

# Nigerian Communication Satellite and the Quest for Sustainable National Development

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## Abstract

Breakthroughs in science and technology have no doubt brought about tremendous enhancement of effective communication process; validating science and technology's invaluable role in human communication activities. This positive trend which has brought about the development of satellite as a Space Technology has proved greatly instrumental in laying the foundation for effective communication structure by guaranteeing the availability of speedy access to real-time data and geospatial information which have similarly proved impactful on virtually all human development effort. The Federal Government of Nigeria, fully aware of the implication of the above in its aspiration towards the attainment of rapid and sustainable socio-economic development, took conscious steps to facilitate the launch of NIGCOMSAT-1, to key into this auspicious communication technological trend. Hence, the role of NIGCOMSAT: the first communications satellite for Nigeria, which was successfully launched into the orbit in 2007, and the first of its kind in Africa, in catalyzing sustainable national development in the country cannot be overemphasized. This paper examines the abundant potentials of Nigerian Communication Satellite in our noble quest for sustainable national development.

## Keywords

ICT, NIGCOMSAT, Sustainable National Development

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## 1. Introduction

The importance of communication in the development of human society cannot be overemphasized; neither is the vital role of information dissemination in a geographically vast nation as Nigeria in engendering a desirable knowledge-based society. Access to information has thus become a veritable weapon of mass socio-economic development, as information underscores all aspects of development effort (1). The fuel, therefore, that drives the engine of growth and sustainable development of any nation, as Akinyede and Agbaje (2) note, is the nation's access to reliable and adequate geospatial information (GI). It cannot be gainsaid therefore that access to reliable and adequate information has become the bedrock upon which the individual's improved quality of life as well as nation building rests. Hence,

effective utilization of data from accessed information will no doubt positively impact on the quality of life of the people as well as on national development. The vital role of information dissemination, therefore, is to be most undoubtedly appreciated, especially in a situation where there is effective communication structure or system in place to propel the dissemination process; as ineffective communication systems has been identified as one of the greatest factors militating against the socio-economic development *especially* of developing nations (2).

Certainly, breakthroughs in science and technology have brought about tremendous enhancement of effective communication process; thus validating science and technology's invaluable role in human communication activities. With breakthroughs in technological advancements taking place around the globe, therefore, the development of

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satellite as a Space Technology has proved greatly instrumental in laying the foundation for effective communication structure with the availability of relevant infrastructure and backbone for information communication, as Nkanga (3) notes; since it guarantees the availability and speedy access to real-time data and geospatial information. A satellite, therefore, is a relatively small body or object moving in an orbit around a planet, which may be natural or artificial, manned or unmanned, as well as passive or active (4). Forouzan (5) notes that a satellite network is a combination of nodes – a node in the network can be a satellite, an Earth station, or an end-user terminal or phone – which provides information from one point on the earth to another. Basically, the satellite functions to send communication signals. Satellite networks, therefore, are like cellular networks in the way they divide the planet into cells. Forouzan emphasizes that “satellites can provide transmission capability to and from any location on Earth, no matter how remote”; an advantage which he says “makes high quality communication available to undeveloped parts of the world without requiring a huge investment in ground-based infrastructure” (5 pp.478 – 479).

The preference for artificial satellite (man-made), however, is based on its ability to mitigate the shortfalls of the natural satellite like moon which can also be used to relay nodes in the network. This mechanism/device which technologically accesses information physically inaccessible due to geographical constraints was no doubt predicated by the need for effective communication, which is a very important aspect of human development. Hence communication satellites, says Borroffice (1), with their instant ubiquitous coverage, offer cost-effective solutions and affordable access to information and communication technology which has become not only critical but highly essential to the basic needs of man’s daily life. The Federal Government of Nigeria, therefore, fully aware of the setback to the rapid socio-economic development of the nation as occasioned by the problem of communication, and in recognition of the foregoing as well as the significant role which space technology could play in bridging this communication gap, took a bold step to put in place a space policy and space science technology programme. This bold step by the Federal Government incidentally gave impetus to the establishment of an institutional framework – the National Space Research and Development Agency [NASRDA] – in 1999 (Borroffice, 2008). The vision of the National Space Policy which was consequently developed by NASRDA, as Freeman (6 p.44) highlights, targets:

To make Nigeria build indigenous competence in developing, designing, and building appropriate hard- and soft-ware in space technology as an essential tool for its

Socio-Economic development and enhancement of the quality of life of its people.

In the vision of the policy, “the basis of sustainable development is the development of the requisite manpower within the nation’s industrial, research, and academic institutions”; wherefore the “Government shall develop a ‘critical mass’ of Nigerians in the area of space science and technology to enable the country to realize its objectives for achieving technological, industrial, commercial, and economic self-reliance”, among others. (6 pp.44 – 45). In the light of the above vision, the attainment of Government’s noble objectives, as can be deduced therefore, rests upon the effective utilization of the space-derivable data (information) for national development and the improvement of the quality of life of the Nigerian citizenry. Hence, the major thrust of the Nigerian National Space Policy and Programme centers on making space research and development activities part of the overall strategies for sustainable national development.

Consequently, with the approval of the National Space policy in 2001, as well as the implementation of the programme enunciated therein, came the launch of an earth observation satellite (NigeriaSat-1) in September, 2003. The launch of NigeriaSat-1 remains a watershed and a major breakthrough, as Akinyede and Agbaje (2) reported, in the history of space application and space technology development in Nigeria and West Africa sub-region, particularly in the enhancement, of sustainable development efforts in Nigeria. This historic feat, therefore, evidently stamped Nigeria’s footprint in space as well as established her status among the league of satellite data providers; for until this moment, the country has been a mere consumer of satellite products.

## 2. Historical Antecedent to Nigerian Communication Satellite

Although the use of satellite technology has now permeated a wide range of human endeavours, its initial idea, however, sprung from the military (7). The military has always been at the forefront of the development of the space science and technology which is envisioned as catalyst for national development and strategy. All through the space age, satellite communications remained a vital part of the United States military. Haggins (8) has hinted on the intensity of the race to space between United States and Russia at the peak of the cold war in the 1950s, and how the former USSR blazed the trail with the successful launch into the orbit of SPUTNIK 1 on 4th October, 1957. This development which was seen by the US as a big challenge prompted their quick response in 1958, as well as the successive launches in the

decades after by both developed and developing nations across the world. Freeman (6) remarks that the initial years of the Space Age centered around the development and launch of Earth-orbiting satellites, which provided views of Earth previously unobtainable; and then communications satellites which relayed radio and later television and other data signals around the globe. Nigeria's entry into space exploration, therefore, has no doubt taken this somewhat progressive pace.

### 3. NigeriaSat-1: The First Nigerian Earth Observation Satellite

NigeriaSat-1 is the first Nigerian earth observation satellite. Earth observation satellites are specifically designed to obtain data about the earth while in the orbit. NigeriaSat-1, therefore, is a micro-satellite with a circular sun-synchronous orbit at an altitude of 686km; built by Surrey Satellite Technology Limited (SSTL), United Kingdom, and successfully launched into Low Earth Orbit (LEO) from Plesetsk, Moscow, on the 27th of September, 2003 on board a Kosmos rocket (1, 9). It is a 100kg spacecraft with Push-broom scanning technology designed for a 5-year minimum lifespan. Akinyede *et al.* (10) reported that:

The spacecraft is equipped with two 0.5Gbyte Solid State Data Recorder (SSDR) for data storage during imaging and a main Receiver Frequency (RF) downlink at S band Frequencies with data rate of 8Mbps using store and forward communications. A 3.7 m dish Mission Control Ground Station manned by Nigerians is installed in Abuja for the Telemetry, Telecontrol and Command of the spacecraft.

Image downloaded from the spacecraft is processed from low-level data (bits and bytes) into full false color images and made available to users in soft copy. According to Boroffice (1 p.41):

The choice of a micro-satellite using current technology was influenced by its low cost, affordability, and the advantage of performance comparable with the expensive large satellites and the possibility of supporting capacity building.

In line with the contract for the building of the Nigeriasat-1, fifteen Nigerian engineers and scientists also underwent a Know-How-Technology Training (KHTT) programme in all aspects of satellite technology including ground-station management at SSTL. The training was meant to equip them with the technical capability to design and build subsequent generations of satellites with minimal supervision.

NigeriaSat-1 was designed and built for a Disaster Monitoring Constellation (DMC). The term constellation is attributed to a group of satellites working in concert. NigeriaSat-1 is one of the five satellites of the Disaster Monitoring Constellation built to address the need for daily revisit and global coverage to monitor natural disasters and other dynamic phenomena. The DMC consortium is actually a novel international partnership. The other DMC satellites in this group include AlSat-1 (Algeria), BilSat (Turkey), UK-DMC (United Kingdom), and Beijing 1 (China) (Boroffice, 2008). The fact that data from NigeriaSat-1 is timely accessible, as Agbaje (9) notes, has stimulated research and development by many relevant institutions of government and the private sector in Nigeria to enhance sustainable development and support disaster management in the country and other parts of the world. In the light of the reality of direct access to affordable, real-time and reliable space-derived data, the NigeriaSat-1 data has been used in a number of projects among which are:

- Flood hazards/risk mapping in the Shiroro Dam area;
- Mapping of settlements and major roads and water bodies;
- Gully erosion mapping in the south eastern part of Nigeria;
- Monitoring deforestation and implications for biodiversity in Nigeria
- Predictive model for desertification early warning;
- Spatio-temporal assessment of climate and human-induced impact on ecosystem degradation and water resources management; and
- Land use/land cover.

(1 pp.41 – 42)

Ogunmola *et al.* (11) have documented the complementary role of NigeriaSat-1 in assessing the mineral potential of Rafin-Gabbas, of North Central Nigeria. Akinyede and Agbaje (2) have also highlighted other benefits of the availability of real-time data from NigeriaSat-1 to include:

- Opportunity for sharing knowledge and solving the problems of digital divide in Africa.
- Ground sampling distance (GSD) or spatial resolution of 32m with an economic swath width of 600km; and a minimum of five years life span.
- Great potential for broad spectrum of data acquisition for the National Geospatial Data Infrastructure (NGDI), an initiative for GI-based economy that will improve the quality of life of Nigerians and alleviate poverty.
- With the linkage of the other satellites in the DMC, through Internet facility to permit sharing of data, NigeriaSat-1 offers a great potential for disaster

management and monitoring such as oil spillage and environmental degradation in the Nigerian Delta area and any other part of the world.

- Provides opportunity for an array of applications in many areas of socio-economic development and environmental management such as: oil pollution monitoring, land use/cover dynamics, environmental degradation in the Niger delta area, drought/desertification studies, influence of urbanization/urban sprawl on socio-economic activities, water resources development, coastal/beach erosion studies, etc.

On the international scene, Nigeria's participation through NigeriaSat-1 in the global efforts that brought relief to victims of Tsunamis which struck and caused widespread disaster in some countries of Asia is worthy of mention. Salawu (12) reports that NigeriaSat-1 along with Alsat-1 and UK-DLC in the disaster monitoring constellation captured the incident and provided satellite data images of the affected areas which were made available to RESPONSE – the European Agency that was responsible for tackling the problem arising from Tsunamis.

## 4. NigeriaSat-2

To consolidate on the achievements already recorded with NigeriaSat-1, Nigeria further considered the development of a high resolution Earth Observation satellite – Nigeriasat-2; and in November 2006, signed a contract with Surrey Satellite Technology Ltd (SSTL), UK also for the supply of the NigeriaSat-2 Earth observation satellite as well as the related ground infrastructure and a training programme to further establish a national indigenous space capability in the country. The satellite was designed to have 2.5m and 5m spatial resolution in panchromatic and multi-spectral respectively, with four spectral bands in the RED, GREEN, BLUE, Near Infra-red (NIR). To ensure data continuity, NigeriaSat-2 was made to carry the 32m multispectral payload of NigeriaSat-1 to meet the requirements of a variety of applications (1, 9).

The 300kg satellite with a design life of 7years and which was then billed for launch in 2009 was expected to provide Nigeria with valuable geographically referenced high-resolution satellite imaging for applications in large-scale mapping, water resources management, precision agricultural, population estimation, health hazard monitoring and disaster mitigation and management among others. Projected to be launched together with NigeriaSat-2 was its training model (TM) named – NigeriaSat-X, a construction of Nigerian Engineers who were equally billed for the Surrey Satellite Technology Ltd, UK training programme, using SSNL facilities. NigeriaSat-X is an advanced disaster

monitoring micro-satellite carrying a 22-m multi-spectral Earth Observation imager. The NigeriaSat-X sensor was targeted to provide 22m multispectral (RGB, NIR) imagery. Besides the wider contexts to which NigeriaSat-2 was expected to be put to use, Agbaje (9 p.6) specifically reported that:

Using the appropriate technologies and the expected Nigeriasat- 2 imagery, a major role is now being carved out for the Nigerian surveyors for the production of large-scale maps of cities, towns, and villages to facilitate more appropriate settlements and other related land development planning.

Taking into consideration the benefits and potential prospects of NigeriaSat-1, and in recognition of the inevitable and vital role of ICT as a major tool in the socio-economic development of the nation, the Federal Government of Nigeria, further approved the Nigerian Communication Satellite Project (NIGCOMSAT-1) as a national priority project on 12 November, 2003. The NigeriaSat-1, though an Earth observation satellite no doubt served as a forerunner of the Nigerian Communication Satellite, which subsequently became a reality with its successful launch on 13 May, 2007 in China. This was a bold and strategic step in the development of a key ICT infrastructure which Boroffice (1) says will forever change the destiny of not only Nigeria but the entire continent of Africa.

## 5. Nigerian Communication Satellite

Nigerian Communication Satellite [NIGCOMSAT-1] is the first communications satellite for Nigeria and the first of its kind in Africa. The project was awarded to the China Great Wall Industry Corporation (CGWIC) – a subsidiary of China Aerospace Science and Technology Corporation (CASC); and the contract agreement signed on 15 December 2004. It is a super hybrid geostationary satellite with over 5 tons wet mass, carrying 40 transponders (28 active) in the Ku, C, Ka, and L-bands and designed to provide coverage over Africa, parts of the Middle East and southern Europe. In more specific terms, the Ku-Band is designed to provide services for Telephony, Video, Data transfer, Telemedicine, Teleconferencing and tele-education; Ka-Band to provide services for Telephony, Video, Data transfer; C-Band to predominantly be used for television signals and Internet data transmissions.; and L-Band to augment GPS signals to about 3–5m and thus play a major role in security and surveillance (1). It has a design life-span of 15 years.

Nigerian Communication Satellite portends a veritable icing on the cake to the tremendous gains already made in the



telecoms sector as well as a testimony to the benefits of the liberalization of the telecoms sector, as spearheaded by the former President, Olusegun Obasanjo, in 2001. Therefore, with the coming on board of NIGCOMSAT 1, which was first launched into the orbit from the Xichang Satellite Launch Centre, Sichuan Province, China on 13th May, 2007, with a successful landing on 14th May, awareness in global satellite communication and its vast socio-economic and technological potentials was effectively stimulated in Nigeria (13). The government initiated this move in order to address the problem of communication which is deemed as the greatest setbacks to the socio-economic development of the country, particularly in the areas of rural telephone, broadcasting, tele-education, tele-medicine, e-government, e-commerce and real-time monitoring services. Boroffice (1 p.42) also lays more emphasis on the aim of this project:

The NigComSat-1 project is to provide a critical and innovative collaboration for capacity-building and the development of satellite technology for a quantum transformation in the telecommunication, broadcasting and broadband industry in Africa, while at the same time providing new opportunities and challenging platforms for business in rural and remote regions through access to strategic information in the new world economic order.

Although NIGCOMSAT-1 developed some technical problems along the line, and got de-orbited consequently in November 2008, the Federal Government did not leave any stone unturned to ensure that a solution was provided by working out a replacement in re-lunching into orbit a second NIGCOMSAT, otherwise called NIGCOMSAT-1R in December 2011. NIGCOMSAT-1R, therefore, is a critical ICT backbone infrastructure which will support the growth of the nation's broadcast and telecoms industry among others, and aid in the crucial achievement of Nigeria's vision 20:2020. With the successful launch and landing of NIGCOMSAT-1R therefore, and the plans to launch two further backups (NIGCOMSAT- 2 and 3) in about 18 months after, it is hoped that it will mark the beginning of Nigeria's sustainable presence in the global communications satellite industry, as well as provide the necessary impetus for the attainment of rapid sustainable socio-economic development of the nation.

## **6. Nigerian Communication Satellite: Satisfying the Quest for Sustainable National Development**

The invaluable role of Information and Communication Technologies (ICTs) in catalyzing development and change

in any nation in the present digital age cannot be overemphasized. Advances in these areas have evidently brought about inestimable transformations in the lives of people as well as the society at large. Thus, the new world order is such that is dominated by Information Technology, the exchange of ideas where knowledge and information are deemed as being central to the sustenance and survival of any nation. Information and Communication Technology, therefore, as President Goodluck Jonathan has reiterated in the International Communication Union (ITU) World Forum that held in Dubai, UAE on 14 October, 2012 is key to the transformation of our country. Little wonder why many nations are not relenting in queuing into this auspicious development trend to actually impact on the lives of their citizenry and move their different societies forward. Olise (14 p.156) has, therefore, rightly asserted that:

Development, which encompasses the process of moving humans in all the strata of the society system forward in order to enhance the capacity of each of them to realise his/her inherent potentials and to effectively cope with the changing realities of life, has over the years, irrespective of the country, occupied a key position in government policies, projects and programmes.

Focusing on the need, therefore, to improve the lives of the citizenry for the future; in order words, build the nation for the future, sustainable development as Olise simply puts it is the process of ensuring that present development is indeed sustained and maintained for the future. That is to say that it is quite imperative to sustain and indeed maintain the socio-economic development efforts of the government for a better society tomorrow. Therefore, Information and Communication Technologies (ICTs), he emphasized, are significant tools for sustainable development. Nigeria's effort in this regard, therefore, as already traced is no doubt a commendable one. Hence, the Federal Government initiated the Nigerian Communication Satellite project in her unrelenting bid to address the problem of communication which is deemed as the greatest setback to the socio-economic development of the country. A careful consideration of the impact of government's information and technology development initiative on some vital areas of our national life will help to buttress our point.

It might be instructive, however, to assert at this point that hitherto the quest for sustainable national development has been lopsidedly deployed with so much attention and concentration on the urban areas. With Nigerian Communication Satellite, the possibility for both the rural and urban areas to be effectively developed is incontestable. On rural telephony for instance, the fact that telephone services in Nigeria have been greatly complemented by communication satellite cannot be overemphasized, as

telecommunication service providers by this development have recorded improved quality deliver and expanded services to the remotest parts of the country. This is no doubt in line with government's aspiration towards extending phone services to such *seeming* underserved and un-served areas, with a view to actually integrate them in the scheme of development. Salawu (12) has also indicated the potential of rural telephony in opening up other floodgates of development opportunities in the areas of internet, tele-education, tele-medicine, and agriculture among others; which would obviously result from the impact of communication satellite, enhancing also government's economic reforms agenda.

On education, which is considered an essential component of sustainable development, Olise (13) points out the capability of the active deployment of Information and Communication Technologies to enlighten the people on the role of education for both human and sustainable development. He emphasizes that the introduction of ICTs in education has led to the computerization of traditional learning materials like books, journals, newspaper, and newsmagazines in the library, in what is generally regarded as "virtual library". The Nigerian Communication Satellite's capacity to provide the critical infrastructure needed in the above regard is obviously very essential, as it will help to promote the development of knowledge based society through open and distant education. Here, the tremendous role of satellite-linked internet services in distant education through video conferencing is worthy of mention. Furthermore, the effort of the Federal Government in the virtual library project, with regard to the National Universities Commission Virtual Library and National Library of Nigeria Virtual Library is also worthy of commendation. The virtual library project is equally meant to support the Open University of Nigeria (NOUN) educational programme. The virtual library project as Salawu notes has, therefore, made the interconnectivity of Libraries towards the formation of National Information Network to facilitate co-operation and collaboration efforts towards the task of nation-building a necessity.

On agriculture, Mojisola and Mbibi (15) have rightly noted that the achievement of development in this area is a function of producing knowledgeable and well-informed farming community. Therefore, with Information and Communication technologies, the windows of awareness for agricultural revolution in Africa *and Nigeria by extension* are now opened (14). The implication, to draw emphasis from Souter (16), is that farmers can now have access to information about plants and animals' requirements and diseases through Information and Communication Technologies which will invariably improve their productivity. It is not in doubt, therefore, as Imoh (17) has stated that over the years,

development planners have used communication to support and promote agricultural development policies and programmes in a wide range of settings with relative success. Therefore, with Information and Communication Technology, the sustenance of such successes and improvement on them holds much promise.

On health, there is no gainsaying the fact that a healthy nation is a wealthy nation. For current development strides in Nigeria to be sustained, the necessity to make healthcare and health delivery a primary concern cannot be overemphasized. Thus, any development agenda that fails to address health care and health delivery system falls short of development. Information and Communication Technology has the great potential of enabling medical staff update their knowledge by becoming internet friendly and keeping abreast with latest trend in their profession. Tele-medicine is another vital area in which Nigerian Communication Satellite shall serve as a veritable ICT infrastructure and strong backbone. Tele-medicine, therefore, as described by Salawu (12) is a method of developing or supporting new diagnostic and treatment procedures, and a tool for introducing changes meant to improve health care delivery. In this regard, two Teaching Hospitals: University Teaching Hospital, Ibadan and University Teaching Hospital in Maiduguri with six Federal Primary Health Centres in the country have been connected to the network.

On broadcasting, Mowlana (18 p.67) has enumerated several advantages of satellite over more conventional methods of communication. He stated that:

Because satellites are located high above the earth, they cover a much larger distance than do traditional broadcast systems. A second advantage is that satellites are much more flexible than terrestrial systems, which rely on infrastructure of cables and wires. In the first place, they do not require the costly physical networking of a region to establish communication ties. In the second place, satellite beams can be easily redirected to other areas whereas physical infrastructure is rigid; a third advantage of satellite communication system is their greater capacity in carrying messages.

Ate and Talabi (7) summarize Mowlana's perception of the above advantages in terms of wider reach, flexibility and robust capacity for carrying messages. The Nigerian Communication Satellite will definitely bring these advantages to bear on the Nigerian broadcast sector. Ayatero *et al.* (19 p.578) emphasize that satellite communications support broadcast and multicast of digital content that will greatly reduce national spending on data transmissions using Frequency Modulation (FM), which transmits messages in its original analogue form; as signal transmitted in digital form

can be compressed appreciably without impairing their quality. As an extension of the foregoing advantages, Nwajiobi (20) has also highlighted the use of VSAT (Very-small-aperture terminal) as very ideal for the distribution of bandwidth-intensive information like video and audio to a large number of remote locations simultaneously. With Nigerian Communication Satellite, therefore, broadcast establishments in Nigeria will not only expand their coverage, thereby boosting their business and profits, but also broadcast services will be cost effectively delivered.

On a summary note, if in today's world it is certainly difficult to do without using communication satellite or Information and Communication Technology to advance a nation's development agenda and its sustainability, the Nigerian Communication Satellite's great potential to impact on our noble quest for the sustainable national development is certainly incontrovertible, as it cuts across almost every aspect of our individual and national life: be it for surveillance, security, and military applications, job creation, e-government, e-voting, e-commerce, e-banking and global partnership among others which include the provision of navigational services for the aviation and maritime industries to mention but few.

## 7. Conclusion

There is no doubt that information is a powerfully empowering tool which underscores all aspects of development effort. Access to reliable and adequate information has invariably become a veritable weapon of mass socio-economic development; and thus the bedrock upon which the individual's improved quality of life as well as nation building rests. The invaluable role of the Nigerian Communication Satellite, therefore, in engendering a valid platform for accessing reliable information towards the realization of government's noble sustainable development aspiration cannot be overemphasized; neither is its potential to impact on critical areas of our individual and national life. Taking into consideration the significant role of Information and Communication Technology as a major tool in the attainment of rapid and sustainable socio-economic development of the nation, as well as the instrumentality of space technology in enhancing the realization of the above goal, the Federal Government of Nigeria took conscious steps to facilitate the launch of NIGCOMSAT-1, to key into this auspicious communication technology trend: an effort that actually underscores government's unmitigated commitment at making Information and Communication Technology an integral part of our overall development agenda.

There is no gainsaying the fact that Nigeria has taken quit a

giant step in her communication satellite development efforts. However, despite the high degree of enthusiasm that greeted this auspicious development from every quarter, and the government's demonstrated readiness to consolidate on these efforts with the plans to launch two further backups (NIGCOMSAT- 2 and 3), projected to be realized in about 18 months after 2011 December, no concrete evidence has yet emerged in that regard. Have we suddenly gone asleep on that projection? More so, it was also estimated that by the year 2015, that Nigeria will be able to design and build its own satellites (6). Would this vision also turn out to be just a mere wistful thought, since 2015 is already with us, with palpable uncertainty hovering over that vision? This raises a serious policy implementation concern as a significant factor that undermines our avowed quest and determination in realizing development projects, besides their sustainability.

However, despite the level of successes we might have recorded so far in the face of existing challenges, another major challenge confronting efficient utilization of Nigerian Communication Satellite's services towards the successfully realization of its full potentials in our noble quest for sustainable national development is inadequate power supply. The erratic power supply in our urban cities is nothing to write home about, neither do most rural dwellers in Nigeria have access to electricity at all. Steady supply of electricity, therefore, is one area in which the Federal government will have to step up its effort if this noble quest must be successfully realized. Furthermore, in order to also forestall the chances of another failure of the satellite and avert its adverse consequences on government and users, there is the need for government to be fully committed to a timely launch of the necessary backups, so that our noble quest for the attainment of rapid sustainable socio-economic development through Nigerian Communication Satellite can be fully concretized.

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