NATIONAL REPORT FOR NIGERIAN SOCIETY OF PHOTOGRAMMETRY AND REMOTE SENSING (NSPRS) FOR THE PERIOD 1988-1992

MR. J.D. AJAYI
FEDERAL MINISTRY OF WORKS & HOUSING,
P.M.B. 12596
5 TAFAWA BALEWA SQUARE
LAGOS, NIGERIA.

ABSTRACT

The Nigerian Society for Photogrammetry (NSP) was founded in 1975 with the objective of fostering the application of the theory and practice of Photogrammetry in the Surveying and Mapping Industry in Nigeria. The name of the Society was changed to the Nigerian Society for Photogrammetry and Remote Sensing (NSPRS) after the Hamburg Congress of 1980 when the name of the parent Society was changed to ISPRS.

This change was made to accommodate remote sensing practitioners and experts who are involved only in remote sensing activities as related to their professional practice. Suffice it to say that the Nigerian Society for Remote Sensing (NISORS) still exists in the Country but Collaborates with NSPRS on major issues partaining to Remote Sensing.

The National Report of NSPRS covers all major activities in Photogrammetry and Remote Sensing including application, technology and research in Nigeria in the period 1988 to 1992, viz: education, training and manpower development acquisition of equipment and instrumentation, history and bibliography as well as new developments, application techniques and methods. The report covers the use of the GPS for control establishment and densification, revision and metrication of the national topographical map series using SPOT Sattelite imageries. These maps are for the international border delineation and administration and to facilitate the National Population Census undertaken in November 1991.

The report also discusses progress in education, training, instrumentation, application of new technologies and research publications.

KEY WORD: NATIONAL REPORTS

INTRODUCTION

The period (1988-1992) can be described as a period of rapid growth in the applications of Photogrammetry and Remote Sensing techniques to the Surveying and Mapping Industry in Nigeria.

Many new entrants into the profession were trained in the various tertiary institutions in the Country.

Various Workshops, Symposia and Conferences were organised to update the knowledge of the practitioners of the Photogrammetry and Remote Sensing Profession. New equipment were purchased to enhance the practice of the profession nation-wide.

Development of Photogrammetry

The awareness of the advantages of photogrammetric Mapping techniques grew tremendously during this period. This awareness was brought about by the type of training being offered at some of the tertiary institutions in the Country. Some of the institutions are the Regional Centre for training in Aerospace Surveys (RECTAS) at Ile-Ife; Kaduna Polytechnic, College of Environmental Studies, Kaduna, University of Lagos; Ahmadu Bello University, Zaria and University of Nigeria, Nzukka, to mention a few. These institutions trained more than 500 new entrants into the profession during the period under review.

Many of the graduates have taken up employment in the public and private sectors of the Nigerian economy and in other West African Countries like Ghana, Senegal, Liberia, Cameroun, etc.

Continual effort is being made to apply photogrammetric techniques to mapping in the country. The following township maps, among others, were completed during the period covered by this report: Ilorin and Minna at the scale of 1:1000.

The use of Global Positioning/System Equipment (GPS) was introduced during this period to reduce the time for the provision of basic control points needed for mapping.

There were general problems with the maintenance of the photogrammetric instruments. Efforts are being made to find lasting solutions to identified problems.

Development of Remote Sensing

The technique of topographical map revision using SPOT IMAGERY at the scale of 1:50.000 was introduced into the country during the period 1988-1992.

The method was at first regarded with scepticism but the technique has now been fully embraced and it is currently being used to revise and metricate the maps covering an area of 240,000 sq.km which is about 25% of the total land area of the country.

The oil industry in the country has also used the technique to update the maps covering parts of their areas of operations at the scale of 1:100,000. There are projects in the pipeline to utilize the remote sensing techniques for map revision at the scale of 1:25,000 by the Oil Companies.

Mapping with space imagery is not as wide spread in its application as the photogrammetric technique because many of the equipment being used are very expensive as well as being very much dependent on sophisticated "hi-tech" computer systems.

The academic institutions, especially RECTAS, are making efforts to acquire the required mapping equipment, secure the services of experts in Remote Sensing for the purpose of training the right calibre of manpower that will be responsible for producing maps with this time saving method.
Such trained personnel will also carry out needed research projects.

Like the development in Photogrammetry, maintenance still poses serious problem.
For the maintenance of the Traster T5 Analytical Stereoplotter, recently purchased by the Survey Department of the Federal Ministry of Works and Housing, experts have to be flown in any time it develops problems.
As this is the only equipment of its type in the country, it is not economical for the vendors to establish back-up maintenance in Nigeria.

Development of GIS and Digital Mapping

Within the last one year, four conventional stereoplotters were fitted with Digital mapping capabilities within the Survey Departmentof the Federal Ministry of Works and Housing to enhance direct data capture from them. This development has significantly improved the productivity of the personnel in the Department..
Many of the officers involved with the use of the instruments were given courses in Computer Appreciation. Such training programmes had greatly assisted in achieving predetermined production targets. The final map products are now stored on diskettes which can be used to produce hard copies of the maps at desired plotting scales.

CONCLUSIONS

From the foregoing, it can be seen that the future of the applications of Photogrammetry and Remote Sensing techniques to mapping in Nigeria is very bright indeed.
There is a lot of work to be done in mapping the country at the various scales. There are, however, budgetary, manpower and maintenance constraints.

The big challenge for the next couple of years would be how to overcome these constraints in the pursuit of the goal of up-to-date maps for Nigeria at various scales for planning and effective management of the huge natural and economic resources of the country.