

Surveying and Geoinformatics Training in Nigeria: Issues and Challenges

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SUMMARY

As a result of the revolution in Information Technology (IT), the traditional methods and techniques of carrying out surveying had been greatly revolutionized to the extent that traditional skill in surveying can no longer meet the challenges of the new world order. Therefore, surveying training in Nigeria has metamorphosed from land surveying into surveying and geoinformatics technological training in order to enable Surveyors be digital compliant, fit into the IT revolution and fill the gap created by the revolution. It was found out that prospects of Surveying and Geoinformatics training are numerous, but challenges in Surveying and Geoinformatics profession and training in Nigeria are enormous and need be addressed to enable Nigerian Surveyors harness full prospects in Surveying and Geoinformatics profession in the country. Adequate and effective geoinformation policy for the country will likely provide solutions to the challenges facing the surveying and geoinformatics training in the country.

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INTRODUCTION

Global change in Information Technology (IT), especially in the area of Geographical Information Technology (GIT) has brought a new world order into the practice of Surveying, hence many traditional skills and technologies in Land Surveying in Nigeria can no longer meet the challenges of modern age. In order to fill the gap, around the beginning of the third millennium, rapid training and retraining of Surveyors to meet the challenges of GIT (a product of IT) in the area of Geoinformatics Technology commenced. The technology is a body of knowledge and technique that deals with the computerized system of acquisition, processing and management of spatially referenced information. The technique has been spreading rapidly and it is replacing the traditional method of Surveying. The paper considers the trends, prospects and challenges in Surveying and Geoinformatics technology education in Nigeria.

The Trends and Impacts of IT in Surveying and Geoinformatics Training in Nigeria

Surveying is as old as mankind and it is one of the oldest professions practiced in the world. For instance, Surveying was practiced in Babylon as far back as 2500 B.C and the map of Old Calabar in Nigeria was produced on scale 1: 930,000 by the British in 1866 (Oluwamotemi, 2005). Surveying Departments have existed in Lagos and Kaduna since 1900, but the Departments concentrated on cadastral surveying (Oluwamotemi, 2005). The discovery of tin ore in Jos and the boom in agriculture in Nigeria in 1912 provided the actual impetus for cadastral surveying in the country.

Fajemirokun and Nwillo (1996) said Nigerian Surveyors were the first professionals in Nigeria to be exposed to formal training locally. The first school of training commenced in Lagos in 1908 and it was moved to Ibadan in 1927 and finally moved to Oyo in 1935 (Fajemirokun and Nwillo, 2000). The training of Technicians and Instrument men started in 1952. Apart from the Survey School in Oyo, Fajemirokun and Nwillo (2000) report that Yaba College of Technology was established in 1932 and it offered a 2-year Basic Educational programme for prospective surveyors. The candidates completed their programme with another 2-year programme in Land Surveying at the Survey School, Oyo. Successful candidates were awarded Diploma Certificate of Yaba College of Technology. The establishment of the University of Ibadan in 1948 opened up training of Surveyors in University, but the training was discontinued due to “idiotic” Policy of Mitchell A.P (a former Director of Surveys in Nigeria) (Coker, 1980). Mitchell substituted the training of Surveyors for the training of Survey Assistant and he abandoned scholarship programme, lowered the standard of survey education and abandoned geodetic and topographical survey for cadastral survey. However, in 1956, a 4-year programme in Survey commenced in the Nigeria College of Arts, Science and Technology, Enugu. Through this programme, students

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were prepared for the first and intermediate professional examinations of the British Royal Institute of Chartered Surveyors (RICS) in 1966. About 58 years after the Survey School was opened in Lagos, the University of Nigeria produced first 5 sets of graduate (Fajemirokun, 1976). Also, in 1974, the University of Lagos admitted 5 students with 3 Advanced Level papers into a 3-year B.Sc Surveying programme and a PhD programme in Surveying was also introduced in the same year.

Apart from formal education in these institutions, surveying is also offered in several other universities, polytechnics and monotechnics in Nigeria. Out of 85 universities (public and private) in Nigeria, 13 Universities offer Surveying as a course of study, while out of 53 polytechnics in the country 23 only are offering surveying course (Tables 1 and 2). Depending on the institution, the old Departments of Land Surveying are now called various names such as Surveying, Geodesy and Photogrammetry, Surveying and more recently, Surveying and Geoinformatics.

In addition to the training received by the prospective surveyors in these institutions, Surveyors Registration Council of Nigeria, now Surveyors Council of Nigeria (SURCON) Decree 1989 sections 9-15 made provisions for the registration of a person to be registered as a Surveyor, Pupil Surveyor, Survey Technician or Survey Technologist by the Council.

Advancement in information technology in the last 2 decades, especially in the area of GIT had improved survey practice in the country to the extent that traditional surveying education is gradually being replaced by geoinformatics education to reflect the new education. As a result of this, the name of the Department of Surveying in various institutions has been changed for Surveying and Geoinformatics.

Surveying and Geoinformatics Education in Nigeria– Current Status and Initiatives

As a result of development in IT, all aspects of surveying from data acquisition, processing to presentation of results have been totally revolutionalized. For instance, the development in space technology has drastically changed instruments used and methods adopted in surveying. The old survey instruments such as the theodolite and levels are giving way for total station and digital level respectively, while some instruments Global (e.g. GPS) were sophisticatedly developed as a result of development in IT. Electronic field book or direct recording into digital instrument is gradually replacing analogue field book.

Table 1:Metamorphosis of Departments of Land Surveying in Universities into Surveying and Geoinformatics Department

S/N	Name of Department	Former Name	Name of Institution
1	Surveying and Geoinformatics	Surveying	University of Lagos
2	Surveying and Geoinformatics	Land Surveying, Photogrammetry, & Remote Sensing	Nnamdi Azikwe University, Awka
3	Surveying and Geoinformatics	Surveying,	University of Nigeria, Enugu

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		Photogrammetry and Geodesy	
4	Surveying and Geoinformatics	Land Surveying & Photogrammetry	Federal University of Technology, Minna
5	Geomatics Engineering	Land Surveying	Ahmadu Bello University, Zaria
6	Land Surveying	Land Surveying	Abubakar Tafawa Balewa University, Bauchi
7	Surveying and Geoinformatics	N/A	Imo State University, Owerri
8	Surveying and Geoinformatics	-	Covenant University, Ota
9	Surveying and Geoinformatics	Land Surveying & Photogrammetry	Federal University of Technology, Yola
10	Surveying and Geoinformatics	Land Surveying	University of Uyo
11	Land Surveying & Photogrammetry	Land Surveying & Photogrammetry	Enugu State University of Science and Technology
12	Land Surveying and Photogrammetry	N/A	Anambra State University of Science and Technology
13	Land Surveying	Land Surveying	Rivers State University of Science & Technology, Port Harcourt
14	Surveying and Geoinformatics	-	Obafemi Awolowo University, Ile-Ife, Osun State

Source:- Joint Admission and Matriculation Board (JAMB) (JAMB, 1997/1998 & 2008/2009)

Table 2: Metamorphosis of Department of Land Surveying in Polytechnics into Surveying and Geoinformatics Department

S/N	Name of Department	Former Name	Name of Institution
1	Surveying and Geoinformatics	Land Surveying	Auchi Polytechnic
2	Surveying and Geoinformatics	Land Surveying	Federal Polytechnic, Ado-Ekiti
3	Surveying and Geoinformatics	Land Surveying	Federal Polytechnic, Bauchi
4	Surveying and Geoinformatics	Land Surveying	Federal Polytechnic, Bida
5	Surveying and Geoinformatics	N/A	Federal Polytechnic, Damaturu
6	Surveying and Geoinformatics	Land Surveying	Federal Polytechnics, Idah
7	Surveying and Geoinformatics	Land Surveying	Federal Polytechnics, Mubi
8	Surveying and Geoinformatics	N/A	Federal Polytechnics, Oko
9	Department of Topographic Science	Land Surveying	Kaduna Polytechnics, Kaduna

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10	Surveying and Geoinformatics	Land Surveying	Kwara Polytechnics, Ilorin
11	Surveying and Geoinformatics	Land Surveying	Rufus Giwa Polytechnics, Owo
12	Surveying and Geoinformatics	Land Surveying	The Polytechnics, Ibadan
13	Surveying and Geoinformatics	Land Surveying	The Polytechnics, Eruwa Campus
14	Surveying and Geoinformatics	Land Surveying	Yaba College of Technology
15	Surveying and Geoinformatics	Land Surveying	Federal school of Surveying, Oyo
16	Surveying and Geoinformatics	N/A	Nigerian Army School of Military, Engineering, Makurdi
17	Surveying & Geoinformatics	Land Surveying	Ramat Polytechnic, Maiduguri
18	Surveying & Geoinformatics	Land Surveying	The Polytechnic, Nekede
19	Surveying & Geoinformatics	Land Surveying	Waziri Ibrahim Federal Polytechnic, Birnin Kebbi
20	Surveying & Geoinformatics	Land Surveying	Yaba College of Technology, Lagos
21	Surveying & Geoinformatics	Land Surveying	Osun State College of Technology, Esa-Oke
22	Surveying & Geoinformatics	-	Federal Polytechnic, Ede
23	Surveying and Geoinformatics	N/A	Federal Polytechniques, Ilaro

Source: - National Board for Technical Education (NBTE, 2009)

NB: Newly established public and private universities and polytechnics in Nigeria that have surveying departments use the name Department of Surveying and Geoinformatics, instead of Department of Land Surveying.

Similarly, manual processing of field data and presentation of result of surveying which had been in operation before the IT revolution have been respectively replaced by digital data processing and soft copy presentation of spatial information.

As a result of these changes in surveying, the old skills and technology in surveying can no longer meet the requirements of a modern surveying. Surveying therefore has to undergo 3 stages of metamorphosis to take actually benefit from IT:

- . Some Departments of Surveying metamorphosed into Departments of Surveying and Geoinformatics
- . Surveying curriculum metamorphosed into GIT – based curriculum
- . NIS and SURCON increased the number and intensity of MCPD based on the new waves in the profession.

All the Departments of Surveying in Nigeria have changed their curricula and apart from changing their curricula, many even changed their names to reflect Geoinformatics education (see Tables 1 & 2). Geoinformatics involves measurement, use of information for efficient administration of land or sea and objects there on. Therefore, with Geoinformatics, surveying is no longer mere production of maps or plans.

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CHALLENGES FACING SURVEYING AND GEOINFORMATICS TRAINING IN NIGERIA

The current status of surveying and geoinformatics training in Nigeria need be looked into so as to know the problems militating against the training and to address the problems accordingly.

Bandwagon Effect of Problems in the Surveying Profession on the Surveying and Geoinformatics Education: Collapse of Professional Boundaries.

Advancement in IT is increasingly collapsing the professional boundaries and this is having a devastating effect on Surveying and Geoinformatics in the country. The collapse of professional boundaries is making it difficult to clearly define the boundary between some aspects of Surveying and Geoinformatics profession and other professions such as civil Engineering, Town Planning and Architecture among others. One of the effects of this is that some professionals in these professions can practice some aspects of Surveying and Geoinformatics conveniently. For instance, using modern equipment, a smart graduate of a Surveying and Geoinformatics related course can to a certain extent acquire and process survey data of a parcel of land and produce survey plan of the land. Also, he can carry out detailing using digital equipment. This may in the long run lower the percentage of candidates that apply for Surveying and Geoinformatics course in institutions.

Low Horizon of Nigerian Surveyors

According to Fajemirokun and Nwillo (2000), over 90% of Survey Firms in Nigeria are one-man firms and collaborations between the firms and foreign firms are very low. Most of the surveyors are still using analogue methods in their survey operations. The advancement in computer, digital technology, satellite positioning and imagery and Geographic Information System (GIS) has made the situation worse for these surveyors, therefore, the expected contribution of the firms to the development of Surveying and Geoinformatics education in Nigeria is abysmally low.

Low Level of Co-operation among Surveyors

Low level of cooperation among the Private Practicing Surveyors, SURCON and NIS on one hand and Lecturers on the other hands in surveying is drawing back Surveying and Geoinformatics education in the country. The bone of contention is an aspect survey regulation which forbade Surveyors in government employment from full practice like their colleagues outside government employment. For over seventy years of the practice of surveying profession in Nigeria this law had been enforced to the letter, but from the month of February, 2011 the NIS had started shifting some grounds for lecturers to have a better opportunity to practice the profession like their colleagues who are not in government employment. Nevertheless, this regulation has had the following implication on surveying profession in Nigeria for over seventy years:

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-Even though the lecturers are duly registered as the APPS members and probably have better in depth knowledge of the profession than the APPS are stripped of some privileges in the profession. For instance, lecturers and surveyors in public sector cannot in real sense endorse some survey plans, even if the plan belongs to them. It has to be endorsed by an APPN member and it has to be paid for by the lecturer concerned.

-The rule confines surveying lecturers to classrooms and this might be limiting their practical horizons which will likely indirectly affects surveying and geoinformatics education in the country.

-Brewing of cold wars among the APPN, SURCON, NIS and Lecturers in surveying profession. For instance, surveyors in both the public and private sectors find it difficult to collaborate with lecturers in the universities, polytechnics and research institutes in resolving surveying problems such as adjustment of geodetic network.

Low Number of Students' Intake

Most candidates seeking admission into higher institution of learning consider surveying and geoinformatics education and profession tedious to pursue, therefore, they pursue courses and professions they considered less tedious such as management courses. The admission requirements for surveying and geoinformatics courses are similar to courses in engineering and health sciences, therefore, candidates prefer these courses for they consider them relatively more lucrative. Also, the old perception that Surveyors are confined to bush and they work hard with less money is the other reason why surveying and geoinformatics admission is persistently low. Usually, very bright students do not willingly apply for surveying and geoinformatics course, because of wrong perceptions of candidates long suffering and little money in surveying. Coupled with this is the inadequate knowledge of candidates on opportunities in surveying (Fajemirokun and Nwillo 2000) like the ones offered by geoinformatics.

Inadequate infrastructure

The cost of surveying equipment is relatively high compared with the equipment used in most of the other courses of study in institutions of learning. As a result of these, institutions of higher learning are finding it extremely difficult to acquire equipment in adequate quantities and qualities for the teaching of students. Generally, the cost of funding a surveying and geoinformatics department is enough to fund about three non-technologically based departments in an institution. This may explain why the total number of institutions offering surveying and geoinformatic is very low.

Funding

The major problem facing the department is the issue of funding. For instance, the Nigerian government has not been able to meet the recommendations of United Nations on earmarking 2% of the GNP to Surveying and Mapping services (Awoniyi, 2005). Departments of Surveying and Geoinformatics in most Nigerian higher institutions are grossly under funded. Consequently, reading and learning in the department have been very difficult.

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Curriculum Design

Until recently when Geoinformatics course was introduced, the curriculum for land surveying was static. The curriculum for surveying and Geoinformatics in Polytechnics and Monotechnics in the country is still under review after several years of introducing Geoinformatics in schools.

Lecturers' Welfare

This issue consists of remuneration, office accommodation and access to internet facilities for lecturers in Surveying and Geoinformatics Departments in institutions in Nigeria. The welfare of Lecturers of Surveying and Geoinformatics in Nigeria are far below what is obtainable in the developed countries of the world. Lecturers in the Universities and Federal Polytechnics in Nigeria are better placed in terms of remuneration, office accommodation and access to internet facilities than their counterparts in the State Universities and Polytechnics in the country. For instance, by March 2009, the lecturers in the Surveying Department, University of Lagos enjoyed full implementation of Consolidated Salary Structure Tertiary Institutions (CONTISS), while lecturers in most State Polytechnics and Colleges of Technology had not started enjoying full implementation of CONTISS. The effect of such disparity on the morale of lecturers in Surveying and Geoinformatics education in the country can not be over-emphasized.

Inadequate Number of Lecturers and Skilled Lecturers

The likely resultant effects of low percentage of admission, inadequate infrastructure, poor funding and low number of lecturers is the inadequate number and skilled lecturers in the Surveying and Geoinformatics department across the country.

Curricular Design, Changes and Information Technology

Yakubu (2009) refers to curriculum as a programme of activities including the teachers and students and it is designed to ensure students attain certain educational objectives. In an attempt to meet the challenges of technological advancements, the education of Surveyors must be overhauled (Atilola, 2000) and this can be attained through curricular design and change on one hand and imbibing information technology on the other hand. Bardi (1996) reports the needs to overhaul National Board of Technical (NBTE) curricula to include GIT courses like surveying education curriculum.

Hitherto, Surveyors were usually resistant or slow to change, but the effect of the technological advancement was so much that surveyors were left with no other options than to change education in surveying by designing and redesigning curricula and delivery of curricula through IT. For instance, curricular was redesigned to reflect development in Geoinformatics. In almost all the institutions offering Surveying and Geoinformatics, the traditional surveying instruments and methods were not totally replaced with geoinformatics

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tools. The two are ran together with more emphasize on the later. The reasons for running the two methods may be the fear of failure of the new technique (Geoinformatics) or it may be that the Surveyors are resisting the change. The Nigerian Universities Commission (NUC) and National Board for Technical Education (NBTE) married the curricula of the surveying and geoinformatics together. Surveying curriculum is delivered using traditional method, while geoinformatics curriculum is delivered through information technology. The curricula of Geoinformatics programme include data collection using new digital instrument and data processing and management through GIS (Atilola, 2000). The objective of marrying the curricular together is to under study both the traditional Surveying and Geoinformatics.

Similarly, SURCON also changed its curricula to reflect IT to ensure that the new entrance into the profession is digital ready. Although NIS has not changed its name, but seminars, workshop and MCPD are continual organized by NIS for its members to keep abreast of the advancement in the technology.

Surveying curriculum in Nigeria in the early 20th century was approached through practical method, while presently it is through syllabus. Curriculum as a syllabus to be transmitted is concerned with content. The relative importance of topics on order of study is not enforced and Surveying and Geoinformatics education is regarded as a technical exercise to be transmitted. Curriculum proaxis should be preferred, because in this case, actions are both informed and committed. In this approached, curriculum is not only plans, but planning, action and evaluation are reciprocally related and integrated into the process.

PROSPECTS OF SURVEYING AND GEOINFORMATICS TRAINING IN NIGERIA

Despite the current poor state of Surveying and Geoinformatics in Nigeria, the introduction of Geoinformatics in the study of Surveying, the prospects of the course in Nigeria had relatively increased and will continue to increase as advances are made in IT.

New Research Opportunities

Before the advent of Geoinformatics, there was a dearth of researchable topics in surveying which students and lecturers could work on, but the introduction of Geoinformatics opened up new researchable areas to both students and lecturers of Surveying and Geoinformatics. Unlike in the pre-geoinformatics period, students and lecturers are now contributing more in solving environmental and other societal problems through their research findings.

In addition, over 80% information has spatial reference (Fig, 2002) and this spatial information can be collected, manipulated and presented through Geoinformatics. Therefore, being the first in the market, there is a lot of prospects for both students and lecturers in the department in the area of acquisition, manipulation and presentation of the spatial data for human development.

Wider Horizon in Teaching, Learning and Practicing

The advent of Geoinformatics has brought new frontiers in surveying which students, lecturers and other surveyors need to capture through teaching, learning and practicing. Some of the aspects of Geoinformatics that needs be captured are:-

- i. Hardware -GPS, electronic theodolite, total station, digital level etc.
- ii. Software -Arc View GIS 3.2a, ILWIS, ERDAS IMAGINE, e.t.c
- iii. Technique and methods: - GIS & LIS, data and information technology.

Through Surveying and Geoinformatics training, old surveyors and modern surveyors who had been trained in school have their horizon widened than the old dormant resistant to change. Examples of new horizons in Surveying and Geoinformatics are:-

- Multi- purpose cadastre
- Security
- Inventory property
- Management (facilities, schools etc)
- Environmental monitoring
- Census mapping
- Agriculture forestry and so on
- Civil engineering

These and more are completely new areas of teaching, learning and practicing for people in surveying.

Increased Admission into Surveying and Geoinformatics Departments

Geoinformatics has drastically changed several instruments and methods of surveying and mapping and this is making surveying a lot easier, less tedious and more profitable to engage in than the traditional surveying. Surveying and Geoinformatics is presently more attractive to prospective candidates into higher institutions. For instance, over 50 students who could not be admitted by the Osun State College of Technology, Esa-Oke into the departments of their choice in 2008/2009 session were drafted to the Department of Surveying and Geoinformatics by the school. In pre-Geoinformatics days, most of such students would have rejected the transfer of their studentship or might have accepted it unhappily, but the students gladly accepted the offer. Candidates into M.Sc programmes in GIS and Remote Sensing and Geoinformatics in Nigeria have relatively increased. The situation will continue to improve with new areas discovered in Geoinformatics and IT.

Application of Geoinformatics

The applications of geoinformatics are as numerous as spatial data, and the applications in the country are not coordinated. There is a need to coordinate the applications of Geoinformatics, but the teaching of the application of Geoinformatics itself will ensure:

- data quality
- national security
- control of spatial information within and outside the country.
- inter operability of Geoinformatics applications and teaching. These will ensure
- cooperation in the acquisition, storage and use of spatial information.
- ensuring data are in right format and standard.
- sharing of data among Surveying and Geoinformatics departments

Sustained Quality

Surveying and Geoinformatics Departments in institutions are becoming stronger in computation and information technology. The old Departments of Land Surveying were extremely narrowed, because the course of training in surveying emphasized strictly training of professional surveyors. Surveyor hardly fit in to practice in other professions and this is not good enough in this era of collapsing of professional boundaries. Professionals such as Civil Engineers, Town Planners, Builders and Estate Surveyors among others fit in to surveying profession to an extent. The new Surveying and Geoinformatics curriculum under review will likely correct this anomaly so that surveyors will also fit in to other related professions. For instance, in Osun State College of Technology, Esa-Oke, apart from Surveying and Geoinformatics courses, students in the Surveying and Geoinformatics Departments offer courses in Civil Engineering, Building Technology, Estate, Town Planning and Architectural Technology Departments in other to make them fit in to these areas.

The situation is similar in other Surveying and Geoinformatics Departments in other institutions. In these departments, lecturers ensured students are competent in the use of Geoinformatics instruments. Departments like the Department of Surveying and Geoinformatics, University of Lagos are taking full advantages of Geoinformatics. Firstly the name of the Department was changed to Surveying and Geoinformatics and secondly, Geoinformatics courses are run from undergraduate to master Degree levels. All these attempts are to ensure quality in the teaching and learning of Geoinformatics in the university.

CHALLENGES IN SURVEYING AND GEOINFORMATICS TRAINING

Geoinformatics has the capability of generating and combining several data layers for solving various complex problems in the society. The quality of geoinformatics depends on the quality of data generated or used in analysis, therefore, there is a need to provide quality descriptions, measures of the data and attached same with the data for the users of the data to determine the fitness of the data to be used.

The type of quality of data in surveying and Geoinformatics are positional accuracy and precision of measurement. Some organizations such as the National Committee on Digital Cartographic Standards of American Congress on Surveying and Mapping (DGSACSM) developed modalities for production and accessibility of data (Eugene, 2004). Qualities of data include the following:

- Lineage
- Positional accuracy
- Attribute accuracy
- Completeness
- Logical consistency etc

Departments of Surveying and Geoinformatics are faced with the problems of teaching students with quality data and securing quality data for teaching and researches.

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Inadequate Control

Controls are permanently marked points on the surface of the earth whose vertical and horizontal positions had been determined. One of the uses of controls is for geo-referencing, because objects or spatial information must be related to points on the ground. It is also very important in the teaching of surveying and Geoinformatics students. These controls are grossly inadequate in the country; therefore, temporary established ones are usually rely upon for teaching and learning.

SOLUTIONS TO CHALLENGES IN SURVEYING AND GEOINFORMATICS TRAINING

Several efforts have been made by the Federal Government of Nigeria to reduce the identified problems in Surveying and Geoinformatics education through the-establishment of the National Space Research and Development (NASRDA) to:

1. Consolidate all space science and related researches by landing NigeriaSat-1 on 27/9/2003 for acquisition of spatial data
2. Establishment National Geospatial Data Infrastructure (NGDI) to ensure coordination, production and sharing of geoinformation.
3. Draft a national Geoinformation Policy (NASRDA, 2003). Some of the objectives of the policy include:
 - Coordination of production and utilization of geospatial data.
 - Accessibility of up-to-date, reliable and authoritative Geographic Infrastructure (GI) for planning and decision-making.
 - Promotion of relationship among organization in the development National Geographic Infrastructure (NGDI)
 - Ensuring effective GIT transfer in the country.

CONCLUDING REMARKS

It was found out that Land Surveying metamorphosed into Surveying and Geoinformatics to take up some of the benefits of IT revolution. It was also revealed that prospects in Surveying and Geoinformatics in physical development cannot be overemphasized; nevertheless, the profession is facing a lot of challenges which include collapsing of professional boundaries, low horizon of Nigerian Surveyors, low level of cooperation among Surveyors, poor funding, low level of student enrolments and inadequate lecturers among others. These challenges may be solved when proper formulation of geoinformation policy for the country is carried out. It is then the prospects of Surveying and Geoinformatics in physical development of Nigeria will be realized

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