

A Review Of The State Of Infrastructure On The Federal Polytechnic, Idah Campus

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Abstract: It is generally agreed that the provision of basic infrastructure on the Federal Polytechnic, Idah campus is unsatisfactory. This paper attempts to explore the state of energy/power supply, transportation, water, communication, recreational and waste disposal infrastructure on the campus. Data were obtained qualitatively from primary sources: through participant observation, interviews of members of staff, field survey and textual data obtained from different departments and units. Visits were conducted to different parts of the campus to obtain data in form of pictures. Respondents were drawn purposively from among members of the Polytechnic staff with minimum of twenty years work experience. It was observed that though the water supply provision on campus is satisfactory, the provision of power, transportation, communication, recreational and waste disposal infrastructure is poor. The paper observed the dwindling funds provided by the Federal Government and thus recommended that the Polytechnic management take urgent steps to restore these infrastructures on campus through alternative funding mechanisms such as joint venturing/partnering, leasing, sponsorship by philanthropists and the Alumni Association, and loans among others.

Keywords: Federal Polytechnic Idah, Infrastructure, School infrastructure

I. INTRODUCTION

BACKGROUND

The Federal polytechnic, Idah was established on 17th February, 1977. It occupies a land area of about 1,230 hectares on the Idah-Ajaka Highway in Igalamela/Odolu Local Government Area of Kogi State. (The Federal Polytechnic, Idah, 2010). The development on the campus consists of Academic/Administration buildings, the Staff Quarters, the students' hostels, centers for religious activities and commercial centers. Other structures existing on the campus include buildings under construction, vacant buildings, temporary/improvised structures and telecommunications masts. The rest of the campus is the yet to be developed large area of land acquired by the Polytechnic at its inception. A casual projection estimated that the developed area of the campus is just about twenty percent (20%) of the entire land area available to the Polytechnic.

The campus is accessible through three (3) approved entrances generally known as First Gate and Second Gate, from which a network of roads connect all the sections of the campus together. The third access point is the entrance to the Polytechnic Staff Secondary School on the North-Eastern boundary of the campus. A number of other unauthorized access points exist through which both pedestrians and motorcyclists enter and exit without any security checks to regulate movement in and out of the campus.

Currently, 193 structures exist on the Polytechnic campus. These structures and the functions they perform are as outlined in Table 1 below;

Purpose of Structure	Number on Campus
Academic	66
Accommodation (Staff Quarters)	28
Accommodation (Student's Hostel)	16
Administration	17
Commercial (Owned by the Polytechnic)	6
Commercial (Developed by private investors)	3
Religious	4
Temporary/Improvised Structures	27
Under Construction	9
Others	17
Total	193

Source: Field Study (2018)

Table 1: Existing Structures on Federal Polytechnic

In the context of modern spatial development, the campus of The Federal Polytechnic, Idah qualifies to be referred to as a town.

The focus of this research work is to explore the state of infrastructure on the campus of the Federal Polytechnic, Idah and to examine challenges to infrastructural development within the campus. The research goes further to discuss ways of improving the infrastructural deficiencies observed on the campus.

II. DEFINITIONS AND CONCEPTS

A. HOUSING AND INFRASTRUCTURE

The word infrastructure has been defined as 'the basic equipment of a building that is necessary for the building to serve its intended function' (Harris, 2006). However, the word should not be conceived as limited to services provided *within* a building only. Adeagbo (2000) describes infrastructure as a bundle of services, the totality of the housing environment such as shelter, access roads, and utilities such as water, electricity, sewerage and the other qualities of the environment. A broader definition of the term refers to infrastructure as the basic facilities, services and installations needed for the functioning of a community or society (Ayei and Adelabu, 2012). The basic facilities, services and installations essential to fulfill this requirement include electricity, water supply, sewage disposal and treatment, waste disposal system, road network, telecommunication, security, transportation, cyberspace, education, health and recreational services (Aribigbola, 2000; NSW Government Department of Planning, 2008). In its own opinion, the United States Environmental Protection Agency (2009) defined infrastructure as 'the substructure or underlying foundation or network used for providing goods and services; especially the basic installations and facilities on which the continuance and growth of a community, State, etc., depend'.

In the notion of Aribigbola (2000), there is a thin line between the meaning of the terms 'housing' and 'infrastructure'. It defined housing as the interior space, equipment and furnishings, the immediate exterior space and importantly its relationship with the surrounding neighborhood or community. This view is based on the report of the United Nations Ad-hoc Group of Experts on Housing and Urban Development which defined housing as the physical environment in which a family must develop, stating further that it comprises a number of facilities, services and

utilities which link individuals and his family to the community in which it evolves.

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III. THE NEED FOR INFRASTRUCTURE

Infrastructure has been classified by Akinwale (2010) into 6 categories thus;

- ✓ Energy/Power Infrastructure, which includes electricity, gas and petroleum pipelines,
- ✓ Transportation Infrastructure, comprising surface roads, rail system, ports and aviation,
- ✓ Water Infrastructure, comprising piped water and irrigation systems,
- ✓ Communication Infrastructure, amongst which are mass media, internet, phones, and postal services,
- ✓ Health Infrastructure, either primary, secondary and tertiary health care services, and,
- ✓ Education Infrastructure, comprising all categories of edifices erected for academic purposes.

In 2010, the World Economic Forum published 'The Global Competitiveness Report, 2010-2011', with which it evaluated the competitiveness of 133 economies. The Forum used twelve (12) determinants, which it called "pillars", to measure competitiveness. In their findings, the second basic pillar is infrastructure. The report emphasized that extensive and efficient infrastructure is critical for ensuring the effective functioning of the economy. (World Economic Forum, 2010). Interestingly, Akinwale (2010) observed that poor infrastructure is responsible for most of the drawbacks experienced within the national economy, and the discouragement of foreign investors to set up investments in the country. Even the Nigerian Civil War (1967-1970) and the Niger Delta militancy were believed to have erupted because of dissatisfaction with the provision of infrastructure in some parts of the country. (Babawale and Odukoya, 2005)

In the view of Edame and Eturoma (2014), under the right conditions, infrastructural development can play a major role in promoting growth and equity, and through both channels, help to reduce poor quality of students. Cuyvers et. al. (2011) observed that poor infrastructure in schools result in poor satisfaction levels, and that school infrastructure contributes to the well being of students. Akinwale (2010) submitted that the development of a society depends on the availability of infrastructure in homes and industries, and that acute shortage and inadequacy of infrastructure in Nigeria constitutes a great threat to human survival.

Cuyvers et. al. (2011), noted that the condition, location and nature of school infrastructure have an impact on accessibility to and quality of education. The report observed that availability of adequate and modern infrastructure results in less frequency of truancy, feeling of safety by users, increased teacher motivation to teach, higher enrolment figures, increased rate of completion of academic programs at

normal time and improved learning outcomes. In the same vein, Ayeni and Adelabu (2012) observed that school environment including infrastructure play an important role in teachers' effectiveness and students' performance.

A basic minimum package of school infrastructure which is accessible, durable, functional, safe, hygienic and easily maintained therefore needs to be part of any strategy by educational institutions at all levels to impart quality education. Cuyvers, De Weerd, Dupont, Mols and Nuytten (2011) observed, however, that the reverse is the case in sub-Saharan Africa where, typically, classrooms are overcrowded, many buildings and other facilities are inadequate, sites are poorly planned and there is little maintenance. This situation is not conducive for focused and productive teaching and learning.

Corroborating the views highlighted above, The Federal Polytechnic, Idah (2010) listed infrastructure development as the third on the priority list of the six-point plan of action of the Polytechnic administration.

IV. METHODOLOGY

The research work employed qualitative techniques to obtain data. Meurer, Frederiksen, Majersik, Zhang, Sandretto and Scott (2007) describe qualitative research as a set of techniques in which data are obtained from a relatively small group of respondents. It involves detailed, verbal descriptions of characteristics, cases, and settings, and it uses observation, interviewing, and document review as source data. It differs from traditional quantitative research through its use of less structured data-gathering instruments and its use of open-ended questioning. It allows for the exploration of the main dimensions of a problem while providing access to greater understanding of participant motivations as well as detail on participant behavior and attitudes.

Information was obtained through participant observation, interviews, field survey and textual data obtained from different departments and units. Visits were conducted to different parts of the campus to obtain pictorial data. The comments and opinions of stakeholders through interviews also form a basis for the conclusions drawn from the exercise. Respondents were drawn purposively from among members of the Polytechnic staff who have put in a minimum of 20 years service. This category of staff is expected to possess adequate experience and knowledge of the history of the Polytechnic.

The following infrastructures were considered: energy/power supply, transportation infrastructure, water supply, communication infrastructure, recreational and waste disposal systems.

V. FINDINGS

A. ENERGY/POWER SUPPLY

The need for constant supply of electricity on the campus of a higher institution cannot be overemphasized. Several academic and administrative functions depend mainly on the provision of electrical power. Science and computer

laboratories, typing pools, workshops, the digital library, seminar rooms and lecture theatres require constant power for at least eight (8) hours every working day. Aside from the core academic centers, other locations on the campus providing administrative services require electrical power in the same proportion.

Electrical power is supplied to the Polytechnic from two (2) sources; via the National Grid operated by the Power Holding Company of Nigeria (PHCN) and the internally generated power supplied by two (2) power generating sets of 100kva and 1,100kva respectively.

The supply of electricity to the polytechnic campus is far from satisfactory. The supply by the Power Holding Company is unpredictable as it is associated with incessant power cuts and failures. The campus experiences far more blackout hours than those hours when electrical power is provided.

The alternative internally generated power supply equally fall short of expected requirements. Out of the forty (40) working hours in a week, the internally generated power supply is only available for six (6) hours. Outside the working hours, internally generated power is available for an additional thirty-eight and a half (38.5) hours. In order to meet urgent needs for power supply, individual units and departments make use of dedicated generators and inverters. The use of these resources poses problems like avoidable increase in overheads, noise and air pollution. The performance and output of an academic researcher and student in such an environment is certainly bound to be impeded by the poor supply of electricity.

B. TRANSPORT INFRASTRUCTURE

For a road to qualify as functional, it must possess features like drainage, watertight pavement, road markings and signs, lighting and pedestrian walkway. A functional road network certainly contributes to the overall aesthetics of a community.

The developed portion of the Polytechnic is connected by a road network which exhibits problems like faulty designs, inadequate/nonexistent drainage system, potholes, dilapidated pavements and gross lack of maintenance.

The only maintenance intervention is the unprofessional filling of potholes with laterite. This does not provide a mutual bond with the existing road; hence the portion becomes eroded again during periods of heavy rainfall.

A drive around the campus is certainly far from pleasurable and in an attempt to avoid the potholes and bad spots on the existing roads, road users have created several unauthorized access routes all over the campus, thus making a mess of the campus landscape.

Road amenities and furniture are almost non-existent, and where they happen to exist, are not functional or are inappropriate for an environment like an institution of higher learning in the 21st century (see Figs. 1 and 2).



Figure 1



Figure 2

Source: Field Survey (2018)

Figure 1 & 2: Section of existing roads on campus

C. WATER SUPPLY

Clean, potable water is an indispensable commodity in any community (Trevett, Carter and Tyrrel, 2005). Akinwale (2010) and Chaplin (2001) affirmed that water is essential for life to exist. The importance of water in an academic environment is without question. Constant, uninterrupted supply of clean water is required in all locations within the campus for sanitary and academic research purposes and for domestic consumption.

The water needs of the Polytechnic have been successfully satisfied via boreholes connected to various units through a network of pipes. The attention given to the water needs and the prompt response of technicians to maintenance of water installations has been commended by the members of the Polytechnic community. This is very significant in view of the health implications that may arise due to unsanitary practices and consumption of contaminated water.

D. COMMUNICATION INFRASTRUCTURE

Achimugu, Oluwagbemi and Oluwaranti (2010) emphasized the importance of electronic data communication and the use of ICT especially in the education sector. Akinwale (2010) opined that communication infrastructure include the mass media, internet, phones, and postal services.

The Polytechnic is equipped with a number of communication systems amongst which are the ICT Centre

and the PTDF E-Learning Centre. Internet access within the Polytechnic is expected to be provided by a network of five (5) antennas linked together with the base station domiciled in the ICT Centre. Though the Polytechnic prides on the existence of physical equipment to provide internet access, internet connectivity via this medium is non-existent as the required software access through subscriptions is not in place.

The PTDF E-Learning Centre has not fulfilled the purpose for which it is constructed, virtually nothing is being done with the building and all the equipment installed within it lie unused.

Postal services and intercom systems do not exist on the Campus.

E. RECREATIONAL INFRASTRUCTURE

The axiom, 'all work and no play make Jack a dull boy' find application especially in a higher institution of the status of The Federal Polytechnic, Idah. Adeyemi and Adeyemi (2014) stressed the importance of recreational infrastructure in an academic environment and its impact on student's performance. It is not out of place therefore for the institution to be provided with recreational facilities like a staff club house, sporting facilities, a Students Union complex, leisure garden, zoological and botanical garden, and a decent cafeteria, among others.

Both staff and students of the Polytechnic have access to various recreational infrastructural facilities. Sporting facilities are available for sports like football, lawn tennis, volleyball and a number of indoor sports. The Department of Leisure and Tourism manages a recreation centre/leisure garden (Tourism Village), and an eatery (Niger Restaurant) is managed by the Department of Hospitality Management.

The provision of recreational infrastructure on the Campus is grossly inadequate and the condition of existing ones very poor. The sporting facilities available are poorly maintained, and are perceived to be more of a prayer ground than a sports centre. The Tourism Village is currently overgrown with weeds and the facility is poorly patronized (see Figs. 3 and 4).



Figure 3



Figure 4

Source: Field Survey (2018)

Figure 3 & 4: Remains of the Tourism Village

The Niger Restaurant is not large enough to cope with the size of the Polytechnic. Facilities like staff club house, Students Union Complex, a zoological/botanical garden do not exist on the Campus. The existence of these facilities can assist to divert the minds of students away from vices like cultism and prostitution, both of which are evolving social problems on the campus currently, and help members of the Polytechnic community to 'unwind' in a decent and civilized setting. It is significant to note that these facilities could serve to increase the revenue base of the Polytechnic.

F. WASTE DISPOSAL INFRASTRUCTURE

Waste generation in any community is unavoidable, hence the need to put in place mechanisms to manage waste.

The volume of waste generated on the campus is very alarming. Even more alarming is the mechanism (if at all there is any) for disposing these wastes. The entire campus is littered with waste of different kinds including paper, used sachet water bags, inedible parts of snacks, even animal litter, and the general landscape is very untidy. The proliferation of ramshackle structures used to conduct various kinds of businesses contributes significantly to the untidy nature of the Campus (see Figs. 5 and 6).



Figure 5



Figure 6

Source: Field Survey (2018)

Figure 5 & 6: Indiscriminate space acquisition for business transaction on campus

Respondents drew attention to the current efforts put in place to improve the sanitation on campus. While this is commendable as a positive step in the right direction, the overall state of sanitation is still unimpressive.

VI. CONCLUSION AND RECOMMENDATIONS

This paper had attempted to explore the state of infrastructure in The Federal Polytechnic, Idah. The current state of the power, transportation, water, communication, recreational and waste disposal systems were examined, and stakeholder's opinions were sought on the condition of these infrastructures. There is a general dissatisfaction with the state of infrastructure on the Polytechnic campus. This is especially worrisome considering the age of the institution. Apart from discharging its role to provide education, the Polytechnic Campus is supposed to be a centre of tourism for the Idah community and visitors from outside Idah.

In view of these realities, it is recommended that management of the Polytechnic take as a matter of urgency the restoration of the infrastructure on the campus. It is understandable that funds are not easily obtainable from the Federal Government. However the Polytechnic management can explore other avenues for sourcing funds. These include,

- ✓ Requesting commercial institutions on the campus (e.g., banks) to fund specific development projects as part of their social responsibility to the Polytechnic community.
- ✓ Sensitizing the Alumni Association on the need to give back to the Polytechnic through sponsorship of specific developmental projects.
- ✓ Inviting philanthropic individuals and organizations to invest in the Polytechnic's agenda for infrastructural development. Any project(s) thus sponsored will be named after the individual or organization.
- ✓ Long term loans obtained from lending agencies for developing specific projects, e.g., the zoological garden or the Tourism village. These projects on completion can then be leased to specialist managers for effective management to recover the loans obtained.
- ✓ Inviting investors to sponsor specific projects on the campus through any of the 'Joint Venture'/'Partnering' initiatives.

- ✓ Investment potentials on the campus can be marketed at organized conventions of investing agencies like trade fairs, exhibitions and conferences.
- ✓ Paid advertisements can be made on television stations on investment potentials on the campus. The Polytechnic may choose to sponsor certain television programmes that enjoy wide followership.

The Polytechnic website can be redesigned to market these potentials to interested investors.

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