THE COST-BENEFIT OF CHARTING CAMEROON WATERS

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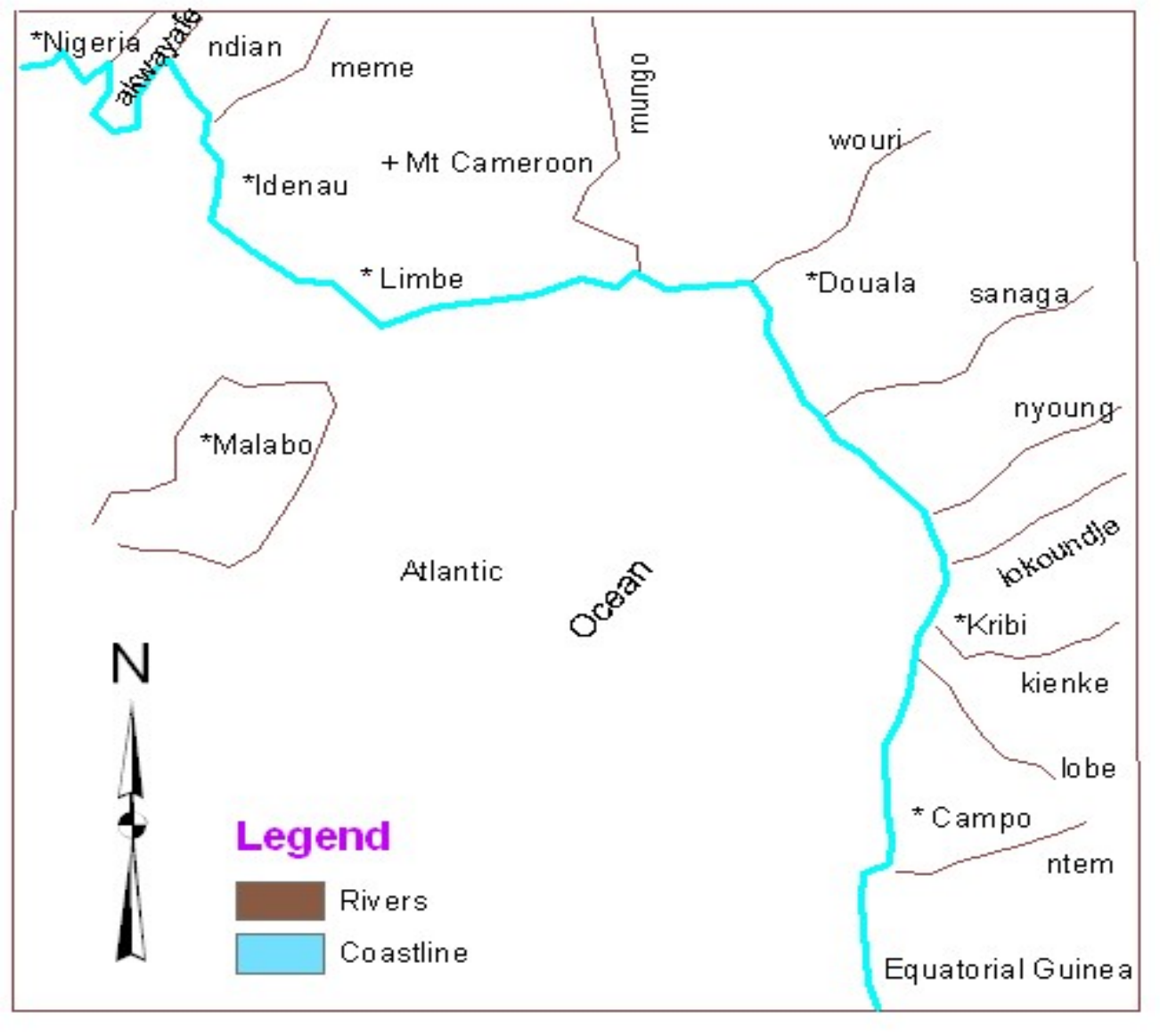
GEOGRAPHY/COASTLINE OF CAMEROON

- Population
  - About seventeen million people
- Central African coast
  - Approximately 2˚20'N- 4˚45'N; 8˚32'W- 9˚58'W
- Area
  - 475,440 km^2 of which
  - 6,000 km^2 are inland waters
- Coastline
  - About 402 km

CIA World Fact Book, 1999

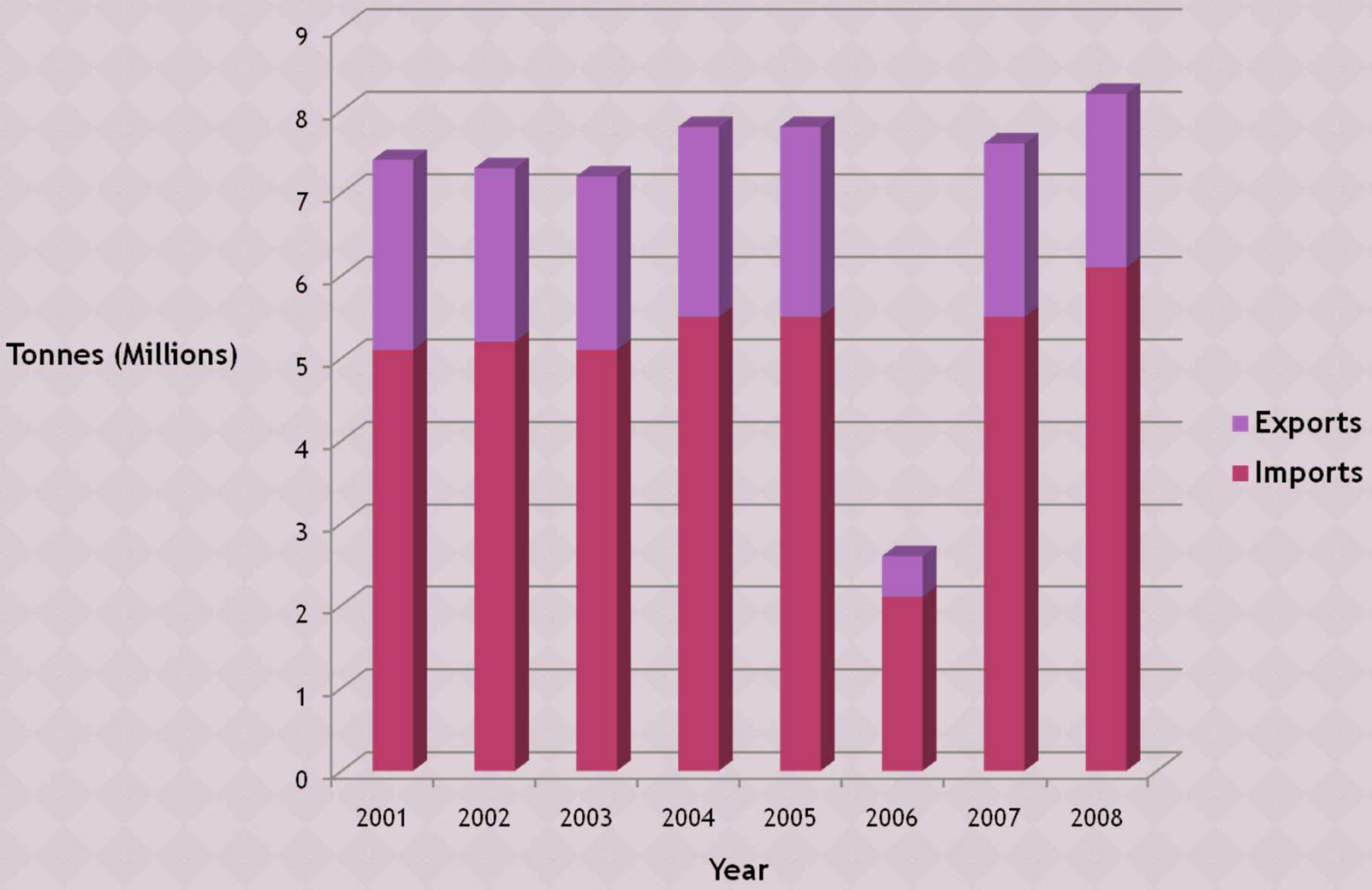


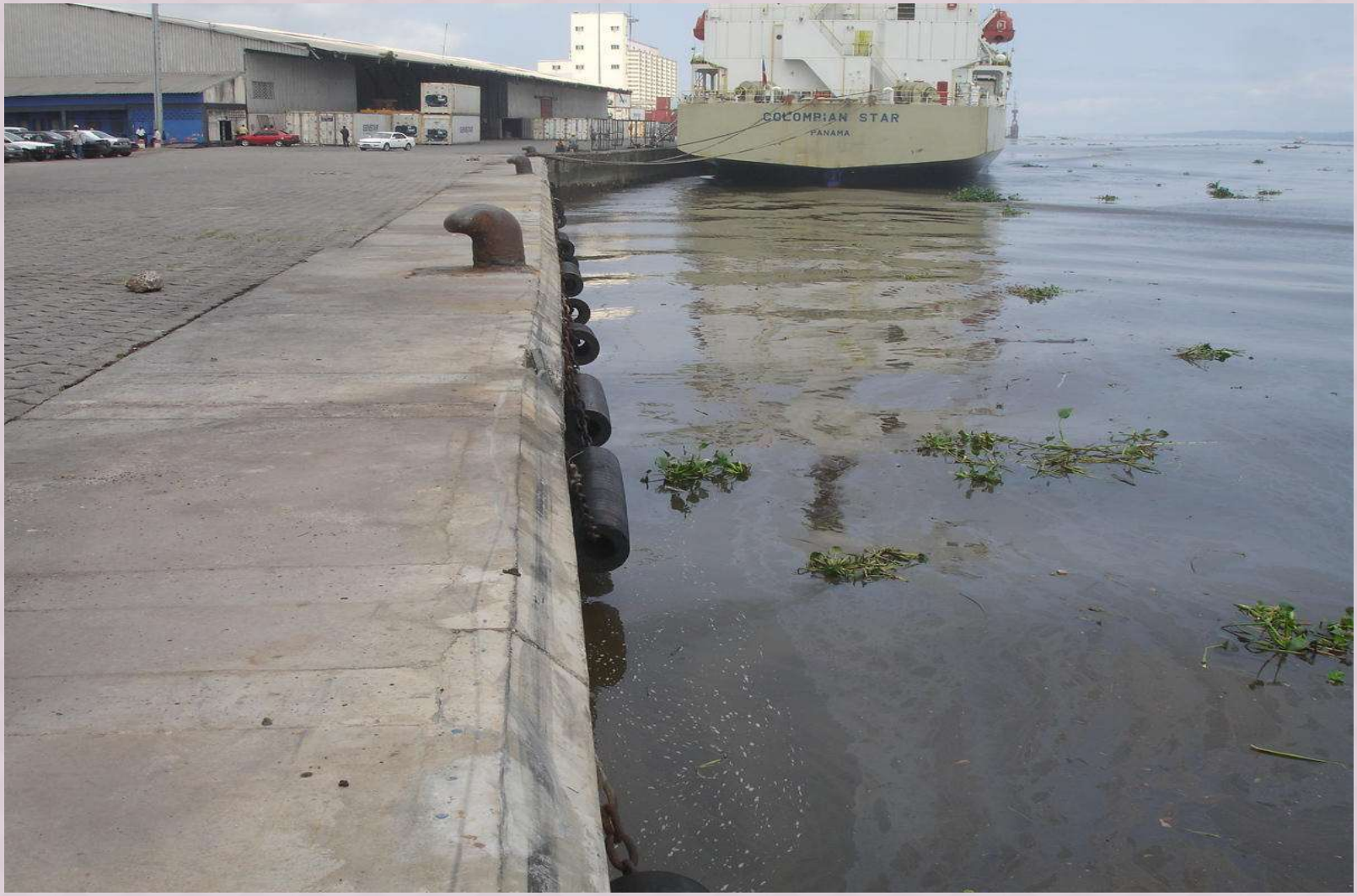
After Folack , 1997

MARITIME TRADE

- Three main ports:
  - Douala, Limbe and Kribi
- Douala, principal port
  - 97% of commercial trade in Cameroon
  - Maximum draft, 6.2m for non oil cargoes and 9.5m for oil tankers
- Limbe, second largest
  - Maximum allowable draft is 14m. Mainly for the transportation of crude oil, and for fishing vessels
- Kribi
  - Mainly for timber exportation
  - Maximum draft 12m

Traffic in the Autonomous port of Douala, 2001-2008 (Modified from Gicam)





Douala port view of a berth: Picture courtesy of IOC/GLOSS

Limbe port jetty: Picture courtesy of IOC/GLOSS

Kribi Port: Picture courtesy of IOC/GLOSS

CHARTING

- Cameroon
  - Member of the International Maritime Organisation (IMO)
  - Signatory to the Safety of Life at Sea (SOLAS) convention
  - Member of the International Hydrographic Organisation (IHO)
- Service Hydrographique et Océanographique de la Marine (SHOM), France
  - Responsible for navigational information in Cameroon waters

PROBLEMS

- Charts old and established from surveys conducted many years ago
- Local geodetic reference system uncertain
- Waters shallower than 200m
  - 9% surveyed
- Waters deeper than 200m
  - 0% surveyed
- Charts at scales larger than 1:1,000,000
  - not referenced to WGS84
- Shortage of maritime safety information

COSTS IN COST-BENEFIT

Survey items	Expenditure
Equipment	US$ 747,000
Personnel	US$ 72,000
Other associated costs	US$ 200,000
TOTAL COSTS	**US$ 1,019,000**

ECONOMIC BENEFIT FROM MARITIME TRADE IN CAMEROON

Sources	Revenue
Ports	US$ 13,100,000
Fishery landings	US$ 3,000,000
Environment	US$ 64, 000++
TOTAL BENEFITS	**US$ 16,164,000+**

EXPECTED BENEFITS: IMPLEMENTING A NATIONAL HYDROGRAPHIC PROGRAMME

Sources	Revenue
Increases in fish harvest	US$ 24,000,000
Increased port revenue	US$ 33,000
Environmental gain	US$ 300,000 +
Safety	+
Recreation and tourism	+
TOTAL BENEFITS	**US$ 24,333,000+**

COST/BENEFIT CALCULATION

Net benefit = US$ 24,333,000 – US$ 16,164,000

= US$ 8,169,000

$$\frac{\text{Total cost}}{\text{Net benefit}} = \frac{\text{US\$ 1,019,000}}{\text{US\$ 8,169,000}}$$

Cost benefit ratio = 1: 8

REFERENCES

- CIA World Fact Book, 1999, [Online] [http:/www.lib.utexas.educ/maps/cia99/cameroon_sm] [10 August 2009]
- Dorman C (1994) Principle of Benefit –Cost analysis applied to surveys
- Folack, J, 1997, Impact of human activities on river resources in Cameroon
- Gicam, 2009,[online], [http:/ww.legicam/org/statistiqueseconomique.html] [20 September 2009]
- IOC/GLOSS, 2009: International Oceanographic Commission/Global Sea Level Observing System and OdinAfrica - Oceanographic Data Information Network Africa

QUESTIONS ?