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## THE IMPLICATION OF SCHOOL MAPPING AND FACILITIES ANALYSIS TO EQUAL EDUCATIONAL OPPORTUNITY IN NIGERIA

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### Abstract

*Education for all is a global agenda. The International Human Rights Convention of 1948 designated education as the right of every citizen. In this direction, the nations of the world are striving to ensure that their citizenry accesses education in line with this convention without hindrance irrespective of location. However, the disparities in educational attainment amongst the citizenry occasioned by nature-nurture controversy constitute an obstacle to the equal education concept. Undoubtedly, a sizable percentage of the nation's population is not opportune to access basic education in compliance with the global agenda. The paper, therefore, looked at the introduction of school mapping and facilities analysis as a frantic effort of the government to bring education to the doorsteps of people. It critically examined the concepts of school mapping, facilities analysis, equal educational opportunity, and the possibility of giving Nigerians equal access to education using school mapping and facilities analysis. It was concluded that bringing schools closer to the people and redistribution of school facilities equitably and rationally is a road map towards achieving equal education opportunities amongst individuals, social groups, cities, and rural villages.*

**Keywords:** Education, equal educational opportunity, facilities analysis school mapping

### Introduction

Education for all is a global agenda since 1948 after the declaration of education as a human right by the United Nations. The declaration created awareness amongst nations in making education accessible to the citizenry. Nigeria as a signatory to the convention has infused school mapping and facilities analysis into her educational programmes to narrow the gaps between school locations and accessibility. It is believed that the disparities existing in educational attainment amongst the citizenry occasioned by nature-nurture controversy would have been resolved through school mapping and facilities analysis. The school mapping programme offers a practical solution to equal educational opportunities as it is aimed at the rational distribution of schools and facilities to the various locations of need. Evidence indicates that schools are built in all the nooks and crannies of the country; rural, urban, and sub-urban areas. Due to population and financial factors, substantial numbers of schools are built in favour of urban areas compared to rural communities. Sometimes, the consideration of school locations is politically driven. For instance, first-generation universities such as the University of Nigeria Nsukka (UNN), Enugu; the Ahmadu Bello University (ABU), Zaria, Kaduna and the University of Lagos (UNILAG), Lagos were built along regional lines by the political actors. Similarly, Ambrose Ali University Ekpoma was established by the erstwhile Governor of Edo State, Ambrose Ali in his hometown while President Goodluck Ebele Azikiwe Jonathan, *GCFR*, *GCON* also established Federal University, Otuoke at his hometown in Bayelsa. Federal University, Otuoke is one of the nine (9) universities established in 2011 across the six (6) geo-political zones of the country (Aguwa, 2018). Also, President, Muhammadu Buhari, *GCFR* established the Federal University of Transportation in Daura, his hometown in Katsina State, bringing to bear political factors in-school locations. Political consideration in school locations does not offer equal educational opportunity to all rather creating an advantage to some areas or regions to be heavily populated with schools while others are starved to the detriment of school-age children and parents. In meeting up with the growing school population in all the nooks and crannies of the countries, the analysis of what is on the ground and what ought to be becomes imminent to ensure that facilities are in the right places at the right time making education available to the citizenry. By this, the road to equal educational opportunity may have been created.

### **Conceptualization of School Mapping**

School mapping is a technique used to locate schools at local levels and work out what needs to be done to make education available to people (Nzokurim & Oluwo, 2020). According to Ekpoh

(2018), school mapping is an essential tool to overcome inequality in the investment policies of public authorities through deliberate attempts to address educational deficiencies in the system. The issue of disparities in school locations and opportunities amongst individuals; social groups, cities, and rural villages calls for school mapping. At times, areas that are already populated with schools keep attracting more students while some others lack public school investments. A situation like this creates an imbalance in educational attainment among school-age children. It is on this premise that school mapping is seen as a rational process of school locations for the achievement of educational objectives. This means that the location of schools should be based on need and not on political considerations. Obasi (2018) sees school mapping as an integral part of educational planning where school networks and facilities are systematically reviewed and determined to ensure effectiveness and efficiency in operation. The absence of school mapping brings about uneven school locations, making education inaccessible in some locations and oversitting of schools in some privileged areas. Since the quality of education depends on the availability of educational resources, it means that the academic performance of the students is a function of school mapping and facilities analysis. The application of the school mapping technique helps to identify the most appropriate location of schools to reduce the over-concentration of schools in some geo-political areas for the good of several children. Overconcentration of schools in a particular location leads to avoidable wastages, cost inefficiency, pupils, and students' poor academic performance occasioned by difficulty in accessing schools by school-age children due to the distant nature of school locations.

### **Process of School Mapping and Exercises that create equality in educational opportunity**

Sabir (2013) states that school mapping is a dynamic step of identifying logically and systematically, places where educational facilities are to be located. Therefore, the first and initial step is to determine the purpose of school location in an area, the population of the catchment area and topography, workforce need, the level of educational institutions, and the economic factor. The second step is to draw up a perspective school map to accommodate ideas generated as a road map towards the establishment of new schools or expanding the existing ones. The third stage focuses on diagnoses of the situation at present through a survey to obtain information about the existing schools including available resources, natural and man-made factors that may serve as inhibitors to the project by the way of rivers, mountains, erosion, markets, motor parks, roads, and others. The fourth stage deals with the rationalization of the existing educational facilities and the

closure or integration of non-variable schools for optimum utilization of lean resources. This takes care of school expansion based on the availability of funds, workforce needs, structures, and classrooms to accommodate the school populace. The intention to close, merge, or expand is a function of (i) population size, growth, density, social structure, migratory trends, school drop-outs, and retention rates otherwise referred to as demographic characteristics, (ii) per capita income, the size of schools/classes, the pupils/students-teachers ratio, the number of study hours per week and the subjects distribution otherwise referred to as economic and educational factors. The last step is to make projections for the future requirements. With the anticipation of the unexpected, projections were made for tomorrow. This means that future educational requirement has to be made today. In making this projection, accurate statistics in terms of population growth, revenue projections, and reliable data for supply and demand for education is needed. The purpose was to create equality of educational opportunities by leveling the existing disparities in the distribution of educational facilities. This process is useful in planning all levels of education to ensure equity, accessibility, rationality, and fairness in line with the National Policy on Education (2014). The aim of the school mapping process and exercises is to identify the best environments for schools to thrive and benefit more school-age children.

### **Clarifying School Facilities Analysis**

Ekpoh, (2018) conceptualizes facilities in education as essential resources required for effective operation and maintenance of the standard in the educational system. To her, it is a fair tool that facilitates and stimulates educational programmes. The primary function of educational facilities is to make school environments conducive to teaching and learning. Oyedeji (2000) defines school facilities to include the site, the buildings, and other infrastructure. Ogbodo (2004) views school facilities as those material things that facilitate teaching and learning processes in the school. In the words of Adaja & Osagie (2015), educational facilities are the physical properties of a school consisting of the grounds, buildings, and various structures and equipment within the school grounds and inside the school building. Facilities in the school include school plants, buildings, equipment, machines, chairs, and others; the absence or lack of these can mar the objective of education. For teaching and learning to thrive, environments must be conducive and part of school environments is adequate school facilities that can promote effective teaching and learning. The teacher and students cannot work effectively if the needed facilities are not provided for in the school. This means that the quality of education is dependent on the availability of school

facilities. Most rural schools lack teaching facilities in most of the country prompting students/pupils to study on bare floors in dilapidated buildings and as well under the tree shades. The government no longer finds it easy under the present economic recession to fund education adequately, hence the need to rationalize the existing school resources to keep the system going. A situation where physical facilities are surplus in some schools at the expense of others cannot guarantee equal educational opportunity in the country. On the other hand, the observed inadequacies in school resources call for facilities analysis. Hornby (2015) defines analysis as a process of dismantling or separating into constituent elements to study the nature, function or meaning. This means that facilities analysis in education is aimed at studying the available school facilities to discover and redistribute them rationally amongst schools to ensure equity in the usage for effective teaching and learning in all the institutions of learning. This is highly necessary since observation has shown that most schools are equipped while others are not. Ukwuije (1991) refers to analysis as an ability to break down materials into parts so that their organizational structure may be understood. To him, the analysis includes the identification of the relationship between parts and the recognition of the organizational principles involved. Analysis helps to avoid Wastages and ensures that all school facilities are effectively put to use for an intended purpose instead of lying waste. However, facilities analysis may be constrained by a lack of relevant data, lack of skillful knowledge of planning and political consideration. In mapping schools and analysing educational facilities, the following must be factored into the process and exercise.

**Ergonomics.** Oxford Advanced Learners Dictionary (2015, New 9<sup>th</sup> Edition) explains that ergonomics is the study of working conditions, especially the design of equipment and furniture in order to help people work more effectively. It is a scientific discipline concerned with the understanding of interactions among humans and other elements of a system (Nicol, & Humphreys, 2018)). Nwankwo (2014) contends that Ergonomics is a specialized area of occupational psychology that aims to ensure that jobs are designed in a manner that makes them suitable for human beings to undertake. To him, workplaces should be constructed to minimize harmful effects. The school environment comprises all the components of the school system that contribute towards effective teaching and learning (Ekundayo, 2012). Learning is influenced by the nature of environments and therefore, a requisite condition for the school location and establishment. A conducive environment should be free from threats, stress, noise, gas, smoke and pollution. The location of schools close to markets, motor garages, and industrial clusters will

always pose a threat to the performances of both teachers and students. Noise from these sources endangers students' concentration and distraction to both students and teachers. Thus, the work environment remains a key area that should be studied and managed before schools are sited. Ergonomics takes care of school building features in line with the set standard for security architecture. Designing safe schools is not only about keeping intruders and weapons off the campus but about helping students feel safe and move with ease around the school during the normal classes/courses of their studentship.

**Thermal Comfort.** In designing a school block, consideration is given to the comfort of the school children and staff for their protection against heat and chilly weather. Thermal comfort refers to the condition wherein the average person does not experience the feeling of discomfort (Olgyay, 2015). The thermal comfort model tries to describe the condition of people in terms of whether they feel too hot or too cold within a locality. It is a condition of the mind which expresses satisfaction with the thermal environment. Comfort is incredibly important to building occupants in an educational set up for teaching and learning to thrive. Undoubtedly, a comfortable learning environment impacts positively on the performance of teachers and students. It is a fact that students are more alert with better energy in good school environments while staff are more motivated, satisfied, and productive. The design and materials used for the construction of school buildings contribute significantly to determining the indoor thermal conditions of school structures which should not be ignored in school mapping exercises.

**Visual Comfort.** This refers to an ability to have a good, perfect, and normal vision in a comfortable learning environment. Obscured structures affect visual comfort in working places or school systems. The quality of light is defined by the size of the light source relative to the required volume. Much lighting is not friendly to the eyes.

**Acoustical Comfort.** Acoustic comfort is the study of sound. Sound is a form of energy that is produced when an object or material vibrates. This is detected by our ears as sound. Acoustic comfort refers to the pleasurable environment arising from the shape or design given to a room/building or theater that makes it good or bad for carrying sound. The acoustic comfort makes teaching and learning less stressful by eliminating unwanted sounds and favours greater communication and concentration. Harmful sounds affect not only the ear but the whole-body system. Sound sources can be divided into two types: natural and artificial or man-made. Examples of natural sources are animals, wind, flowing streams, avalanches, and volcanoes while artificial

sources include automobiles, loudspeakers, aircraft, trains, explosions, factories, etc. School mapping takes care of sound sources and visual comforts of both learners and teachers in school locations to achieve the goal of education. Finally, sound has a way of affecting the brain, mind, and soul positively or negatively.

**Aural Environment.** An aural environment is seen as a determinant of effective teaching and learning and leads to improved students' academic performance. Apart from esthetic environments, school structures should serve as a shelter in the event of disaster. Part of the desirable aural environments is colour. Colour in this context refers to the type of beatification applied to educational facilities to make them appealing for the comfort of the users. The imports of colour to human lives rests on the fact that it contributes to visual comfort, creates aesthetic effects, and preserves and protects educational facilities. Colours can change the mood of the school community either by reducing or increasing tensions or generating excitement and sometimes have a soothing effect on a tired person in the process of teaching and learning. School proprietors are encouraged to apply appropriate colours in school facilities to achieve ergonomics. As a guideline on colour usage, the right type of colours in a facility as a measure of avoiding, preventing, and limiting adverse effects of hazards which should be encouraged as part of the disaster risk reduction measures.

### **Implications of School Mapping to Equal Educational Opportunity in Nigeria**

Equal opportunity is a state of fairness where individuals live, aspire, and fulfill their dreams unhampered. The attainment of equal educational opportunity by all citizens has been the major problem of school planning and administration in Nigeria. Its implementation poses a perennial problem not only in 'Nigeria' but among nations. People are not born equal or equal in any respect. Therefore, an attempt to accord everybody equal rights in a divinely unequal society seems to be a futile exercise. However, the concept of equal educational opportunity may be interpreted to be a procedural expression of feelings and thoughts. An equal educational opportunity does not translate to winning the son of anybody a place in the foremost schools in any part of the world. The right of individuals to education does not confirm equality of ownership of material resources nor guarantees equal achievements. Historically, the concept of equal educational opportunity was conceived by Plato, one of the Western Philosophers whose ideas on education were to educate all children in state-controlled and financed schools under their natural abilities. In Nigeria, Plato's idea of state-controlled education is not feasible owing to the heavy presence of private schools

that are strongly supported by the National Policy on Education (Musa, 2014). The National Policy on Education supports the private proprietorship of Early Childhood Care Development and Education. Similarly, at the primary level of education, NPE welcomes the contributions of voluntary agencies, communities, and private individuals in the establishment and management of primary schools alongside those provided by the state and Local Governments (FRN, 2014). Equally, secondary and tertiary education is not left out of private investment. Against this background, the prevalence of private schools, the non-prosecution of parents whose children roam the streets during school hours, and the low enrollment of girl-child in schools have made equal educational opportunities in Nigeria impossible (Musa, 2014). Not trying to go too far on this argument, but certain practices in the Nigerian education context give credence to equal educational opportunities though not on an equal basis. At present, there are considerable efforts to bridge the disparities in school locations and facility distributions amongst regions, zones, towns, and rural communities in Nigeria. On the other hand, urban areas attract more school concentrations. This action negates the principles of school mapping and facilities analysis which are meant to enthrone equitable, rational school locations and facilities distribution. Akinpelu (1990) justified the essence of equal educational opportunity when he notes that:

*A nation cannot achieve the greatness that comes through peace and harmony if any part, for whatever justifiable reason (s), is seen to be getting special treatment for too long. But it also cannot do so by ignoring the rights of others to equal opportunities to development.*

Observation shows that some parts of the country have gotten special treatment both on education and other opportunities for so long to the detriment of other regions. For this reason, quality education, peace, and harmony seem to be elusive in the country. The 1999 Constitution of Federal Republic of Nigeria as amended capitalized on individual rights and directed Nation policy to ensure equal opportunities at all levels of education which is to be compulsory, free, and universal from primary to university levels as soon as it is possible (FRN, 2014). The policy manifested itself in Universal Basic Education (UBE) which gave Nigerians the opportunity of free, compulsory, and universal education for nine (9) years running from primary to junior secondary school. The big question is how free, and compulsory Basic Education would guarantee equal educational opportunity in Nigeria when now, education is presumed to be free and compulsory



from primary schools to junior secondary level in theory and not in practice. Odo (2018) asserts that should education be free and compulsory, the government should have taken the responsibility to enforce this right and not a mere documentary commentary. Free and compulsory education should ensure affordable need-based curriculum and teaching personnel, provision of children of poor parenthood with suitable incentives such as free meals across the board, textbooks, uniforms, footwear teaching and learning facilities, and the abolition of any forms of contribution in the school system. A free and compulsory education in its true sense relieves parents of financial burden and takes children out of the streets with accompanying enforceable regulations to compel parents and pupils/students to enroll in schools, failure to comply with the regulation attracts a penalty of some sort. It is on this premise of full implementation of free and compulsory education that one can begin to envisage equal educational opportunities based on school mapping and facilities analysis by all citizens.

### **Conclusion**

Education is a public ‘good’ but still out of the reach of a sizable number of people. The unequal educational opportunity is a function of nature, man, and the environment. In the realization of this, governments in recent years have made frantic efforts to equalize educational opportunities through various educational programmes inclusive of school mapping and facilities analysis. The attempt was to bring educational institutions nearer to the school children for their convenience. Any attempt to exclude school mapping in the equal educational opportunity equation by omission or commission will further widen the gap in the attainment of equal education programmes in the country. This is because school mapping locates education institutions closer to the people for easy access while facilities analysis promotes the redistribution of infrastructural facilities to all concerned for effective teaching and learning to take place.

### **Recommendations**

The following recommendations were made:

1. that no school should be established without proper mapping, accompanied by resource analysis to avoid Wastages in the system.
2. School locations should be due process personified and a road map towards an envisaged equal educational opportunity for all Nigerian citizens.
3. The Government should adopt Plato’s Educational ideas of State financed and controlled. education and abrogate private ownership of schools in Nigeria to actualize equality.

educational opportunities for the citizenry. Private ownership of schools does not guarantee any opportunity to be unequal, institutionalized by nature.

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