

HYDROGRAPHY IN AFRICA: ISSUES, PROBLEMS AND PROSPECT

BY

SURV. (MRS.) ANGELA ETUONOVBE *LSM,*
MNIS, FHRM, PSR, JP

PRINCIPAL CONSULTANT

ANGENE SURVEYS & CONSULTANTS

OUTLINE

- Introduction
- Why Africa
- A view of the various African regions
- The problems
- The prospects
- Conclusion / Recommendations
- The way forward.

INTRODUCTION

African countries without exception and exaggeration constitutes greater majority of the under developed nations of the world today whose per capital income is below the one dollar mark.

African nations and its people with its vast hydrographic potentials had continue to wallow in abject poverty and its people with no means of sustenance save for mere subsistence farming despite the rich hydrographic resources nature had endowed them with.



XXV International Federation of Surveyors
Congress, Kuala Lumpur, Malaysia, 16 – 21
June 2014

INTRODUCTION CONT.

- The exploitation of these vast untapped hydrographic resources all over the place in Africa would have caused great source of employment and much wealth for the nations.
- Also, if the necessary impetus has been introduced, Hydrography would have provided the necessary platform by which development to some extent would have been achieved.
- That the significance of hydrography in the general development of nations cannot be over emphasized. Despite this significance and the fact that its practice has been on for over a century, the level of hydrography awareness is very low in Africa.

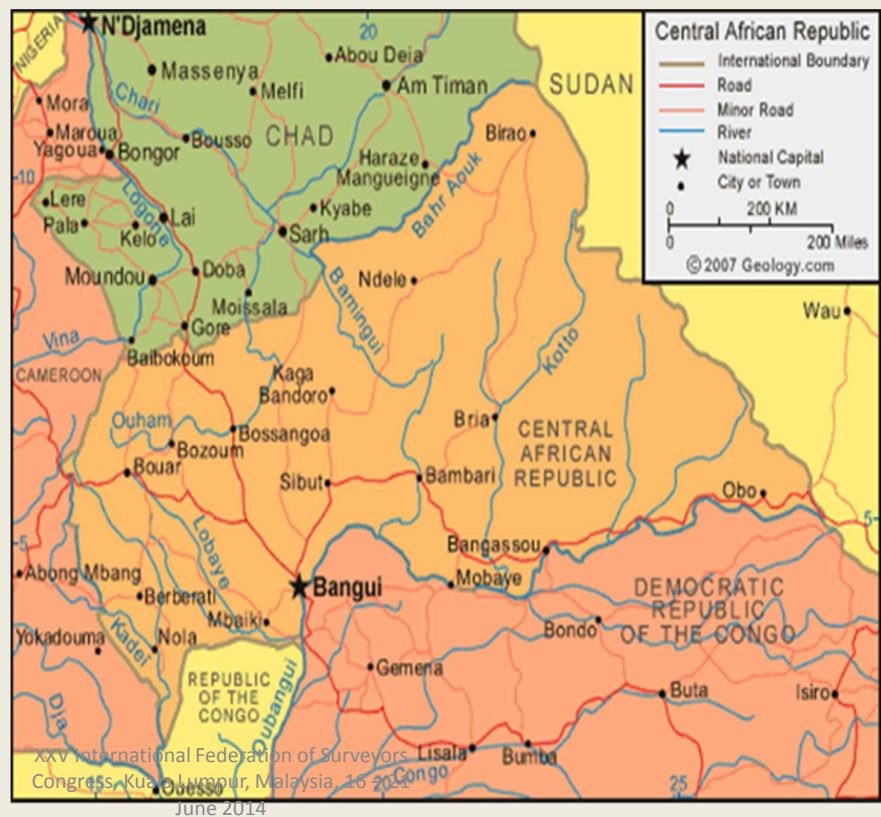
XXV International Federation of Surveyors
Congress, Kuala Lumpur, Malaysia, 16 – 21
June 2014

VARIOUS AFRICAN REGIONS

CENTRAL AFRICA

Map of Central Africa

- Dominated by water --vast rivers systems and lakes
- The region is dominated by Congo River basin which drains an area nearly as large as the United States east of the Mississippi River.



VARIOUS AFRICAN REGIONS CONT

WEST AFRICA

Map showing rivers in West Africa

- The rivers of West Africa are important resources for the region.
- The rivers provide sources of water for agriculture and human consumption.
- Those that flow into the Atlantic Ocean are important to trade and shipping to the central part of the continent.



EAST AFRICA

East Africa can be divided geographically into three sub regions. The first, the Great Lakes Region, includes Uganda, Kenya, Tanzania, Rwanda, and Burundi.

The second, the Horn of Africa, includes Ethiopia, Eritrea, Sudan, Djibouti, and Somalia.

And the last sub region is the Indian Ocean islands of Comoros and Seychelles.



XXV International Federation of Surveyors
Congress, Kuala Lumpur, Malaysia, 16 – 21
June 2014

SOUTH AFRICA

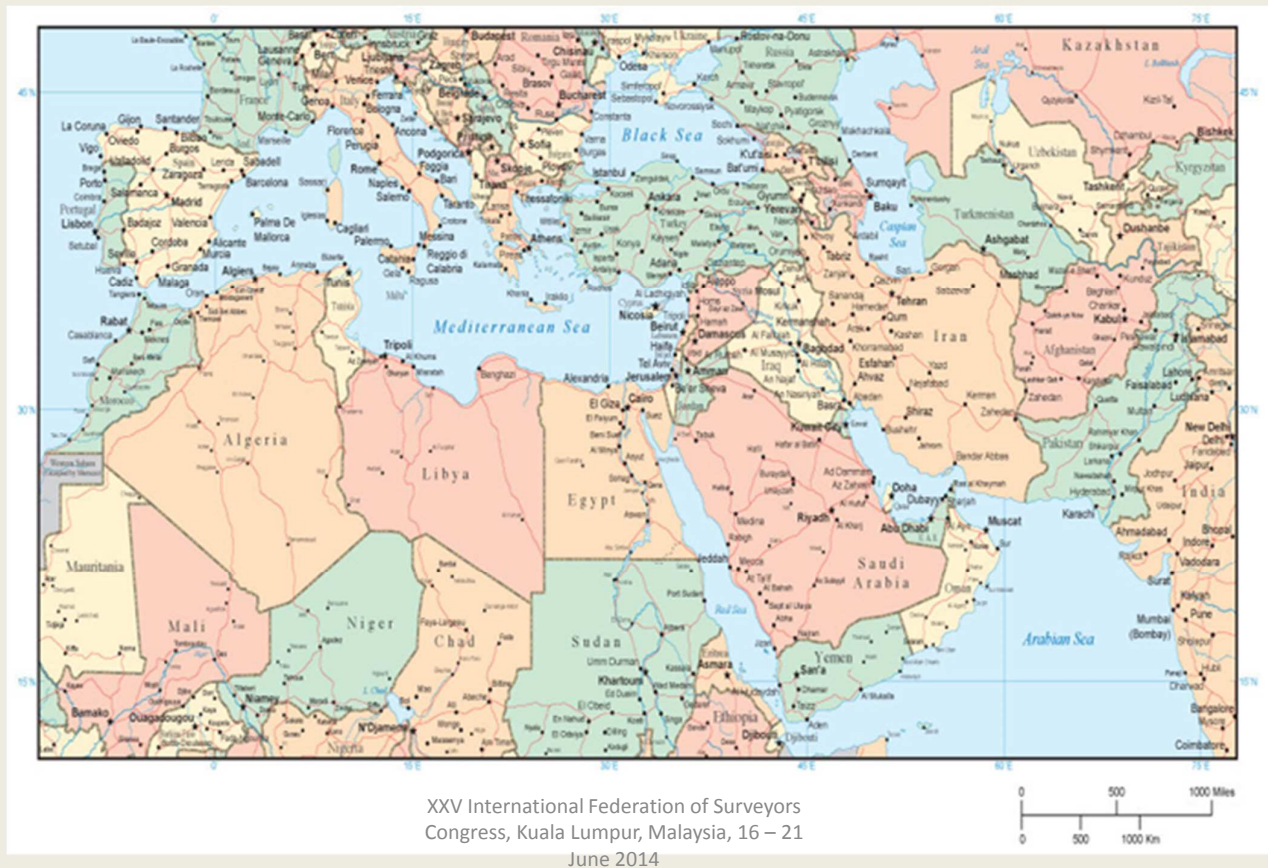
The vast majority of South Africa's border consists of the ocean—or two oceans, which meet at the southwestern corner.

Several small rivers run into the sea along the but none is navigable and none provides useful natural harbors. The coastline itself, being fairly smooth, provides only two good natural harbours,



XXV International Federation of Surveyors
Congress, Kuala Lumpur, Malaysia, 16 – 21
June 2014

NORTH AFRICA



THE PROBLEMS

- With the revision of the IMO of the 'Convention on Safety of Life at Sea' (SOLAS) chapter V, it details the obligation of maritime states to provide hydrographic services.
- A critical look of Rules 4, 9 and 31 of chapter V (table 1) are the most significant and respectively describe navigational warnings, hydrographic services and danger messages.
- Thus, governments of maritime nations are now obliged to take all necessary steps to collect, handle, disseminate, and keep up to date nautical information and hydrographic services necessary for safe navigation in their waters.
- Will this be possible in most African countries?

THE PROBLEMS CONT.

- From discussions had with representative of some of the African Countries, it was observed that most of the countries do not offer courses on hydrography in the University, and the few that do offer such do not have modern technique, skills and test books.
- That there is no institutions in Africa offering Category A (Professional) and Category B (Technologists) training in hydrography. Even those engaged in technical training are very few.
- Also, hydrography is not known to many of the policy makers and those in Government; as a result, its importance is not known. Of course they know that their maritime boundary should be secured but that is left with the Navy anything else does not matter.
- That there are no strong institutional and legal frame work that will enhance or facilitate the development of hydrographic practice in Africa.
- Also, the few Hydrographers in Africa are mostly in the Oil and Gas sector and the Navy.

XXV International Federation of Surveyors
Congress, Kuala Lumpur, Malaysia, 16 – 21
June 2014

PROSPECTS

- In spite of the seeming lack of prospects for hydrography in Africa, there are issues that if properly addressed will provide a lot of prospects for the African nation and globally.
- — **Creating Awareness.**
- — **Training Programmes**
- — **Capacity Building**
- **Creating Awareness.**
- There is a dare need for the usefulness and benefit of hydrography to be taken to every nook and cranny of Africa especially in countries where the policy makers do not know so much of its importance and so little or no budget is allocated to it.

XXV International Federation of Surveyors
Congress, Kuala Lumpur, Malaysia, 16 – 21
June 2014

PROSPECTS CONT.

- **Training Programmes**

- Hydrography should be introduced as a course for all African Universities offering Surveying and Geoinformatics. It is in practice in Nigeria and South Africa. All other countries should like wise do same to promote the training of hydrography.
- Also, African Universities should introduce a Professional Master of Hydrography or Marine Science with modern technologies as it is done in the United Kingdom, Canada and other developed countries. This in no small way will promote the awareness of hydrography to such countries.
- Also, there is need for training of more Hydrography Category A Surveyors. These could be made possible if there is an Hydrogaphy School situated in Africa that will train this category of personnel.

XXV International Federation of Surveyors
Congress, Kuala Lumpur, Malaysia, 16 – 21
June 2014

PROSPECTS CONT.

- **Capacity Building**

- There is dare need for Capacity Building in the following areas in most African Countries
 - Hydrographic Data Collection
 - Hydrography and Chart Production / Update Programs
 - Marine Spatial Data Inundation
 - The list is endless

XXV International Federation of Surveyors
Congress, Kuala Lumpur, Malaysia, 16 – 21
June 2014

CONCLUSION / RECOMMENDATIONS

- There is need to continue to create more awareness of the importance of hydrography to African countries especially in Central, East and West Africa. Considering that hydrography has a low profile in African Governmental circles compared with other technical areas involved in environmental and geographical issues, an awareness strategy using an established African Society could provide a remedy.
- Africa has rivers and hydrography has being a profession to a few , it is of great interest to note that if hydrography becomes a major sector in Africa, it will bring an economic boom and provide employment to many as the rate of unemployment in many African countries is high.
- Unfortunately the human resource that would form the nucleus of hydrographic capacity in Africa remains untapped. Other findings that have proved inimical to the growth of hydrography in the region include inadequate funding, lack of training opportunities and inadequate trained manpower. There is need of a hydrographic training school in Africa.

ICV International Geographical Surveyors
Congress, Kuala Lumpur, Malaysia, 16 – 21
June 2014

CONCLUSION / RECOMMENDATIONS CONT.

- Existing institutional and Legal framework should be strengthened to facilitate the development of Hydrography in Africa using such organizations as ECOWAS, AU and similar regional bodies.
- As a way of promoting hydrography within the African region, all Government Survey Directorates are to establish Hydrographic Offices in their organizations. And, there is urgent need for the establishment of National Hydrographic Service / Office in all African Countries.
- There is an urgent need for capacity training in Africa. Institutions of higher learning will need some hydrography text books this will aid in improving the interest of the students and create more awareness of hydrography .
- There is a need for dialogue and information exchange on a regular basis among the various organizations which can promote and enhance exchange of experience, best practices and success stories among these organizations. Professional institutions in surveying in Africa should assist in creating more awareness on Hydrography.

ICV International Geographical Surveyors
Congress, Kuala Lumpur, Malaysia, 16 – 21
June 2014

THE WAY FORWARD

There is a great need for a call to action,
now is the time to do so.

And we can achieve this by creating
solutions for the challenges raised
immediately above.

XXV International Federation of Surveyors
Congress, Kuala Lumpur, Malaysia, 16 – 21
June 2014

THANK YOU FOR LISTENING

XXV International Federation of Surveyors
Congress, Kuala Lumpur, Malaysia, 16 – 21
June 2014