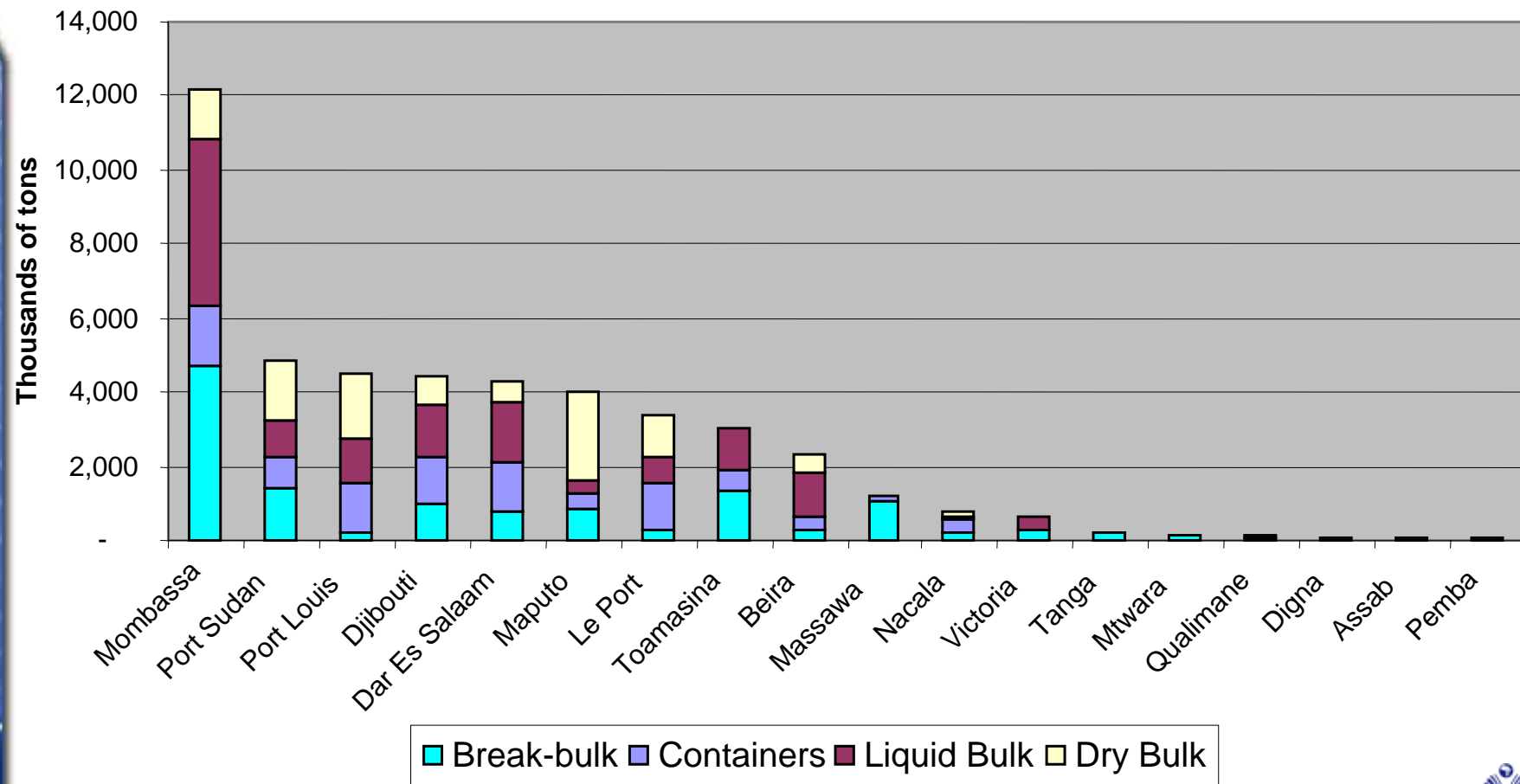


# South Africa and Namibia Port throughput in containers (2001)



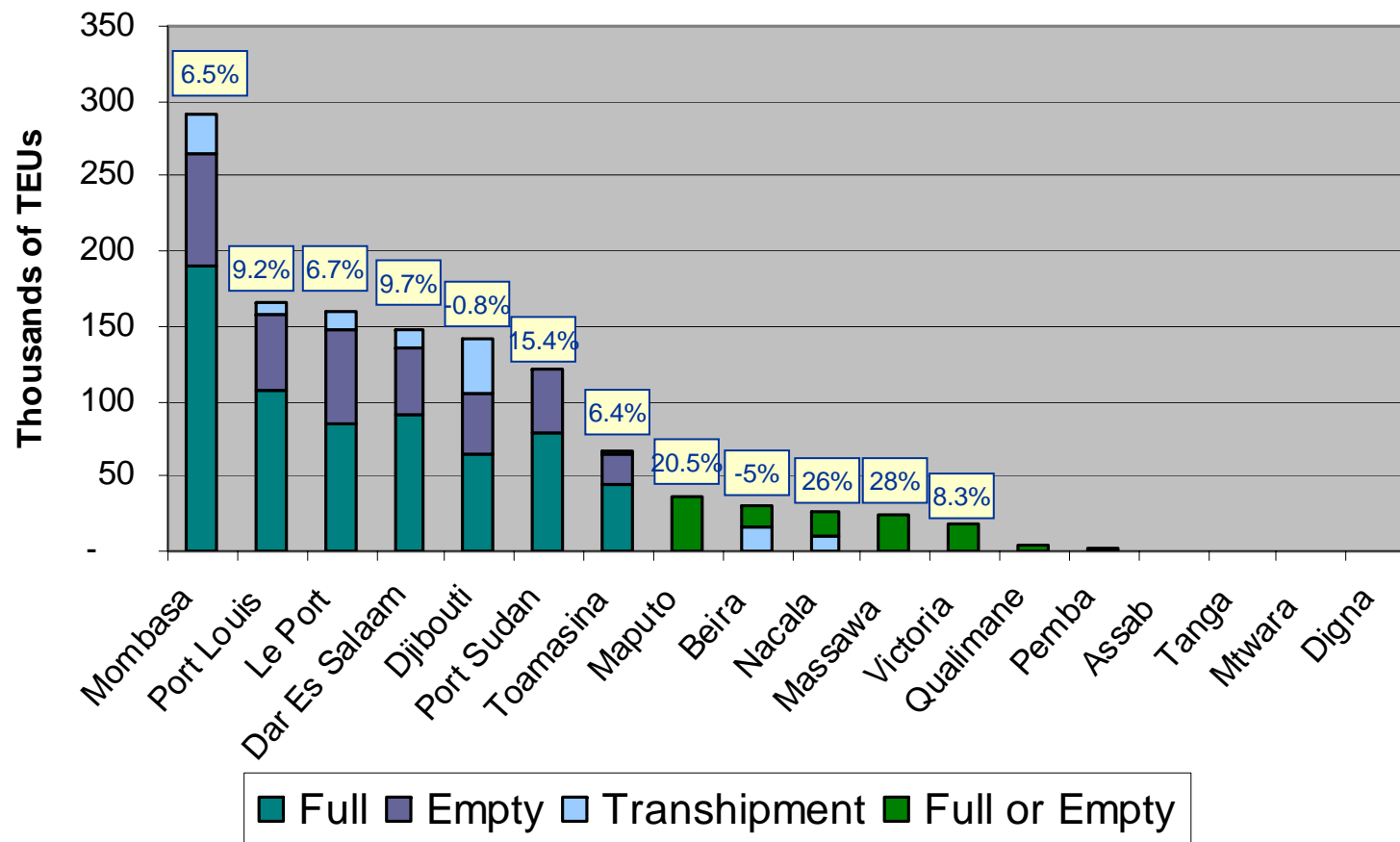
Average annual growth in container volumes at each port shown above each bar for the period 1997 to 2000, based on data provided by UNCTAD

# Eastern Africa Port throughput in tonnages (2001)



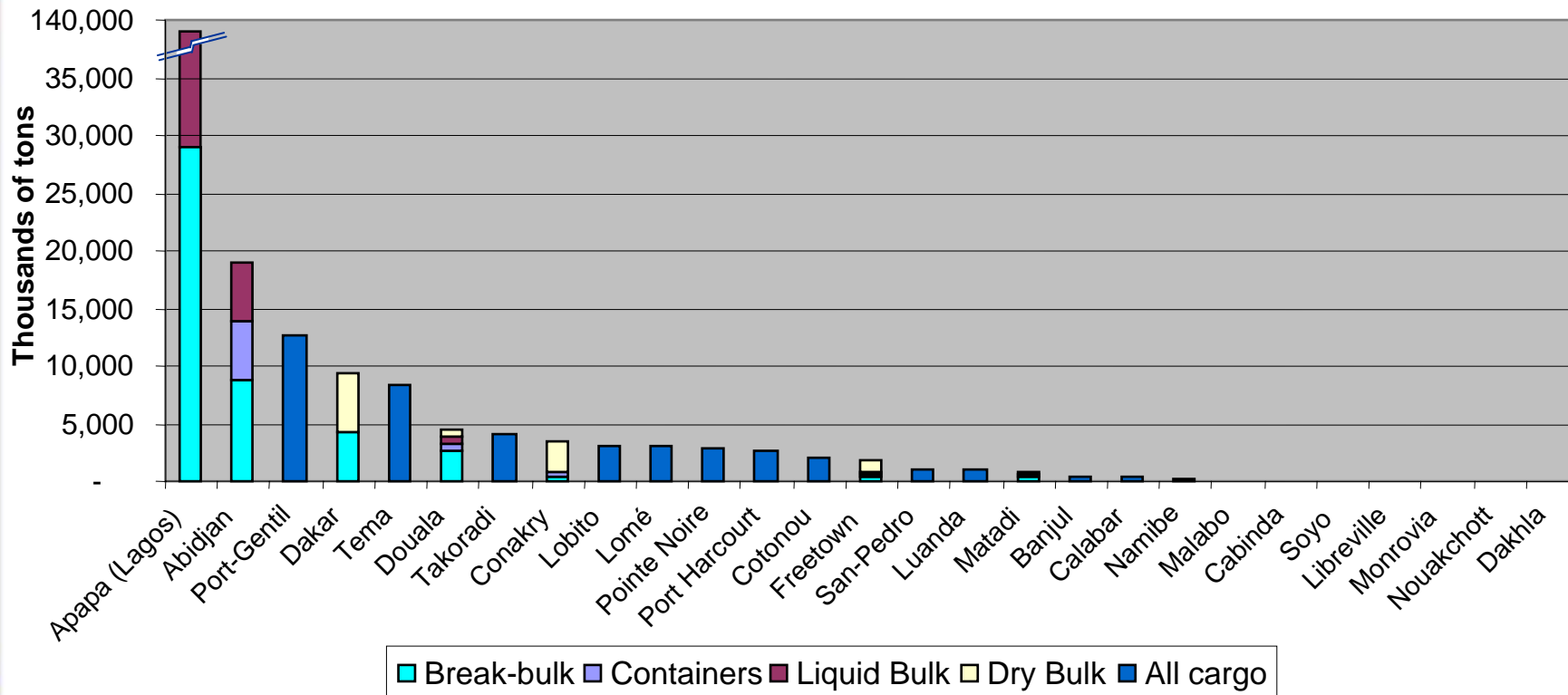
# Eastern Africa

## Port throughput in containers (2001)

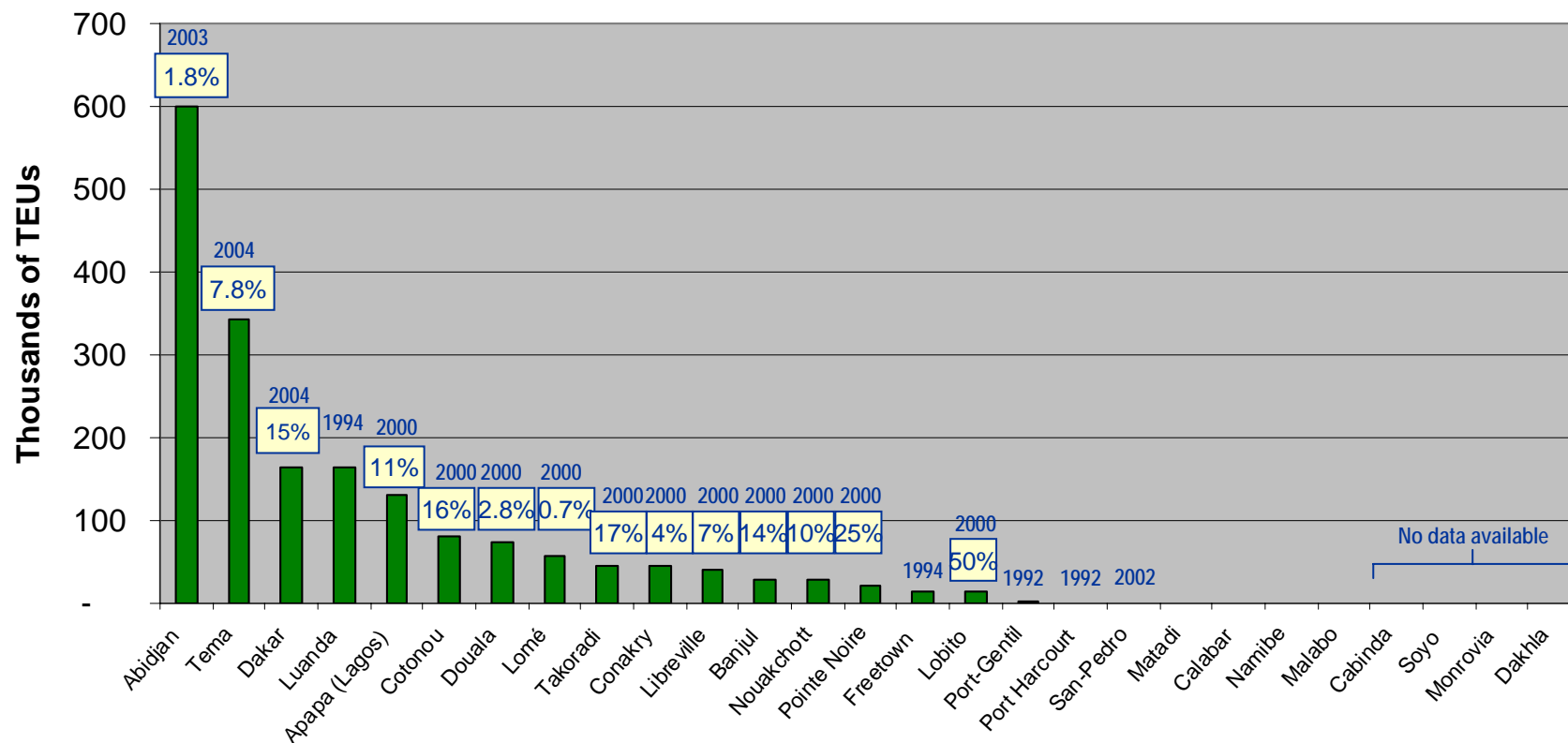


Average annual growth in container volumes at each port shown above each bar for the period 1997 to 2000 (Port Sudan) and 1997 to 2001 (Mombasa, Port Louis, Le Port, Dar se Salaam, Djibouti, Toamasina, Maputo, Beira, Nacala), based on data provided by UNCTAD and individual ports

# Western Africa Port throughput in tonnages (2001)

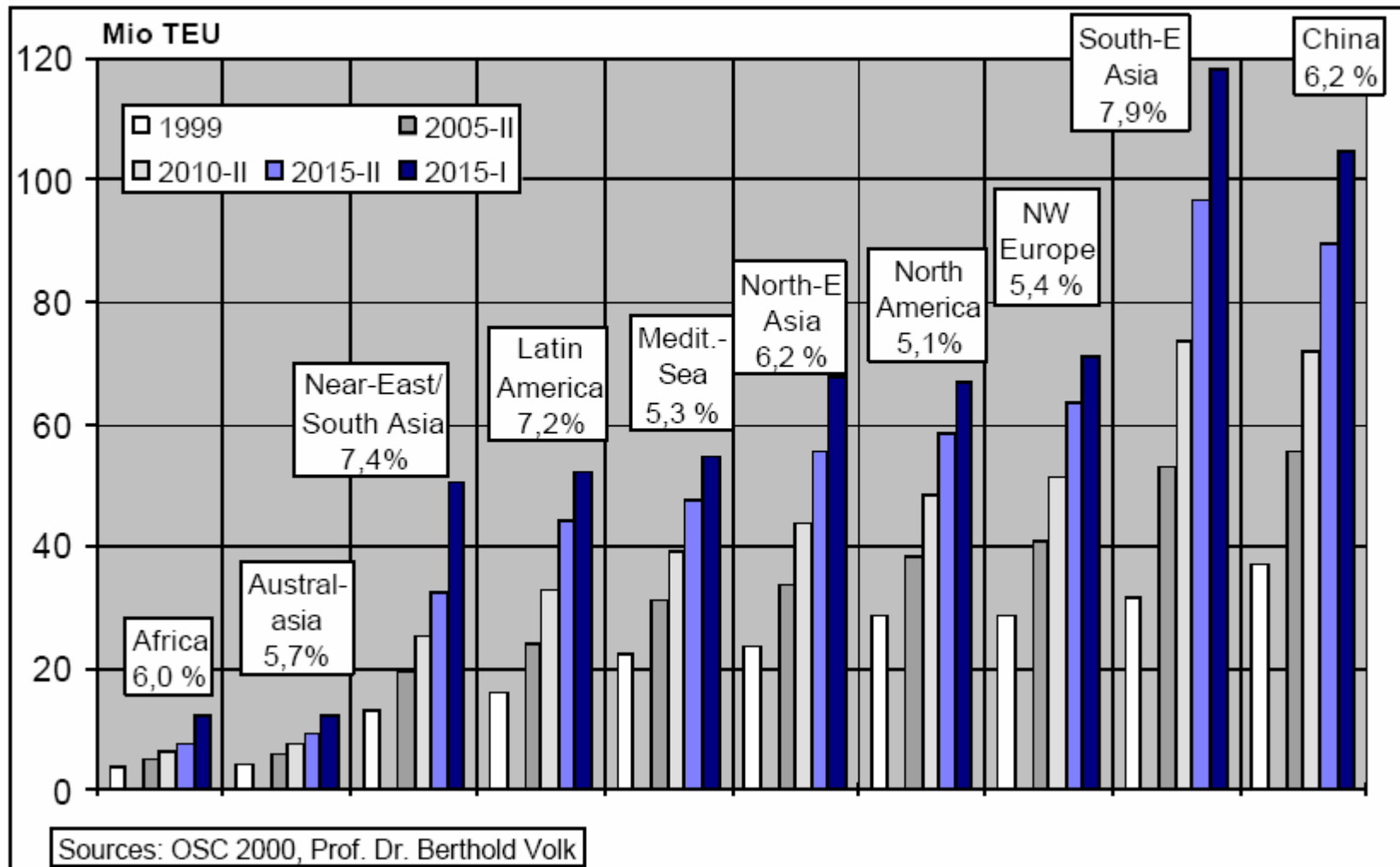


# Western Africa Port throughput in containers





The above chart reflects data from a number of years as shown above each bar. Average annual growth in container volumes at each port shown above each bar for the period 1997 to 2000 based on data provided by UNCTAD

# Forecast of annual growth in container traffic (1999-2015)



# Five Generations of Containerships



## First Generation (1956-1970)

	Length	Draft	TEU
 Converted Cargo Vessel	135 m	< 9 m	500
 Converted Tanker	200 m	< 30 ft	800

## Second Generation (1970-1980)

 Cellular Containership	215 m	10 m 33 ft	1,000 – 2,500
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## Third Generation (1980-1988)

 Panamax Class	250 m	11-12 m	3,000
	290 m	36-40 ft	4,000

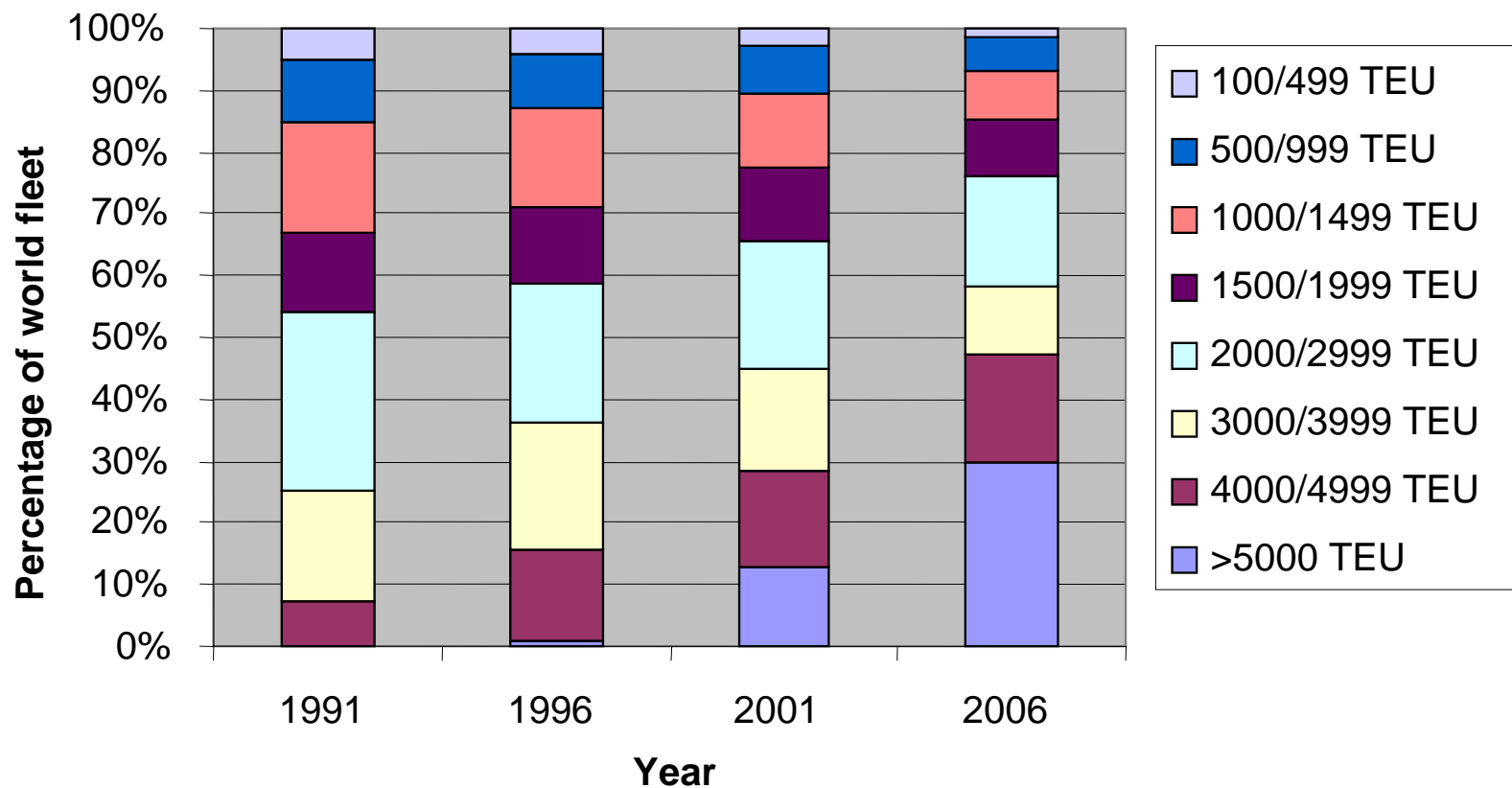
## Fourth Generation (1988-2000)

 Post Panamax	275 – 305 m	11-13 m 36-43 ft	4,000 – 5,000
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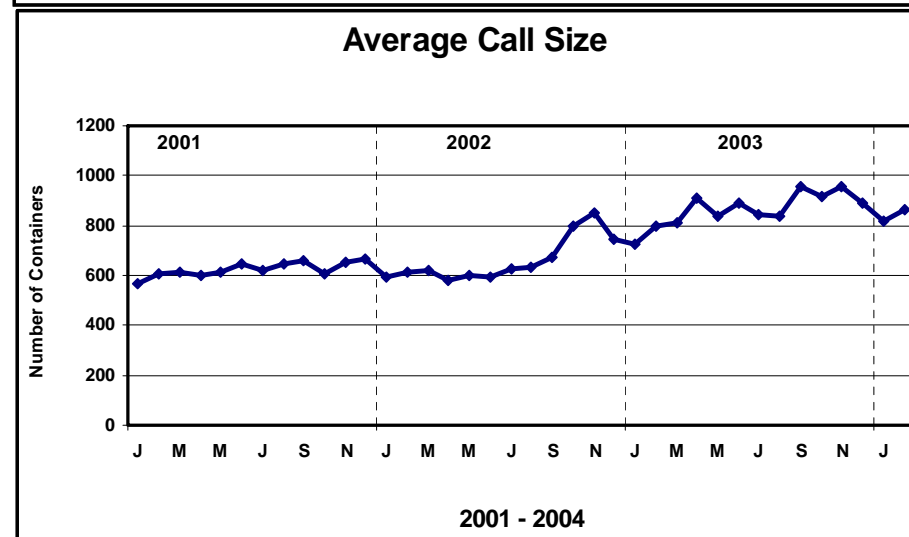
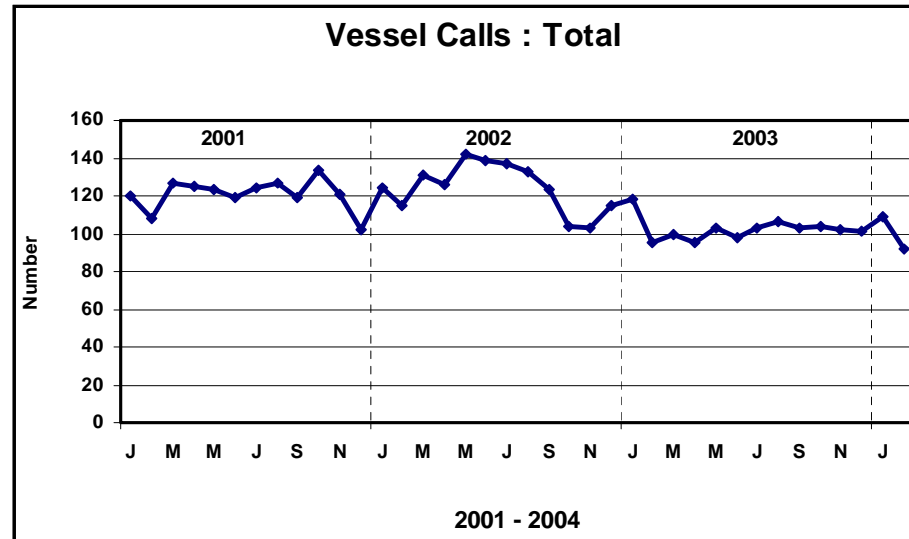
## Fifth Generation (2000-?)

 Post Panamax Plus	335 m	13-14 m 43-46 ft	5,000 – 8,000
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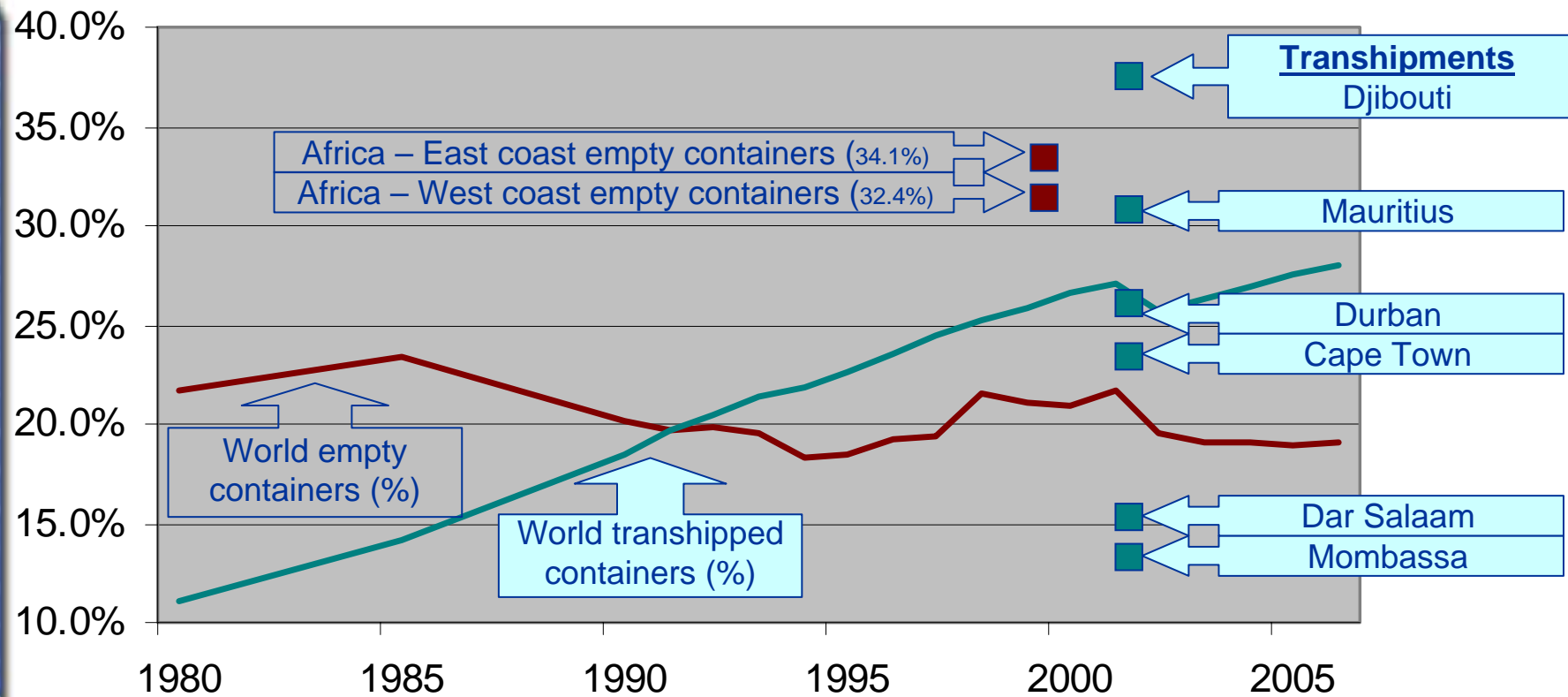
# Scale Increases in Container Vessel Size – World Fleet



# Changes in container vessel characteristics calling at Port of Durban



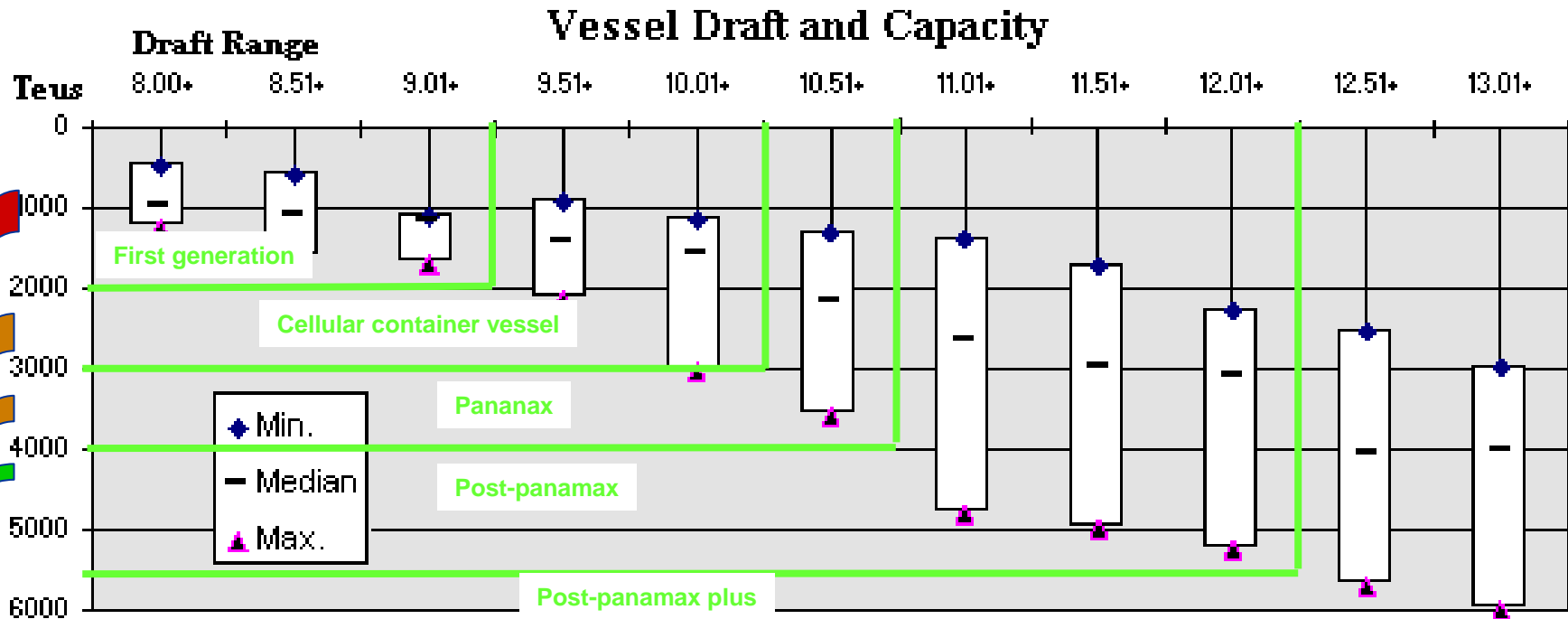
# Characteristics of World and African container flows



Source : Data analysis from data provided by Drewry Shipping Consultants, RASP, UNCTAD and Port databases of various ports

# Port draught limitations and vessel type

Source: Adapted from Wagshal, J. (1998) "Hubb and Spoke vs. Multiple Ports of Call" World Bank Working Paper



Cape Town, Nacala, Nqura

Durban, PE, Walvis Bay, Tema, Dakar, Port Lious

East London, Abijan, Pointe Noire, Maputo, Beira, Apapa, Mombasa, Dar es Salaam

Douala, Luanda, Matadi

# **Criteria for hub ports –**

**Boske (2003) University of Austin**

- Located in suitable position relative to other ports**
- Minimum deviation from general pool of possible stops**
- Access for larger vessels (draught)**
- Dedicated high volume container terminal**
- 24-hour operations**
- Minimal turnaround time and port efficiency**
- Competitively priced**
- Favourable business and political environment**
- Reduced bureaucratic rules and related delays**
- High-frequency feeder network connecting other ports**
- High-frequency intermodal network connecting inland destinations**

## **Why have we have failed to see clearer patterns of hub ports developing in Africa?**

- ❑ African cargo's remain a mixture of container and break-bulk traffic. This encourages use of multi-purpose vessels**
- ❑ Draught limitations exclude larger vessels. Draughts of under 10 metres (approx 1500-1700 TEUs) are required to access many of the regions ports**
- ❑ Containerised traffic is under-developed. Labour costs are low and container facilities are poorly developed such that in West Africa nearly 80% of containers are stuffed in port**
- ❑ Africa in the past has been served by smaller liners offering multi-purpose services. This trend is changing as these liners are being acquired by large global players**
- ❑ As private sector container terminal handling capacity grows so to does the emphasis towards larger shipper hubs. This trend has been slow to develop in Africa**

## African ports

- ***“African ports tend to be hinterland-specific – i.e. one main container port per country, usually close to or in the major city. This imbalance (compared to more developed regions) is maintained by the imbalance in population distribution (especially in terms of industry and disposable incomes) and a lack of inland infrastructure”***

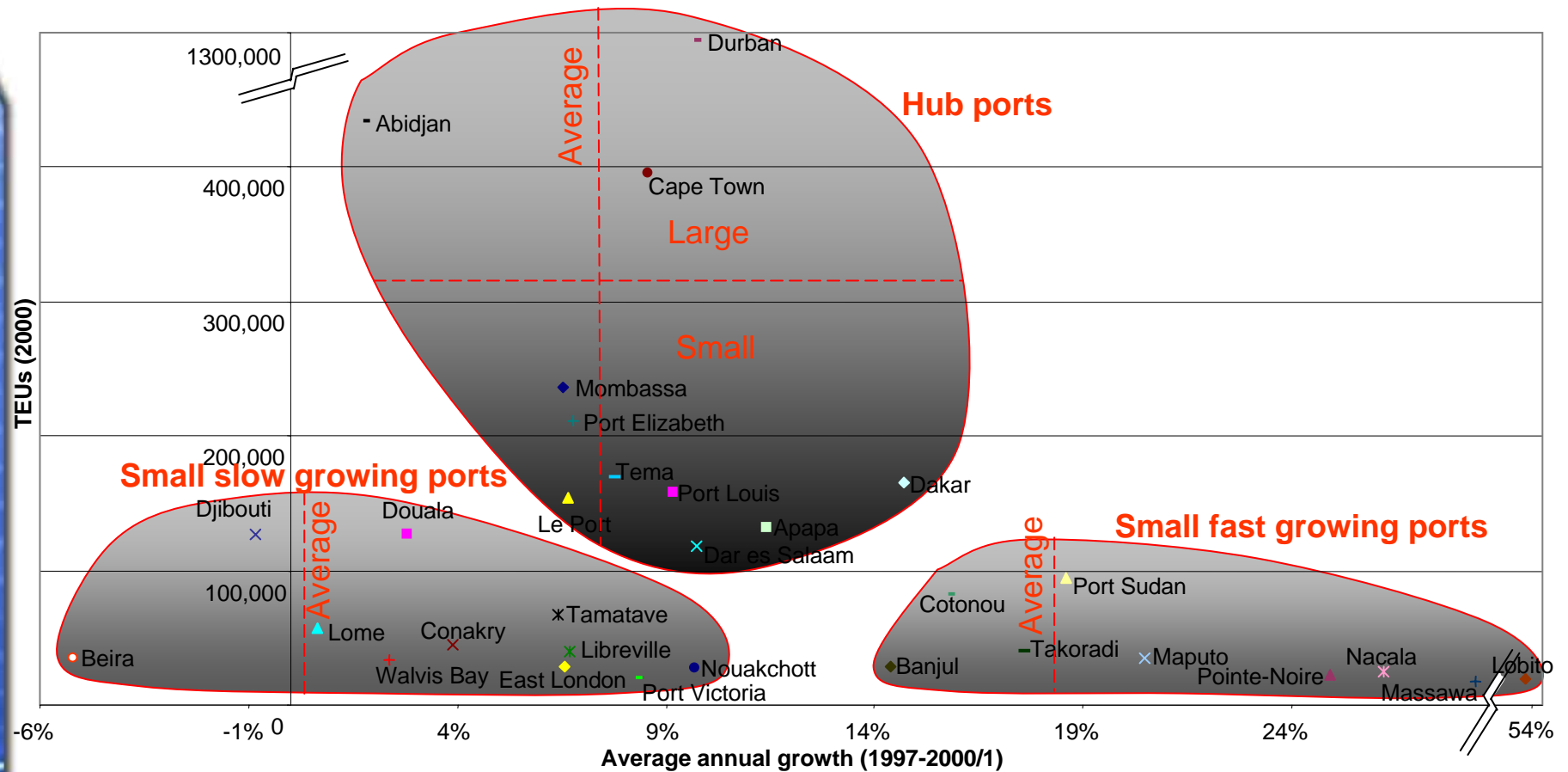
Eleanor Hadland, Drewry Shipping in Cameron 2003

# DBSA – Shipping Line Questionnaire

*(preliminary results)*

- **Future strategy**
  - ❖ Larger shipping lines tend to have a strong hub-and-spoke focus
  - ❖ Higher growth projections for west coast than east coast traffic
  - ❖ A dominant shipping line reports that ... *“by 2007 two 8100 teu vessels will be serving the northern hemisphere routes resulting in the transfer of post-panamax vessels of 4500 teu’s to southern hemisphere”*
  
- **Port logistics**
  - ❖ Strong interest by shipping lines in port and inland logistics facilities. This includes the port concession process, introducing handling facilities at dedicated berths to avoid delay and effective operation of in-land logistics facilities
  - ❖ Characteristics of African ports determining route selection and port call strategy:
    - Port efficiency and port congestion
    - Cargo volumes generated
    - Balanced flows of containers
    - Political stability
  
- **Emerging hubs *(based on interviews received thus far)***
  - ❖ Durban
  - ❖ Mauritius
  - ❖ Dar se Salaam / Mombassa
  - ❖ Las Palmas (Canary islands)

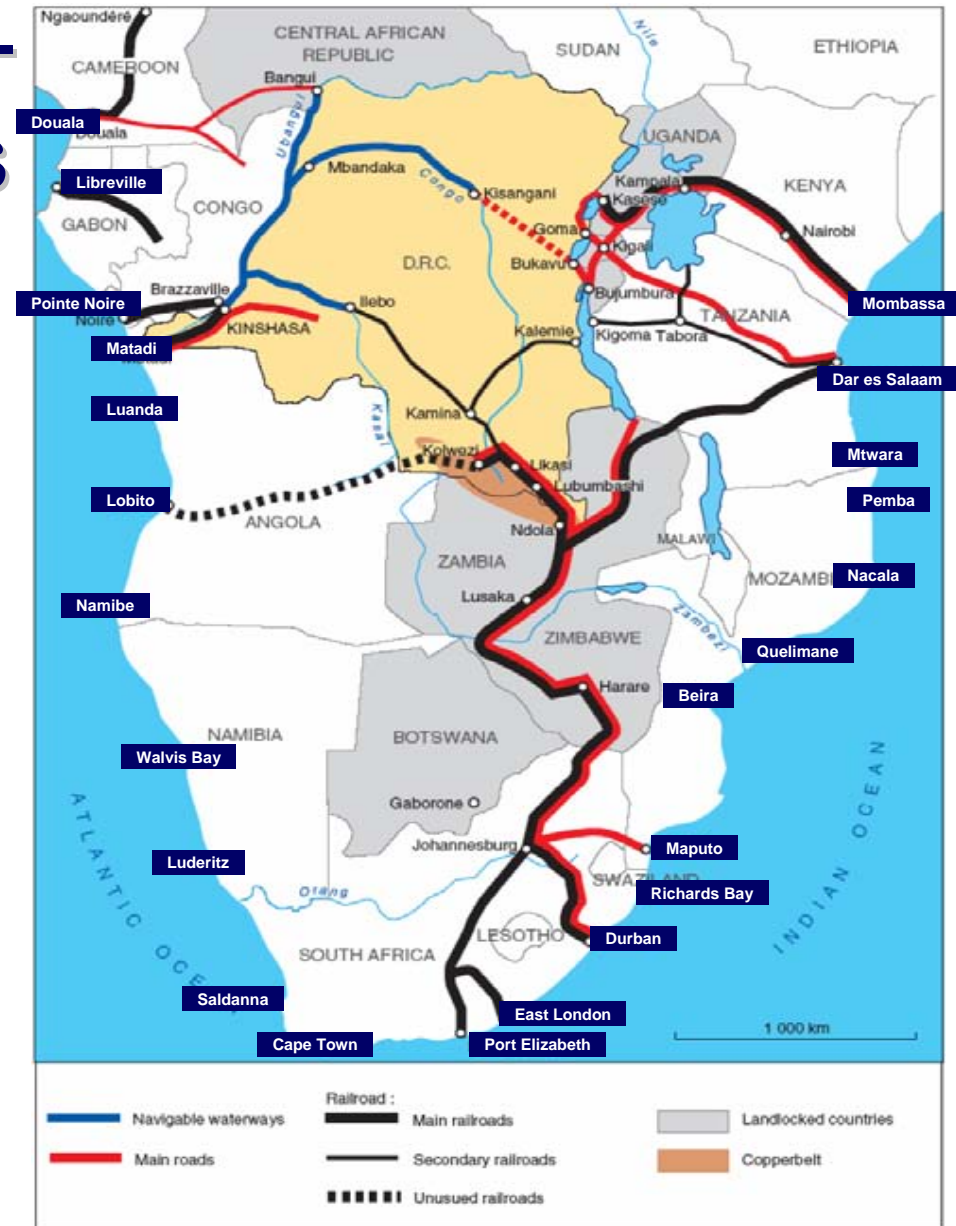
# Container volume and growth characteristics of Sub-Saharan African ports



Based on data analysis provided by UNCTAD (2004) and from various Port websites

# Southern Africa – corridors & ports

- ❑ Sub-saharan Africa has many smaller ports
- ❑ A clear hub-and-spoke strategy or port hierarchy is yet to emerge
- ❑ On which ports would resources best be focussed?
- ❑ Will a hub structure reduce the cost of logistics for African trade?



Map source: Comazar presentation 2004

## *Contact Details*

<b>Development Bank of Southern Africa</b>		
<i>Registered office</i>	<i>Postal Address</i>	<i>Telephone</i>
1258 Lever Road Headway Hill Halfway House South Africa 1685	PO Box 1234 Halfway House Midrand South Africa 1685	+2711 313 3911 Fax +2711 313 3086
<i>Website Address:</i>	<a href="http://www.dbsa.org">www.dbsa.org</a>	